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Sincerely,

*Wendy R. Carroll*  
*Conference Chair*

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# ASB Conference 2011 Proceedings

## *Accounting Stream*

University of PEI

September 30 – October 2, 2011

## **DOES THE MARKET VALUE THE AFFILIATION OF FRENCH FIRMS WITH THE UN GLOBAL COMPACT**

The UN Global Compact Leaders Summit held in New York on June 2010 marked the 10th anniversary of the UN Global Compact (Adams and Petrella, 2010). From its humble beginnings in 2000, the Global Compact has grown to encompass more than 8,700 corporate participants and others stakeholders, including over 7,700 businesses from 130 countries around the world. It is the world's largest voluntary corporate responsibility initiative. The benefits for companies voluntarily affiliating with the UN Global Compact have been little documented from an empirical perspective. This affiliation is on a voluntary basis, which raises questions about the integration of this information by capital markets. This study attempts to address these questions, drawing on a sample of French companies listed on the SBF 250 index. Results suggest that, in the French context, investors do not significantly value firm's affiliation with the UN Global Compact.

### **Introduction**

Corporate Social Responsibility (CSR) has received growing attention in the last several decades. Its impact dramatically reached the top echelons of the United Nations when UN Secretary-General Kofi Annan proposed The Global Compact at the World Economic Forum in Davos, Switzerland in 1999 (Bitanga and Bridwell, 2010). The Global Compact has grown to encompass more than 8,700 corporate participants and others stakeholders, including over 7,700 businesses in 130 countries around the world (United Nations Global Compact, 2011a).

The UN Global Compact is a voluntary initiative that relies on public accountability, transparency, and enlightened corporate self-interest. The basic idea is that the voluntary involvement of companies in the areas of human rights, labor rights, environmental degradation, and anti-corruption can encourage private innovation and concern within these areas in a manner that regulation has been unable to adequately achieve, thereby hastening the emergence of a more sustainable and just future (Kell and Levin, 2002).

The benefits for companies voluntarily affiliating with the UN Global Compact have been little documented from an empirical perspective. A survey by Cetindamar and Husoy (2007) documented the motivations of some firms for adhering to the UN Global Compact, which included improving their corporate image, distinguishing themselves from other companies and partaking in sustainable development efforts. Janney, Dess and Forlani (2009) observed abnormal returns appearing the same day and the day preceding a firm's affiliation with the UN Global Compact. However, these results differ between US and European companies.

We believe that companies may reap some benefits from affiliating with the UN Global Compact. One of these is the maximization of shareholder value. The main hypothesis is that affiliation with the UN Global Compact could be an important driving force in triggering the adoption of environmentally responsible behavior, and the reason for this is that such affiliation is perceived as having an economic value for the participating companies. To investigate this hypothesis, this paper examines the following question: "What impact does affiliation with the UN Global Compact have on stock value?"

We used a residual income valuation model based on Ohlson (1995) to relate the market value of equity to the book value of equity, accounting earnings, and the UN Global compact affiliation of the companies (a dummy variable taking the value of 1 if the firm is affiliated with the UN Global Compact and 0 otherwise). This model was applied to a sample of SBF 250 index French firms in which 56 firms are affiliated with the UN Global Compact. We used weighted least squares to estimate the regression. Our results suggest that investors do not significantly value the French firm's affiliation with the UN Global Compact.

This study makes a number of contributions. To begin with, it confirms that some companies may gain no premium from investing in affiliation with the UN Global Compact. Although studies on companies' motivations have focused primarily on the incentives to convey certain messages and the competitive advantage that may result, our study's findings suggest that this advantage cannot be of a financial nature. By drawing on the commitment that the ten principles of the Global Compact be part of companies' business strategies and day-to-day operations, this study differs from previous literature that focused solely on environmental, social, ethical or economic benefits. It should be emphasized that the sample is composed entirely of French businesses for which affiliation remains a purely voluntary initiative. Finally, few studies have been conducted in the French context. Therefore, our study provides interesting empirical observations for companies that hesitate to invest in such an initiative.

The rest of the paper is structured into four sections. First, we present the pertinent existent literature. This is followed by a section on the research methodology and the sample used in the study. A third section discusses the study results. A final section sums up the article and presents the study's limitations, as well as potential avenues for future research.

## **Literature Review**

To put the UN Global Compact into a broader perspective, this section will first describe the Global Compact itself, then discuss the benefits for businesses of adhering to the Global Compact, and subsequently present the theoretical background on the value relevance of sustainability reports or commitments.

### **United Nations Global Compact**

The Global Compact is a call to businesses worldwide to help build the social and environmental framework to support and ensure the continuation of open and free markets, while ensuring that people everywhere have a chance to share the benefits of the new global economy.

The ten principles (United Nations Global Compact, 2011a) of the Global Compact now pertain to the following four areas:

- human rights (1 - Businesses should support and respect the protection of internationally proclaimed human rights; and -2 Make sure that they are not complicit in human rights abuses);

- labor (3 - Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining; 4 - The elimination of all forms of forced and compulsory labor; 5 - The effective abolition of child labor; and 6 - The elimination of discrimination in respect of employment and occupation);
- the environment (7 - Businesses should support a precautionary approach to environmental challenges; 8 - Undertake initiative to promote greater environment responsibility; and 9 - Encourage the development and diffusion of environmentally friendly technologies); and
- corruption (10 - Businesses should work against corruption in all its forms, including extortion and bribery).

The United Nations Global Compact process also includes an annual Communication on Progress (COP) report. Business participants in the UN Global Compact make a commitment that the ten principles of the Global Compact be part of their business strategies and their day-to-day operations. At the same time, firms are required to issue an annual Communication on Progress (COP), a public disclosure to stakeholders (e.g., investors, consumers, civil society, governments, etc.) on the progress made in implementing the ten principles of the UN Global Compact, and in supporting broad UN development goals. The annual COP is the most important expression of a participant's commitment to the Global Compact and its principles. Violating the COP policy (e.g., failure to issue a COP) will result in a change in participant status to non-communicating status, which can eventually lead to the participant's expulsion (United Nations Global Compact, 2011b).

In short, the Global Compact exists to assist the private sector in managing increasingly complex environmental, social and governance risks and opportunities, and seeks to infuse markets and societies with universal principles and values for the benefit of all.

#### **Assessing benefits for businesses to adhere to the UN Global Compact**

From the UN Global Compact perspective, participation in the Global Compact offers numerous benefits for businesses (United Nations Global Compact, 2011c), including:

- The opportunity to adopt an established and globally recognized policy framework for the development, implementation, and disclosure of environmental, social and governance policies and practices;
- A platform to share and exchange best and emerging practices to advance practical solutions and strategies to common challenges;
- The opportunity to advance sustainability solutions in partnership with a range of stakeholders, including UN agencies, governments, civil society, labor, and other non-business interests;
- The opportunity to link business units and subsidiaries across the value chain with Global Compact Local Networks around the world – many of these in developing and emerging markets;
- Access to the UN's extensive knowledge of and experience with sustainability and development issues; and

- The use of Global Compact management tools and resources, and the opportunity to engage in specialized workstreams in the environmental, social and governance realms.

Empirical research provides very little empirical observations on the benefits for businesses of participating in the UN Global Compact. Conducted by Cetindamar and Husoy (2007), one survey relies on the anticipated and actual benefits noted by the participants in the UN Global Compact. The results, while not conclusive, indicate that companies have more than one reason for adopting environmentally responsible behavior and that ethical and economic reasons co-exist. In terms of performance, the impact of participation in the UN Global Compact seems to be particularly high in securing network opportunities and improving corporate image.

### **Theoretical background on the value relevance of corporate social reports or commitment**

Researchers are attempting to understand the link between corporate social responsibility and competitive advantage (Porter and Kramer, 2006). Instead of focusing on the determinant of corporate social reports or commitment, this study relates commitment to stock performance.

Few studies examine the value relevance of corporate social reports or commitment to users. Hassel, Nilsson and Nyquist (2005) investigate the value relevance of environmental performance ratings for the market values of firms listed on the Stockholm stock exchange. Their results indicate that environmental performance has a negative influence on the market value of firms. In this context, environmental investments represent only increased costs, resulting in decreased earnings and lower market values.

Wahba (2008) also investigated the value relevance of environmental performance ratings for the market values in the Egyptian context. His results show that environmental performance has a positive influence on the market value of firms. In this context, environmental efforts constitute a way to increase competitive advantage and improve financial returns to investors.

Schadewitz and Niskala (2010) analyzed the market valuation of listed Finnish firms through a conventional valuation model combined with responsibility reporting by studying whether communication via responsibility reporting is related to firm valuation. Their applied model supported the conclusion that communication via the Global Reporting Initiative is an important explanatory factor for a firm's market value. Responsibility reporting is a communication tool firms use to reduce information asymmetry between managers and investors.

Semenova, Hassel and Nilsson (2010) investigated the value relevance of environmental and social performance ratings for the market values of SIX 300 companies listed on ONX Stockholm. Their study indicates that environmental and social performance ratings are value relevant and complement financial information in explaining variations in stock prices. Janney, Dess and Forlani (2009), meanwhile, observed abnormal returns appearing the same day and the day preceding a firm's affiliation with the UN Global Compact. However, these results differ between US and European companies.

Solomon and Solomon (2006) interviewed institutional investors. Their results suggest not only that a firm's information disclosure on social, ethical and environmental issues does not meet these investors' needs, but also that the shortcomings of the disclosures promote the development of private systems of information that can meet their needs. Moneva and Cuellar (2009), Cormier and Magnan (2007) as well as Murray *et al* (2006) examined investors' integration of the environmental information disclosed in corporate annual reports.

Moneva and Cuellar (2009) show that investors take into account information of a financial nature and ignore non-financial information. Cormier and Magnan (2007) observed that investors in French firms have a rather dim view of disclosures of an environmental nature, while the results for German and Canadian firms are not significant. Finally, Murray *et al* (2006) found no significant relationship between the stock price performance of companies and their disclosure of social and environmental information.

Our study aims to complement the above-mentioned literature by examining the signal sent by the commitment that the ten principles of the Global Compact be part of firms' business strategies and day-to-day operations. It should not be forgotten that commitment to these principles is a voluntary initiative. Because it involves effort and resources, we believe that it implies an advantage over the simple provision of sustainability information. Also, we examine whether this type of commitment is valuable for investors. This issue remains largely unexplored in extant literature. Very few studies have examined investors' perception of firms issuing CSR commitments.

### Research design

To examine investors' integration of the firms' voluntarily affiliation with the UN Global Compact, we draw on an empirical version of Ohlson's model (1995), which closely resembles that employed by Cazavan-Jeny and Jeanjean (2006), Xu *et al* (2007) and Al Jifri and Citron (2009). This accounting-based valuation model relates firm market capitalization ( $P_{i,t+4}$  \* number of common shares outstanding) to the book value of their equity and earnings. The model is expressed as follows:

$$MV_{i,t+4} = \alpha_0 + \alpha_1 BV_{i,t} + \alpha_2 EARN_{i,t} + \alpha_3 EARN_{i,t} * NEG_{i,t} + \varepsilon_{i,t} \quad (1)$$

Where,

$MV_{i,t+4}$  is the market value four months after the year-end;

$BV_{i,t}$  is the book value of common equity;

$EARN_{i,t}$  is the earnings before extraordinary items;

$NEG$  is a dummy variable equal to 1 if firm earnings are negative in year t and 0 otherwise.

$\varepsilon_{i,t}$  is the error term.

We then examine the incremental value-relevance of voluntarily affiliating with the UN Global Compact by adding a new dummy variable equal to 1 if the firm affiliated with the UN Global Compact for the year covered by the financial statements, and 0 otherwise ( $UNGC_{i,t}$ ). Thus, the equation (1) becomes:

$$MV_{i,t+4} = \alpha_0 + \alpha_1 BV_{i,t} + \alpha_2 EARN_{i,t} + \alpha_3 EARN_{i,t} * NEG_{i,t} + \alpha_4 UNGC_{i,t} + \varepsilon_{i,t} \quad (2)$$

Market capitalization is estimated from financial data corresponding to four months after the end of the fiscal year from which accounting data has been taken, in order to ensure that information about the voluntary affiliation was available to investors and that they could have integrated it into the company valuation within the framework of our analysis. As in Xu *et al* (2007), we expect the coefficients associated with the book value of common equity ( $\alpha_1$ ) and net earnings of the company ( $\alpha_2$ ) to be positive and significant and the coefficient associated with an interaction variable which is the product of net earnings and the dummy variable NEG ( $\alpha_3$ ) to be negative and significant. We also expect the coefficient

related to voluntarily affiliation ( $\alpha_4$ ) to be positive, reflecting a rather favorable perception by the financial milieu of this kind of affiliation.

Barth and Kallapur (1996) highlight the potential impact of large firms on inferences from price-level regressions. Easton and Sommers (2003) also show that nonlinearity results in large firms having overwhelming influence on regression coefficients. To address the scale effect, we rely on weighted least squares (WLS) to estimate the regressions, with the weight being equal to the inverse of the square of stock market value (Easton and Sommers, 2003). Beatty *et al* (1999) initially proposed this approach. Such an approach does not affect the fundamental valuation relationships that are under investigation. Moreover, in contrast to accounting-based measures, stock market capitalization encompasses assets and liabilities that are not accounted for in financial statements and are free from accounting biases such as conservatism.

### Sample and data collection

Firms in the sample are constituents of the SBF 250 index of the Paris Stock Exchange. The intention was to obtain a sizeable sample of companies willing to incur the costs associated with voluntarily affiliating with the UN Global Compact. Of the 250 companies comprising the index, two were eliminated from the sample because they changed their capital structure by merging during the period covered by this study. The final sample thus consisted of 248 companies.

The financial and accounting information needed to perform the statistical analysis ( $MV_{i,t+4}$ ,  $BV_{it}$ , and  $EARN_{it}$ ), respectively, market capitalization, the book value of common equity and net earnings, was extracted from the Capital IQ database. The year 2009 was chosen for the closing date of the annual report. The dummy variable  $UNGC_{i,t}$  (affiliating with the UN Global Compact) came from the United Nations Global Compact websites, where it is possible to identify the companies that affiliated and the date of their affiliation. Fifty-six, or 22.58%, of the 248 sample companies are affiliated. Table 1 presents sectors of companies included in the sample studied and the percentage of them that are affiliated with the United Nations Global Compact.

**Table 1**

**Descriptive sectors (N=248)**

Sectors	Number	UNGC	% UNGC
Consumer Discretionary	52	14	26.92%
Consumer Staples	21	8	38.09%
Energy	6	2	33.33%
Financials	36	7	19.44%
Health Care	21	3	19.00%
Industrials	52	13	14.28%
Information Technology	33	4	12.12%
Materials	16	2	12.50%
Telecommunication Services	3	1	33.33%
Utilities	8	2	25.00%
Totals	248	56	22.58%

## Results

Table 2 presents descriptive statistics of companies included in the sample. These firms are relatively large, exhibiting an average market capitalization of 5.1 billion Euros (median = 690 million). The average book value of their common equity was 3.7 billion Euros (median = 456 million) and the average net earnings was 420 million Euros (median = 41.3 million).

**Table 2**  
**Descriptive statistics (N=248)**

Variables	Mean	SD	Median	Minimum	Maximum
$MV_{i,t+4}$	5,129.23	12,235.86	690.14	48.41	91,510.59
$BV_{i,t}$	3,736.25	9,779.32	455.65	- 2,213.10	69,501.00
$EARN_{i,t}$	420.09	1,624.07	41.35	- 2,620.70	17,081.00

Financial figures are presented in millions of Euros.

$MV_{i,t+4}$  = market value of the firm's common shares outstanding four months after the date of the closing of the financial statements of the exercise t;  $BV_{i,t}$  = book value of the firm's common equity at the end of the exercise t,  $EARN_{i,t}$  = earnings of the exercise t available for common shareholders of the company i.

Table 3 presents the results of the regression analysis. We ran weighted least squares (WLS) regressions, with the weight being equal to the inverse of the square of the stock market value. The multicollinearity between the independent variables is not seen as problematic in this context. In fact, the variant inflation obtained by the collinearity diagnostic for the independent variables, (BV, EARN, EARN\*NEG, and UNGC) is, respectively, 1.175, 3.637, 3.030, and 1.263. These values are within the prescribed threshold of [1, 10] proposed by Hair, Black, Babin and Anderson (2009). Furthermore, the White test (1980) did not detect the presence of heteroscedasticity.

**Table 3**  
**Results of the regression analysis; dependent variable:  $MV_{i,t+4}$ ; N=248**

Independents variables	Predicted sign	Model 1	Model 2
$BV_{i,t}$	(+)	0.572***	0.570***
$EARN_{i,t}$	(+)	2.806***	2.861***
$EARN_{i,t} * NEG_{i,t}$	(-)	-3.918***	-3.977***
$UNGC_{i,t}$	(?)		-23.844
Constant	(+)	38.158***	37.987***
R		0.801	0.802
$R^2$		0.642	0.643
Adjusted $R^2$		0.638	0.637
F-value		146.080***	109.214***
Incremental adjusted $R^2$			0.000
F-test improved fit			0.147
No. of observations		248	248

\*\*\*  $p \leq 0.001$ ; \*\*  $p \leq 0.05$ ; \*  $p \leq 0.1$  (one-tailed test when the sign is predicted, and two-tail otherwise).

The first model (1) in our study, which excludes the dummy variable dissemination of affiliation with the UN Global Compact ( $UNGC_{i,t}$ ), shows that as expected, coefficients associated with the book value of common equity ( $BV_{i,t}$ ) and net earnings ( $EARN_t$ ) are positive and highly significant. The coefficient associated with the interaction variable resulting from the product of the net earnings and the dummy variable  $NEG_{i,t}$  (1 if the firm had negative earnings and 0 otherwise, i.e.  $EARN_t * NEG_{i,t}$ ) is itself negative and highly significant. Together, these three dependent variables explain 63.8% of the variance of the market capitalization of firms (adjusted  $R^2$ ). These results are consistent with what is expected from the Ohlson model and are very close in terms of the explanatory capacity and signification levels found in the studies of Cazavan-Jeny and Jeanjean (2006), Xu *et al* (2007) and Al Jifri and Citron (2009).

Also, we assess the incremental value of adding the dummy variable affiliating with the UN Global Compact ( $UNGC_{i,t}$ ) by computing the incremental adjusted  $R^2$  and employing F-tests to determine the trade-off concerning the added fit and the loss of degrees of freedom arising from the incorporation of the new variable (i.e. test of significance of the improved fit). We must note that the coefficient associated with affiliating with the UN Global Compact ( $UNGC_{i,t}$ ) is negative and not significant ( $p = 0.70$ ); there is no increase in the percentage of the explained variance in market capitalization (adjusted  $R^2$ ). Also the difference between the adjusted  $R^2$  statistics is not considered to be significant.

Thus, these results thus tend to show that investors do not attach any value to the affiliating with the UN Global Compact. Moreover, these results confirm that firms investing in affiliation with the UN Global Compact do not receive a premium on financial markets. This was at least the case for French companies listed in the SBF 250 index.

### **Discussion / Conclusion**

This study aims to examine whether investors take into account affiliation with the UN Global Compact. The results show that investors do not attach a positive value to such affiliation. However, the underlying causes of this result remain unexplored.

The results, while not conclusive, indicate that companies have other reasons for affiliating with the UN Global Compact, such as the wish to improve their corporate image, to be able to enter foreign markets, to distinguish their firm, to respond to pressure from stakeholders, to be good citizens and so on.

We contribute empirical findings to the current debate on the relationship between sustainability performance and shareholder value. The cost-concerned school argues that sustainability investments represent only increased costs, resulting in decreased earnings and lower market values. The value creation school regards sustainability efforts as a way to increase competitive advantage and improve financial returns to investors (Hassel, Nilsson and Nyquist, 2005). The present research finds support for the cost-concerned school because the results indicate that firms' being committed to the ten principles of the UN Global Compact has no influence on their market value.

In addition, our research complements the sparse literature examining the consideration that stakeholders (including, most notably, the shareholders) give to corporate commitments to sustainability and corporate citizenship. Our study's findings provide empirical evidence that is relevant for companies and for accounting standard-setting bodies and regulators.

The limitations of our study are noteworthy. The sample consists only of French companies of a relatively large size. It should also be pointed out that within the French context few companies appear to

be affiliated with the UN Global Compact. As part of this study, only 56 companies out of a total 248 (22.58%) were affiliated with the UN Global Compact.

Our results suggest a number of potentially fruitful avenues for future research. For instance, future studies should concentrate on a large sample of companies to examine their motivations for affiliating with the UN Global Compact. The analysis of this study can also be replicated with other firms of different countries to determine whether or not the results in this study are generalized.

Accession to the UN Global Compact is reserved for the firms with good social responsibility practices, sending a favorable signal as to the legal risks of proceedings, work conflicts, strikes, and so on. Reducing these risks should decrease the nonsystematic risk of the stock exchange bonds of the adherent firms and have an impact on the output required by investors. This is an avenue of research that we will attempt to investigate in the very near future.

Our results suggest that investors do not significantly value firms that are affiliated with the UN Global Compact in the French context. These results raise questions as to the value of the Communication on Progress (COP) as an enforcement mechanism. It is advanced that business participants do not always buy into a philanthropic discourse, and, inevitably, there is always the risk of "bluwashing" associated with their affiliation. The COP is perhaps not a sufficient mechanism to allow investors to see the shape of things.

Finally, the analysis could be performed by industry, in order to clarify whether the results can be generalized to all firms, or whether they differ from one industry to the next. Since the firms in each industry are likely to have different repercussions on human rights, labor standards, the environment and anti-corruption, the motivations of firms and how they are considered by investors in pricing them could differ substantially from one industry to another.

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ASB Conference 2011 Proceedings

*Business Communications Stream*

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September 30 – October 2, 2011

## **SOCIAL MEDIA IN THE WORKPLACE:**

### **TRADITIONAL COMMUNICATION LINES GET BLURRED**

During the last few years we have witnessed a communications revolution in the workplace. Gone are the traditional ways of communicating with employees. No longer is an internal memo just internal. No longer is an external release just external. Social Media is changing the way we communicate. In the new, relationship-based paradigm, employees “ping” sources both inside and outside of their organizations for information. This paper reviews the impact Social Media has on internal communications and the ramifications of this new communications tool.

#### **Traditional Internal / Employee Communications**

Traditionally, internal or employee communications have been about management wanting to share information - a message with employees. Some might argue it is about “telling” and not listening or having two-way dialogue. Over the last few years however, we have been a part of a communications revolution, (Qualman, 2009, A). Social Media is continuing to change the way we communicate. No longer is an internal memo just internal. No longer is an external release just external. Internal communications must be geared towards the external audience and so must external messages be geared towards the internal audience. “In the old employee communications paradigm, corporate communications departments relied on top-down approaches to reach their employees. In the new, relationship-based paradigm, employees “ping” sources both inside and outside their organization for information. These sources include messages from a CEO, a direct supervisor, a company ad in the newspaper, a neighbour’s comment about the company, a union steward’s opinion, a stock analyst’s report, or publicity around a corporate sponsorship,” (Eldeman, 2004).

To fully appreciate internal communications and the impact Social Media has had, it is essential that traditional communications be briefly reviewed.

Before Social Media, and even still today for many organizations, employee communications were achieved through the generation of the message by management and its communications department, and then it was released to the masses to either read through the internal memo or to listen to managers as they passed along the key messages. The point is that this is one-way messaging, however, best-practice guidelines and documents all cite the best approach for internal communications as two-way dialogue. *The Best Practice Guide, Internal Communications* produced by Lancashire Communications (2005) espouses all the right

messages for communicators and how internal communications should be done. It covers the a-z of communications in very traditional formats.

In 2004, Edelman, the world's largest independent communications firm, surveyed communications professionals across North America to learn more about the variety of information channels that companies use to communicate with employees. Their results demonstrated overwhelmingly that:

- Communicators are relatively unfamiliar with *newer* tools such as blogs and wiki, but see their potential.
- “Blogging” by senior management is still uncommon.
- Intranet message boards are rare, but when they exist, they are frequently monitored by corporate gatekeepers.
- Employees without computer access are increasingly losing their ‘voice’ in an environment that relies more and more on electronic forms of communication.
- Intranet investments remain strong as companies continue to convert sites to portal technology and add streaming video capability.
- The use of instant messaging at the workplace is on the rise, yet few companies have formal policies to monitor it.

An interesting point here from the last bullet is the word “monitor.” The idea of monitoring and the issue of trust will be further discussed in this paper. One could argue that there is a definite disconnect between the employer and the employee when it comes to “trust”.

The forms of communicating with employees have been fairly standardized over the years and includes such things as face-to-face, staff bulletin boards, team briefings, the employee newsletter, executive communications, memos, email memos, letters to employee homes, surveys and focus groups, and more recently webcasts and podcasts. Professional communicators will argue that they, having worked with management, have information that they must share.

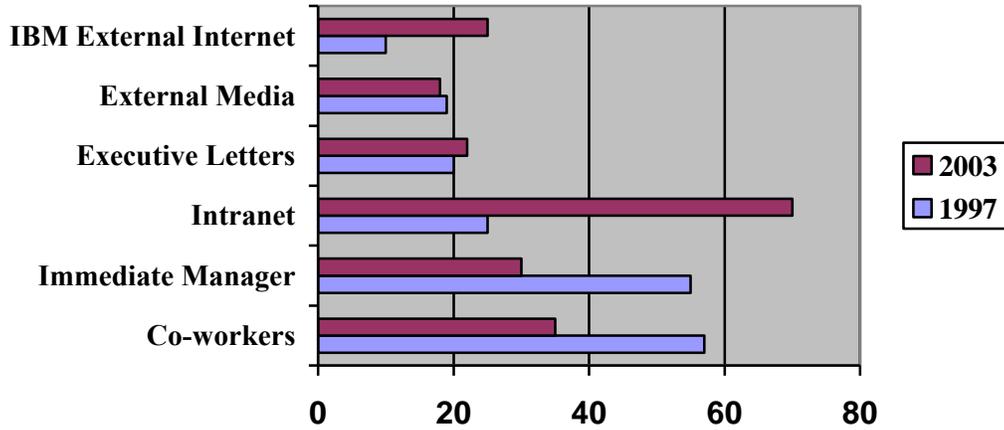
Feedback, if requested, will be solicited in the form of an email, comment card or perhaps even an anonymous comment process. Regardless of the format used, it has *not* been in an open format for others to hear, digest or even further comment upon. This is *not* two-way communication or a dialogue in the true sense. In fact, the authors of this paper would argue that the true meaning of a dialogue was not fully appreciated until not only the advent of Social Media, but more importantly once the masses realized the full potential these tools hold. No longer is an internal memo confined to the internal audience it was intended. With the tools and technology now at the fingertips of every employee - memos, newsletters, photos and even video can be uploaded to the Internet and can potentially be viral within minutes of publication or posting. In other words, a simple upload to Facebook or YouTube could be seen and forwarded to hundreds, thousands or even more within hours or minutes.

### ***Employee Trust***

For all the forms of internal communications, it should be noted that the level of trust that employees have for the various forms of internal communications are also worth reviewing. In 2003, IBM conducted a survey to determine what medium was used most by employees and why, (Kite, 2009). The results indicated that the intranet became employees’ most trusted source for

company information. Figure 1 demonstrates a comparison of information taken first in 1997 and then in 2003.

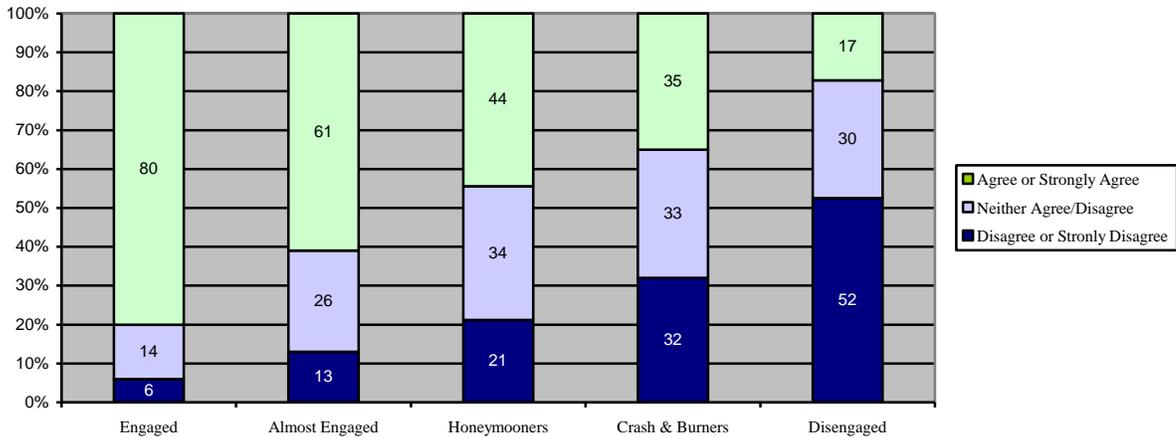
**Figure #1 IBM's Most Trusted Communication Tools**



Source: IBM 2003 (Kite, 2009)

As time has progressed, however, trust rates in general have changed and not for the better. According to the BlessingWhite Employee Engagement Report of 2008, “only about half (53%) of employees trust their organization’s senior leaders — the people who set the tone for organizational culture and need to inspire high-performance and commitment. Three in four (75%) North American respondents agree or strongly agree that they trust their manager, slightly down from 2006’s response of 79%. 17% of disengaged employees actually trust their managers.” Figure 2 below illustrates the correlation levels of engagement and trust employees have in senior leaders. It appears that some employees hold a less than stellar view of top leaders.

**Figure #2 – BlessingWhite – Trust Measurement**



Source: BlessingWhite 2008

Even more recent research continues to demonstrate that trust is an issue. According to Lee Smith (2009) and his Blog – *Talking Internal Communication* and his review of Edelman’s 2009 Trust Barometer, trust of officials is in serious decline.

“I haven't had time to fully digest this research, but there are two big things that immediately jump out for me as an internal communicator... First off, the trend away from trusting official sources of information towards trusting 'people like me' continues apace. This trend is evident in the big wide world, and it also applies internally - employees trust other employees more than they trust leaders. As communicators we need to respond to and embrace this. That's one of the reasons Social Media is so damn important - it provides access to and empowers 'people like me' (whether they're employees or consumers). The world order is changing and we need to change with it. Second, and the points are linked, we need to become much, much better at engaging our employees, empowering them and equipping them to become advocates for the organisation. The lines between internal and external are blurring fast - today your employees are as much your spokespeople as your CEO. Let's face it, they are often more trusted, more credible and more accessible. We need to face up to this reality. Lots of little voices are louder than one big voice,” (Smith, 2009).

Further information on Edelman's Trust Barometer is found in Appendix 1. This decline in trust does not just affect internal communications; it is also very significant in terms of external communications which will be discussed later in this paper.

There is no question that employee engagement is a hot topic in business today.

“Employers need to trust their employees to participate in those conversations like responsible adults, and employees need to trust that the employer actually is prepared to have some open and honest discussions about what will inevitably sometimes be uncomfortable topics. And with that trust comes an equally shared need for responsibility. For employers, it is the responsibility to listen to what employees are saying, to respond to what they hear, and to be open and transparent about what is happening in the organization. For employees, there is first the responsibility to participate. If the employer is going to make an effort to encourage and engage in real conversations with employees, then employees should see it as part of their role [as employees] to participate,” (Rueben, 2010).

### ***Employer Trust***

It should be noted that trust issues do not only exist for employees. There is a definite permeation of mistrust of employees by the employer. We see this most frequently through employers who block access to social networking sites, (Ostrow, 2009). For those who do allow access, employee activity is closely monitored by what Edleman labels as “gatekeepers.” According to Ochman (2010), many employers are concerned that sensitive or confidential information will be leaked or quite frankly, that employees will bad mouth the company.

“Amanda Walkup, a lawyer who practices employment law, ... said her firm fields “fairly regular inquiries” from clients asking about Social Media and whether they should adopt policies governing its use. Should they permit employees to be using those sites in the workplace, and should they be concerned about what they post on their own time, outside the workplace? “The real purpose of policy is to

communicate expectations,” she said. “With a lack of direction, sometimes chaos reigns.” (Cuiper, 2010)

As the authors of this paper contend, having a policy in place that involves the employees and sets expectations for both parties would be the first step to help alleviate trust issues. When employees and employers know what to expect, the stage is better set to build and maintain trust.

This lack of trust extends beyond what employees are doing at work. According to Taylor (2008) in a study conducted in Ireland which surveyed 647 employers, 83% of the employers confirmed that they checked Facebook to see if an employee was truly sick. The survey also revealed that 67% of the employers disciplined employees as a result of what they have seen on Facebook.

Over and above what an employee does during work hours, some employers are also watching employee activity after hours. According to Myatt (2010), “an employee is a direct representative of the company, and his or her actions, either on or off the job, are a direct reflection on the employer's brand, reputation, and image in the marketplace. Companies are in reality frequently judged by the quality, integrity, and character of their employees.”

As Social Media further permeates the workplace, there is no doubt the line that distinguishes personal versus work time will continue to be blurred and employment law and Human Resource practices will need to adapt. In the meantime, there appears to be enough mistrust between employees and employers to cause concern. Without trust, both parties will continue to take actions that would perhaps not otherwise occur. One such activity that seems to be on the rise is employee leaks of confidential or sensitive information.

### **Why do employees leak information?**

Long before Social Media appeared on the scene, employees leaked information. This is not a new phenomenon, but with Social Media, information can reach a much larger audience much more quickly than ever before. The question remains, however, why do employees leak information? Is it an issue with not trusting their employer and their motives? Is it a sense that an employee is blowing the whistle on what he or she believes to be inappropriate or unethical behaviour of their employer? Or is it an act of revenge?

According to Kearns (2009), “Generally in times of economic recession when companies are faced with redundancies, there is a heightened risk of disaffected employees leaking sensitive business information. The loss of confidential information can affect any business and that the implications are costly, embarrassing and most importantly damaging to your business.”

Wikipedia's page on *News Leaks* on the other hand, provides further insight into why employees leak information. “People with access to confidential information may find it to their advantage to make it public, without themselves appearing to be responsible for publishing the information. For example, information which will embarrass political opponents, or cause damage to national security, may be leaked. People privy to secret information about matters which they consider to be morally wrong or against the public interest — often referred to as “whistleblowers” — may leak the information,” (Wikipedia, 2010, A). As the authors of this paper contend, information leaked to a third party is meant to embarrass and the third party is often a member of the news media. As a result, if the reporter chooses to pursue, the audience will be much larger.

## **Traditional External / News Media**

When looking at traditional communications, the review and understanding of the use of news media as sources of information for employees also needs to be considered. According to Humphries (2010), in the time of crisis, employees look to their leaders for information, answers and confidence. If it isn't forthcoming, they will go elsewhere, including news reports. Furthermore, "one thing we say in PR is 'Tell the family first,' always share the information with the internal audience before they hear it on the 6 o'clock news. Company employees will likely be faced with questions from their family and friends as well as from the media," (Coakley, 2010). These basic principles really go without saying, but during times of uncertainty they become even more important.

## **What the heck is Social Media?**

Social media are web-based applications designed such as Facebook and Twitter to promote social interaction (Shwom & Snyder, 2012). According to Wikipedia, (2010, B), "*Social media* are media for social interaction, using highly accessible and scalable publishing techniques. Social media use web-based technologies to transform and broadcast media monologues into Social media dialogues. They support the democratization of knowledge and information and transform people from content consumers to content producers." Perhaps the key words here are "democratization of knowledge." Wikipedia (2010, C) goes on to define the *democratization of knowledge* as "the acquisition and spread of knowledge amongst the common people, not just privileged elites such as priests and academics." The ability of "common people" to speak out in such a public way, to share information instantaneously either through text, photos or videos can have a tremendous impact on employees. As will be discussed further in this paper, employees have found a new sense of empowerment from the ability to speak out, share information and correct what they either perceive or know to be misinformation.

## **Is Social Media a fad?**

Many employers and people in general, would like to think that Social Media is the current fad or phase in the "what's next" world that we live in. Making use of Social Media for communications requires a change in thought processes. Employers need to embrace the concept of *true* two-way communications, (Ochman, 2010). This means that not all commentary will or can be controlled, nor will it always be positive. For many employers it also means investment, whether in human or technological resources. For some, allowing employees to participate in Social Media is perceived as a distraction and leads to a low productivity at work, (Ochman, 2010). In fact, many employers have implemented internet blocking processes to ensure that employees do not have access to Social Media networks. According to Ostrow (2009), a survey of 1,400 CIOs [Chief Information Officers] of companies with 100 or more employees revealed that 54% completely block employees from accessing social networking sites at work. Of those surveyed, only 10% allow employees to use social networks as they please. The remainder, however, all impose some restrictions on usage and limit it to business purposes only.

Such companies that fail to see the benefits of employee use, likely would not use Social Media for communicating with customers/clients. At the same time, they are likely not monitoring their brand either and how it is being portrayed in Social Media networks. By believing that this is just a fad and something else will come along, such employers are not only

missing opportunities for communicating, they are missing the opportunity to communicate in a real two-way dialogue with customers *and employees*.

To emphasize that Social Media is not a fad or phase, there are many interesting statistics available. According to the “Did you Know?” Version 3.0 video, which was produced in 2008, (McLeod, Fisch and Bestler) the following statistics reveal some very interesting insights into how technology and ultimately Social Media is changing what we do. For example, there are currently 31 billion searches on Google each month. Contrast that to a total of 2.7 million searches in all of 2006. The following table of communication mediums indicates number of years that each took to reach an audience of 50 million.

**Figure #3– Years to Reach an Audience of 50 Million.**

<b>Medium</b>	<b>Years</b>
Radio	38
Television	13
Internet	4
iPod	3
<b>Facebook</b>	<b>2</b>

According to Lur (2010) if Facebook were a country, it would be the third largest country in the world based on population, or in this case, individual membership. Only China and India would surpass Facebook. Some additional interesting facts from an updated version of “Did you Know?” Version 4.0 are contained in the video which uploaded in the fall of 2009 and produced by Xplane, The Economist, and McLeod, Fisch and Bestler. The content of the video describes, among other interesting facts, the decline of traditional media such as newsprint. Newspaper circulation is down seven million over the last 25 years whereas on-line readership of news is more than 30 million during the last five years. The video also contends that more video has been uploaded to YouTube in a two-month period than what would have been produced and aired if NBC, ABC and CBS were airing 24-hours a day, seven days a week, 365-days a year since 1948. Finally, these three stations combined get 10 million unique visitors each month, where as myspace.com, YouTube and Facebook get 250 million unique visitors each month. Perhaps more staggering is that if you combined NBC, ABC and CBS, they would have been around for a combined 200 years whereas myspace, YouTube and Facebook did not exist six years ago, (McLeod, Fisch and Bestler, 2008).

When it comes to text messaging, “Did you Know?” Version 4.0 also reveals interesting information about teenagers and text messaging. The average teenager texts 2,272 messages each month. As future employees, how will this impact the way these individuals send and receive information? As noted by Qualman (2009, B), email communications are passé to generation Y and Z, so how will employers actually communicate with these future employees? How are employers treating text messaging now? Are they blocking text messaging in the same way that they are blocking access to other Social Media networks? If so, should they be? If 93% of American adults own cell phones as purported by this video, text message communications can be at the fingertips of a significant portion of the population. Even if employers are blocking text messaging on company assets, are they really controlling texting and the messaging? A look at one employer’s response to text messages will be provided later in this paper.

When you look at the evolution or revolution that we have witnessed and continue to witness with Social Media; it is fair to say that Social Media is a fad? According to Qualman,

(2009, A) , Social Media is not a fad. It's a fundamental shift in the way we communicate. The following list comprises some of the information that Qualman, (2009, A) provides in his on-line article "Social Media: Fad or Revolution?" on searchenginewatch.com.

- 80 % of Twitter usage is on mobile devices. People update anywhere, anytime. Imagine what that means for bad customer experiences!
- Generation Y and Z consider e-mail passé. Boston College stopped distributing e-mail addresses to incoming freshmen in 2009.
- YouTube is the second largest search engine in the world.
- There are more than 200,000,000 blogs.
- 54% of bloggers post content or tweet daily.
- Because of the speed in which Social Media enables communication, word of mouth now becomes *world* of mouth.
- 78% of consumers trust peer recommendations.

So, with the Social Media revolution here and growing, why do 54% of employers block employee access to Social Media networks, (Ostrow, 2009)? According to Ochman (2010), there are at least five good reasons to give employees access. The following reasons can be accessed on Ochman's blog: [whatsnextblog.com](http://whatsnextblog.com):

**1. *Resistance is futile*** - Workers increasingly have Internet access on their smart phones. By the year 2013, 43% of global mobile internet users (607.5 million people worldwide) will be accessing social networks from their mobile devices, according to a new report from eMarketer which can be found at [www.emarketer.com](http://www.emarketer.com) and entitled *Mobile Plus Social Equals Opportunity*.

**2. *Don't assume people won't find other ways to waste time***. If an employee wants to waste his or her time, they will find a way to do it.

**3. *Social networks actually can make workers more productive***. 75% of the 895 experts interviewed for the recent Pew Internet report -The Future of the Internet 4.0, said that use of the Internet enhances and augments human intelligence, and two thirds said use of the Internet has improved reading, writing, and rendering of knowledge.

**4. *You'll miss great ideas***. Great ideas can come from any level in a company. Using Social Media networks internally (wikis, blogs, forums, even [Instant Messaging (IM)] fosters collaboration, and allows workers at all levels to contribute ideas. Experts emerge from within a company when collaboration is encouraged, and along with them come some of the best ideas that would otherwise be lost. Because people can comment on information, companies often learn of internal expertise they didn't know about already.

**5. *Employees are much more trustworthy than companies think***. Managers worry that employees will leak confidential information, or speak poorly of the company. Most people have much more common sense than to jeopardize their jobs, with wanton comments in social networks, especially these days. If you can't trust your employees, you have one of two problems: you are hiring the wrong people or you are not properly training the people you hire. People who

want to say something negative will find a way, with or without access to social networks during business hours. However, negative feedback also can provide an early warning that changes need to be made, either in policy or employees. “All in all, companies have more to gain than to lose by allowing employee access to social networks. My bet is that it’ll take another two years for most companies to figure that out,” (Ochman, 2010).

## **So, what is the impact of Social Media on Internal Communications?**

Based on the research to date, there are significant impacts for both the employer and the employee. The following section will explore how technology and Social Media are changing the way that both groups communicate.

### ***The Employer***

From the employer perspective, there is a need:

1. for a dramatic shift in mind-set,
2. to potentially revisit existing practices,
3. to develop new policies,
4. to change perceptions, and
5. to continue to adapt to new media.

1. In terms of developing a new mind-set, this really evolves from the need to move past gate keeper and controller and to deal proactively with trust issues. Even before an employee is hired, many companies are going to social networking sites to investigate potential employees. So even before someone is hired, the employer is exhibiting a lack of trust.

“According to research firm Harris Interactive, who was commissioned by CareerBuilder.com and surveyed 2,667 HR professionals, finding that 45% of them use social networking sites to research job candidates.... According to the study, “35 % of employers reported they have found content on social networking sites that caused them not to hire the candidate” (Van Grove, 2009).

Even if you get in the door and are hired, some employers continue to watch employee behaviour outside of work. According to Van Grove (2009), this same study also cited that 44% of those surveyed dismissed [fired] employees after seeing content on social networks containing alcohol and drugs.

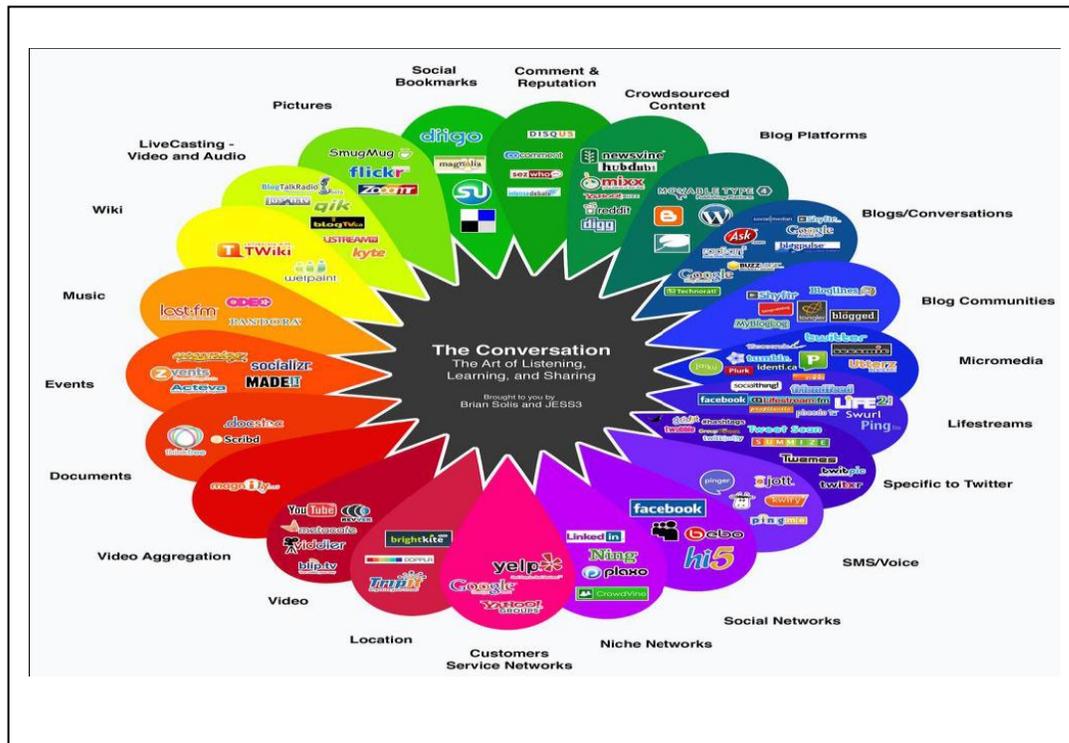
2. In terms of reviewing existing practices and policies, companies that plan to use Social Media for internal communications do need to consider how they are currently communicating. As early as 2008, Boston College was ceasing the use of establishing email accounts for new students. “Many students don’t even want a college e-mail address these days because they already have well-established digital identities before they arrive on campus,” (Young, 2008). As previously discussed, text messaging has become a prevalent communication medium for most students and with 93% of adults in the United States having access to cell phones, text messaging is easily accessible. As students become employees, employers need to adapt to new methods to reach these employees.

3. This is not dissimilar to the evolution of the printed memo moving to the email memo. It just requires a change. Without making adjustments, key employee segments will be excluded from communications. With this change also comes a need to have Social Media policies in place. According to Kujawski (2010) a policy sets not only the tone, but also the parameters for employees to know what they can and cannot do. Gene Connors of Workforce Management goes further. “Employers must implement social networking policies, obtain employee consent for monitoring and conduct their monitoring legally and responsibly,” (in Lupfer, 2010). Connors also offers up “10 Social Media Commandments for Employers” to guide them through the process.

4. Changing perceptions about Social Media will no doubt be the largest obstacle. According to Lichtenberg (2009), “Social Media will become a single, cohesive experience embedded in our activities and technologies...Social Media as we knew it even six months ago has changed. By this time next year, it will have become fully integrated into everything we do online and offline. By the end of this year we'll see a move toward greater control over content and companies will fight over Social Media land grabs in preparation for the future.”

5. Finally for the employer it also comes down to the unknown; what social networks and when? Below, figure 4 depicts the current plethora of Social Media options available.

**Figure #4 - Social Networking Opportunities – Options**



Source: Kujawski, 2010

As early as 2008, employee engagement had become an important theme for HR [human resource] and Communications professionals. According to Paton (2008), global intranet and portal leader at Watson Wyatt,

“when properly rolled out, Social Media and Enterprise 2.0 tools can help companies meet their number one internal communication goal – engaging employees. Instead of simply mass e-mailing information or posting to an intranet [site] in hopes employees will see it, Social Media tools help employees actively participate in creating and sharing information. This shift to employee-generated content has resulted in employees' becoming more engaged online.”

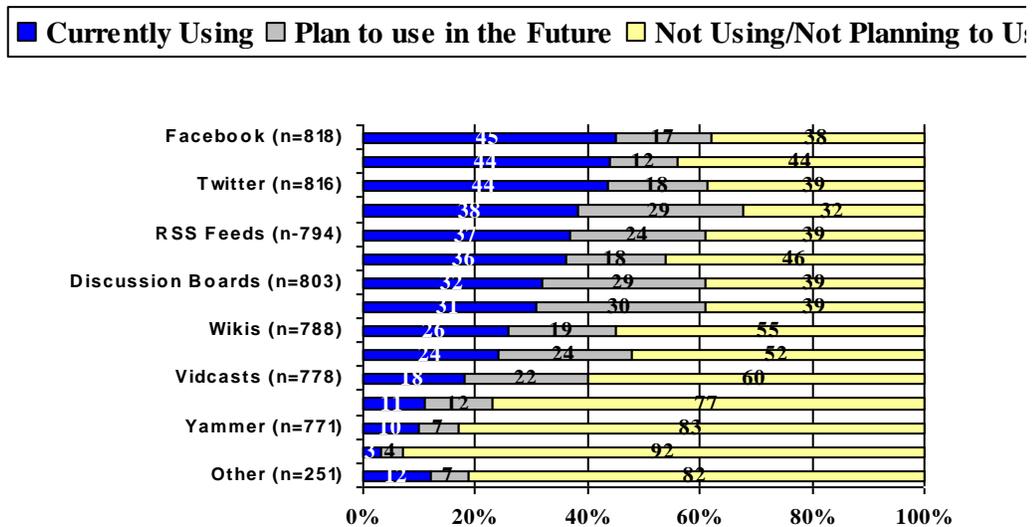
Fast forward to 2010, and it would appear that employers are still not taking the plunge. The following research by IABC further explores employee engagement.

### IABC Research

According to the IABC Research Foundation and Buck Consultants Employee Engagement Survey released in June 2010, the usage results for Social Media tools are less than stellar. There were nearly 900 respondents to this survey which revealed great insight into plans for the future. For example, the following chart depicts current communication tools being used for both internal and external audiences as well as those that are planned and not planned to be used.

For employers to truly engage employees, it would appear that they do not understand the communication shift that has occurred. In looking at Facebook (38%), Twitter (39%) and YouTube (46%) alone, the numbers are very disappointing when you look at the percentage of

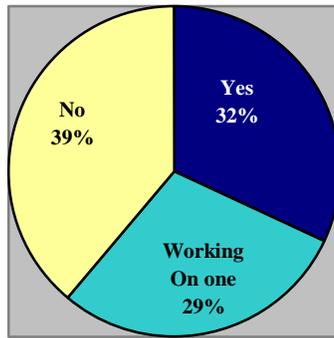
**Figure #5– Internal and External Social Media Tools Currently Used**



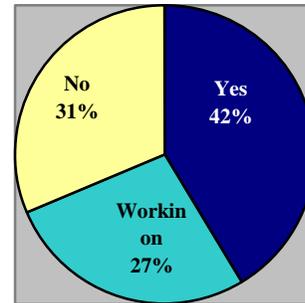
Source IABC 2010 Employee Engagement Survey

respondents who plan not to use these tools. From that same survey, 83% of respondents claim to use email frequently as the method to engage employees. In terms of having policies in place to either address employee use of internal Social Media or the use of external Social Media, the results are equally startling. The following charts demonstrate the use of policies in-place.

**Figure #6 – Policy in place to address employee use of internal Social Media**



**Figure #7 – Policy in place to address employee use of external Social Media**



**Source IABC 2010 Employee Engagement Survey**

Based on the information provided in the IABC survey, it would appear that many employers are not yet engaging employees with Social Media, nor are they ready to move to implementing Social Media for internal or external communications.

***The Employee***

From the perspective of the employee, all the research points to increasing use of Social Media networking tools for communications. For existing employees, IABC research confirms that email continues to be the standard mode of communications that employers are using. This is not good news for either the employee or the employer. Key information is not and will not reach the internal audiences in a timely and efficient fashion. The authors of this paper argue employers need to understand that Social Media is the communication medium of choice for employees and this is really an opportunity that should be seized. It is better to move there willingly rather than being forced into it.

Regardless of whether employers are moving willingly or not to using Social Media, the authors suggest that more advanced and responsible employers would want to understand what truly engages their employees. For example, who is asking employees what they want access to and for what purposes?

Employers should note that it is not just Generation Y and Z who are making use of these tools. In February 2009, Inside Facebook reported that the fastest growing demographic on Facebook was women over the age of 55. The next fastest growing demographic is the 45-54 year olds with 165% growth. The next block is the 35-44 year olds with women leading at 154% compared to men in the same age group at 138.7%. Overall, 45% of Facebook’s 45.3 million active users in the United States are now 26 years old or older. Nearly a quarter of all Facebook users are over 35 years old today – quite a change from Facebook’s roots as a social networking

tool for college students just a few years ago, (Smith, 2009). In September 2009, Inside Facebook reported that Canada ranked third for the most usage and had a 38.7% penetration rate, (Eldon, 2009).

Being that employees are asking for more social networking tools to be used at work, the implementation of good and reasonable policies become even more important. According to “Did you Know” Version 4.0 video, among the larger employers in the United States, 17% have disciplined an employee for violating blog or message board policies. Having clear and concise expectations laid out in advance are necessary for employees and employers.

Finally, according to Kelly (2008), employees want trust, access to information, empowerment, and they want to be able to influence. The authors of this paper argue that with Social Media, employees and the population in general can get access to information, they can feel empowered by speaking their minds and they can influence the beliefs and behaviours of others.

## **Conclusions**

If there is one conclusion to be derived from this paper, it is that communicating the way we did last year or even last month is no longer effective. Gone are the days when organizations can force its opinions, beliefs or perceived “spin” on employees, customers or the public in general. Social Media has changed everything. To fully understand this, however, the conclusions are summed up in three fundamental areas: trust, control and empowerment.

### ***1. Trust***

In terms of trust, the literature indicates that there are serious trust issues for the employer and the employee when it comes to internal communications.

From the *employer's* perspective, there is a belief that employees will abuse assets and company time to socialize on Social Media networks; or worse, they will sabotage the company by leaking trade secrets and insider information. Due to this lack of trust, it appears employers are not taking advantage of the opportunities provided by employee engagement. Engagement develops trust and a true dialogue. As a result, it appears that employers are more concerned with what may happen as opposed to finding solutions and implementing new Social Media tools to benefit employees, customers and the organization.

From an *employee* perspective, the research is also very clear. Increasingly we are seeing that employees lack the required trust that is needed to believe information that comes from management. In fact, research states that only 53% of employees trust an organization's senior leaders. Instead, they believe information that comes from “people like me”, - hence, the power of Social Media. Employees can retrieve information, ratings and recommendations from people like themselves. Expectations of employees continue to rise with respect to access to Social Media networks and new communication tools. It is no longer a one-size-fits-all communication world; a “memo” from management is not sufficient for all audiences.

### ***2. Control***

This is a very powerful concept regardless of who you are. It is human nature to want control, but perhaps communications is much like politics - control is at the heart of the matter.

For the *employees*, the research tells us there is the desire for more information and the need to be empowered to be able to influence and make decisions. With Social Media, all of this is possible.

For the *employer/business owner* it is all about crafting a message in order to get a certain result, determining when the message will be released, to whom and how. For example, an internal memo is only for employees and it will be controlled so that the message will not go public. The end game is to ensure that as an employer your employees are working efficiently and productively to get to a positive bottom line. As a business manager, it is all about increasing sales. Communicating in this controlled manner is completely one-way communication and the employer/business owner controls the entire picture: from what is in the media, to the messages on billboards, magazines and to the public in general.

Perhaps the most obvious conclusion in the control category is that employers/business owners have to change their thinking about control and build more trust by empowering their employees. Employers are used to being in full control, ensuring that employees (and customers) are told the story management wants released. Often large marketing campaigns are undertaken to simply influence opinions and behaviours of employees and/or customers.

With Social Media, the average person does not need a big budget. All one needs is a computer and an Internet account. Then anyone can make a difference. The fact is “people like me” are moving and adopting Social Media tools much faster than businesses. This phenomenon is not restricted to a class or particular age group.

### **3. *Engagement***

Employers speak about employee engagement. It has become the latest trend in business circles. With fully engaged employees, employers can expect more from the employee that will further the organization’s interests. As employees, we want to make decisions for ourselves and speak out when we are in disagreement.

To truly engage employees, employers must take the next step and not only understand the communications preferences of employees, but be prepared to make changes. With or without employers taking the plunge, employees will, and employers may have the difficult task of playing catch up. While employers may need to learn how to effectively communicate in 140 characters or less, they need to trust, understand that control is no longer possible the way we have experienced in the past and finally empower employees to assist the employer to achieve its goals.

Finally *employers/business owners* need to be prepared that not all on-line comments and reviews will be favourable and in some cases the anonymity of the web might push employees/consumers to go further than anyone would like. They need to understand that any communication they prepare has the potential to be uploaded to a Social Media tool and be viral within minutes. Social Media is not a fad. It is a communications revolution.

## **Appendix 1 – Trust Barometer**

### About the Edelman Trust Barometer

The 2009 Edelman Trust Barometer is the firm's 10th trust and credibility survey. The survey was produced by research firm StrategyOne and consisted of 30-minute telephone interviews using the fielding services of World One from November 5–December 14, 2008. The 2009 Edelman Trust Barometer survey sampled 4,475 informed publics in two age groups (25-34 and 35-64). All informed publics met the following criteria: college-educated; household income in the top quartile for their age in their country; read or watch business/news media at least several times a week; follow public policy issues in the news at least several times a week. For more information, visit <http://www.edelman.com/trust> or call +212-704-4834.

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## **STUDENTS UNDERSTANDING OF ASSESSMENT AND THEIR RESULTANT MOTIVATION TO ENGAGE WITH THE MATERIAL**

We describe a co-orientation analysis on student peer and self-evaluations, to discern perceptions on group-work, emotions experienced and networks formed. We present an initial analysis of 4 different student group assessments and identify factors that could lead to more robust assessment measures, improved course design and increased student engagement.

### **Background and Purpose**

Classroom observations show that many students perceive business communication and some management course material as trivial, redundant, and boring and a chore rather than a necessity. These perceptions could stem from students' lack of engagement with the course material but chiefly, from their apprehensions about assessments. Most classroom self and peer assessments take into consideration only the students' ability to understand and use the material. The assessments, particularly in group work, often lack an objective measure to cross-check students' perceptions or capture students' cognitive and emotional dynamics during their learning process. The result has been inadequate assessment measures and course designs that fail to ensure every student in the classroom is motivated to engage and learn. The results from this study will help determine the factors that could lead to increased student engagement, help students gain new insights in the material, and aid instructors as well as researchers in understanding the rationality that underpins collective action in management projects.

### **Rationale for the Study**

In our experience in teaching Business Communication and Management Courses to undergraduate students, we find that students often seem to perceive value from the course material much later than while the course is being taught. This is often too late for them to do really well in the course, and as a result we find that they do not engage well with either the course material or their teammates in

class assignments. The students appear to go through the motions and do assignments more as a chore, than an opportunity to learn and equip themselves with critical and transferable skills. While students arrive at universities and colleges with various expectations, the onus does lie on instructors to provide an environment where students are motivated and engaged with the course material. Studies about first-year and senior students' learning patterns, (Zhao and Kuh, 2004) from 365 four-year institutions have shown that participating in a *learning community* is positively linked to engagement, student self-reported outcomes (like grades, performance etc.), and overall satisfaction with the college.

In order to create that *learning community*, one way of providing sufficient opportunities for the students to engage with the course material and their classmates includes group work in the courses. Group work, under proper conditions, encourages peer learning and peer support and many studies validate the efficacy of peer learning (Zimmerman & Martinez-Pons, 1988, Nulty, 2011 etc.). Under less than ideal conditions, group work can become the vehicle for acrimony, conflict and freeloading. It may also impose a host of unexpected stresses on, for example, students with overcrowded schedules or those living long distances from the University (University of Wollongong assessment policy, 2002).

The measure of success of group work as well as a means for the students to resolve these conflicts is through self and peer assessments. The assessments, often appear to be a motivator for student engagement, participation and interaction. The motivated participation leads to significant learning gains and satisfaction with the performance in the group project and the course. Self-assessments of knowledge (gained) have also been shown to be only moderately related to cognitive learning while being very strongly related to *affective* (feeling of mood or emotion) evaluation outcomes (Sitzmann, Ely, Brown & Bauer, 2010). So while assessments may lead to increased engagement on the one hand, the assessments also seem to create further conflict and decrease individual and group learning and decision making abilities. Sitzmann et al (2010) found that even in evaluation contexts that optimized the self-assessment-learning relationship (e.g., when learners practiced self-assessing and received feedback on their self-assessments), self-assessments had as strong a relationship with motivation as with cognitive learning.

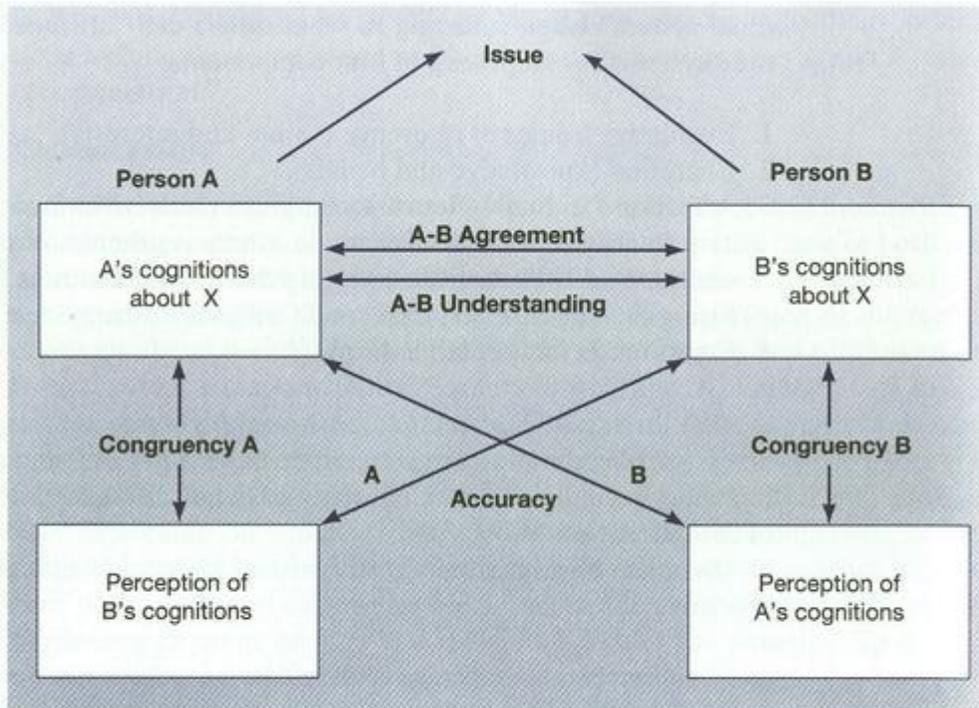
Cognitive-emotional networks are clearly linked to associated memories, critical thinking, reasoning and decision making, (Pollerman, 2000; Damasio, 2000; 2002; Lane, Nadel, Allen and Kazniak, 2000; Fineman, 2000) all of which form the crux of the "learning process". The time has thus come for more complex measures of learning that have at their core arguably the most important dependent variables in management learning, namely education and development (Armstrong and Fukami, 2010). We expect these measures to create awareness among students, motivate them to engage in learning, be less apprehensive about assessments and gain value from their learning experiences.

While Nulty (2011) studies the effectiveness of self and peer evaluation extensively, he concludes that there is little consistency in the quality or content of the processes currently used, and that first year university students in particular suffer from a lack of data relating to their specific needs. And while he concurs with Baud (1995) and Sweep (2008) that "self-assessment necessarily incorporates the views and judgements of others" he does not provide detailed analysis of co-orientation data which might further define the implications of this. Bronn (2000), however, makes clear the practical application of such analysis "as a basis for communication and learning." Our study thus contributes to bridging this gap.

Elliott and Higgins (2004) and Wenzel (2010), in addition to providing evidence of self and peer assessment as a useful tool overall, recommend the continued use of such assessment. They nevertheless suggest that more research is needed to substantiate whether student learning and engagement is significantly enhanced, beyond the perception of improved fairness and motivation. With our study's additional analysis of emotional factors, and with the first year population compared to 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> year populations (though from different universities), we would be bringing forward new insight to the self and peer evaluation process. Further, our data and methods of analyses, specifically the co-

orientation process will provide a matrix of critical factors that facilitate the emergence of underlying models of effective and robust assessments.

Using co-orientation analysis (Chaffee & McLeod, 1970; Chaffee & McLeod, 1973) we can determine the interdependence between two individuals' attitudes and perceptions, as also the congruence/agreement, i.e. the degree to which consensus, assimilation, self-other agreement, and assumed similarity differ.



Source: Adapted from Jack M. McLeod and Steven H. Chaffee, "Interpersonal Approaches to Communication Research," in *Interpersonal Perception and Communication*, ed. Steven H. Chaffee and Jack M. McLeod, special edition of *American Behavioral Scientist*, 16, no. 4 (March–April 1973), pp. 483–88.

**Figure 1: The Co-orientation Model**

“The social or interpersonal concept of public opinion requires two or more individuals oriented to and communicating about an object of mutual interest. In other words, they are **cooriented** to something in common and to each other. The co-orientational model in Figure 1 illustrates the **intrapersonal** and **interpersonal** elements of communication relationships. First, the intrapersonal construct of **congruency** describes the extent to which your own views match your estimate of another's views on the same issue. Some refer to this variable as **perceived agreement**. On the basis of this estimate, you formulate strategies for dealing with the other person or for spontaneously responding in interactions.

The extent to which you accurately estimate another's views determines the appropriateness of your actions. Each of us recalls instances in which we misjudged another person's position on some issue of mutual interest, and responded to them inappropriately until we learned what the person really thought about the issue. **Accuracy**, then, represents the extent to which your estimate matches the other person's actual views.” – Chaffee & McLeod (1970, 1973)

To summarize, if A were to hold certain views about an issue, say efficiency in group work and completing all allotted tasks, and A's teammate B holds somewhat similar or even dissimilar views. The co-orientation model can help discern A's and B's perceived understanding of each other's understanding of efficient group work and completing allotted tasks. The model can also help discern the accuracy with which A or B perceive their own understanding of this issue, each other's understanding of the issue and what A and B actually understand and perceive about themselves and one another.

### **Outcomes**

In an effort to engage students, researchers and teachers have long advocated the integration of self and peer assessments in courses as a way to motivate students to participate and interact and derive more value for their efforts. For the most part this is quite successful as reported by several researchers (Sundararajan, 2008, 2010; Jung, Choi, Lim & Leem, 2010). However, self and peer assessments (in group projects) are not the panacea, because they sometimes fail to take into consideration the actual group dynamics that arise from group project work, the perceptions of student members before, during and after the group project is over and the emotions that the group members experience during the lifetime of the project (Sundararajan, Sundararajan, Peters, 2005).

This study uses the self and peer assessment forms used in School of Business courses (both at Dalhousie University and at North Carolina Central University (NCCU)) to come up with complex measures of assessment (self and peer) that take into account student perceptions of collaborative work, knowledge gains, satisfaction with their performance, network ties established during the course of their interactions in the class and their group project. We will also study the interactive effect of emotions (that students experience), network ties (that they develop) and the rational choice process on the individual's rational choice to act collectively in a group towards achieving a common goal. These complex measures of self and peer assessment of knowledge and collaborative work are directly relevant to management education and we hope that this will result in more robust model for self and peer assessment that will motivate students to actively participate, interact and perceive real and measurable learning gains from their participation in management projects.

### **Study Design & Methodology**

We started with formulating a set of research questions that ranged from asking whether there was correlation between instructor grades and the self & peer evaluation, was there agreement between self and peer evaluation about contributing to the group task and emotions experienced during group work, whether secondary emotions like anger, joy, shame etc. impacted participation in group work, whether core affects (sad-glad, happy-depressed etc.) impacted participation in group work, whether moods (positive, negative etc.) impacted participation in group work, and whether student perceptions of assessments (instructors, self and peer) impacted participation in group work. At the time of this writing, we have only completed some of the analysis and hence list only the research questions for which we have results that can be reported.

### **Research Questions**

RQ1: Is there a correlation between the instructor grades and the self & peer evaluation?

RQ2: Is there a correlation or congruence (agreement) between student self-evaluation and their peers' evaluations regarding contribution to the group task, emotions experienced and network ties established?

RQ3: Do secondary (anger, joy, shame, frustration, happiness etc.) emotions impact, inhibit, or motivate active participation and interaction in the class/group projects?

RQ4: Do core affects (sad-glad, happy-depressed etc.) impact, inhibit, or motivate active participation and interaction in class/group projects?

RQ5: Do moods (positive, negative etc.) impact, inhibit, or motivate active participation and interaction in the class/group projects?

RQ6: Do formation of network ties impact, inhibit, or motivate active participation and interaction in the class/group projects?

RQ7: Do student perceptions (positive, negative) of assessments (self and/or peer) impact, inhibit or motivate active participation and interaction in the class/group projects?

RQ8: Do student perceptions of assessments impact or influence self-assessment and perceptions of knowledge gained and result in a feeling of satisfaction or dissatisfaction about their performance in the course?

RQ9: Do student perceptions of network ties established among class/group members impact or influence perceptions of knowledge gained and result in a feeling of satisfaction about their performance in the course?

RQ10: Do students' emotional experiences in the class/group project impact or influence perceptions of knowledge gained and result in a feeling of satisfaction about their performance in the course?

## **Design**

As mentioned earlier, we have been using a self and peer assessment form for students to evaluate themselves and their team members based on their individual contributions to the collaborative group projects. These forms are already designed to provide information about each student's perceptions of their own contribution to the group task (based on certain criteria) and the contribution of their team members to the group task based on the same criteria. Every student in the first year Business Communication course (at Dalhousie University) fills this form out for their 5% of the grade. Based on the actual responses from the students, each student can get a maximum of 5% for this portion. This data automatically extends itself to both social network analysis (network and tie formation) and co-orientation analysis (tests for congruence and agreement). To this form we will add questions/items that address the primary and secondary emotions, mood indicators and core affect indicators.

The survey/questionnaire/form was administered to the students via both an online platform (Blackboard Learning System – BLS) and/or as an email attachment in a word document. The students have been completing these forms and also providing substantive information on why they assigned a particular grade to their group mate. This provides additional information into the thinking behind the rating. Since students already fill this form as part of the course, their individual consents were obtained if they wish to be part of the study. For those students who did not consent, their grades were not affected in any way and their responses were not included in the analysis. If a majority of students in a group declined their consent, then those groups were not included in the study.

## **Participants**

We are using a convenience sample of students in a first year Business Communication course, which is a required course for the Bachelor of Commerce program at the School of Business Administration at Dalhousie University. There are about 270-280 students divided across seven sections. At NCCU, the students from the following courses were invited to participate in the study - undergraduate Entrepreneurship, Strategy and International Business (all 3<sup>rd</sup> or 4<sup>th</sup> year students). There are about 25-35 in each class. On average there are will be 6-9 groups of 4-5 students in each class. This allowed us to

collect individual and group data within a section and across sections and across two universities in a variety of management courses.

Participants were asked to complete a self & peer evaluation form upon completion of a class group project as part of the course (see attached syllabi). The evaluation took approximately 15-20 minutes.

All data collected in the self & peer evaluation forms were recorded in an on-line form (Word document). The data consists of student responses to how they themselves and their group members performed during the group project. This is based on established criteria of successful completion of collaborative tasks and revolves around organization of the material, submission of assigned tasks to the group, relations between group members, ability to help others in the group, the emotions they experienced during the group project (frustration, anger, happiness, joy etc.) etc. The survey instrument (self and peer assessment form) is attached. The responses will be recorded as options on a 5-point Likert scale. This is convenient as it allows us to convert them directly to the students' grades (5% of the grade for the course).

### **The Self and Peer Evaluation Form**

This form has been used in these courses for several years now and has four categories: organization skills and reliability, contribution to the group effort (project), contribution to team effectiveness and practical contribution to the task. Each of these four categories have four items and in students given themselves and their teammates a score out of a scale 5 (1 being the lowest and 5 being the highest). The students then have to explain their reasoning for the score for each teammate (why a low score and why a high score). This allows for additional qualitative information. To these existing items, we added the emotions and network items (Sundararajan, 2008, 2010; Sundararajan, Sundararajan, Peters, 2005).

The emotions the students experience while working on the group project range from positive emotions (hope, joy, appreciation etc.) to negative emotions (anger, shame, frustration etc.). Students again use a 5-point scale for themselves and their teammates. Here is where they can rate their perceptions of the emotions they felt and the emotions that they perceived their teammates may have felt. A set of emotions questions query the students about the degree or intensity of feeling sad-glad, passive-active etc. during and after the group work.

The next set of items asks the students whether they learned conceptual knowledge, new knowledge, were satisfied with their performance in the class, whether they felt their teammates gained conceptual and new knowledge during the course, the teammate they felt they gained the most knowledge from, their own ability to work in a group, collaborate and the reasons that motivated them to participate and interact in the class, with their teammates and the course material (Sundararajan, 2008, 2010).

As of this writing, we have completed the first round of data collection and the Ns are as follows: Dalhousie University (33+50+45 = 128) and NCCU (94). Of the 128 from Dalhousie University, data for 45 completed surveys have yet to be entered and combined. Of the 94 from NCCU, 27 had to be discarded as they were incomplete leaving us with a usable N of 67. At the time of this writing we have N=150 (83 + 67) nearly completed surveys (a handful had a few missing values).

## Analysis

The data file was split into several parts, with the peer and self-evaluation portions separated to allow for co-orientation analysis. Co-Orientation analysis (Newcombe, 1953) will test for interdependence between two individuals' attitudes and perceptions – congruence/agreement - degree to which consensus, assimilation, self-other agreement and assumed similarity differ. The Co-orientation analysis will help us determine the levels of agreements between student responses to the various test items, while social network analysis will help us determine the relationships between students and the effect these are likely to have on the primary and secondary emotions and core affects and how they impact the rational choices of the students when they act collectively in a team in these class projects.

### Preliminary Results & Discussion

As mentioned above, we have just begun doing preliminary analysis of the data, while new data is being entered concurrently. As expected there were missing values in some of the items. We filled in the missing values with the series mean and began by performing a reliability analysis for all the items and for N=137 (13 cases were excluded), we can report a Cronbach Alpha  $\alpha = 0.98$  for 230 items. This is shown in the tables 2 and 3.

**Table 1: Case Processing Summary – All Items**

**Case Processing Summary**

		N	%
Cases	Valid	137	91.3
	Excluded <sup>a</sup>	13	8.7
	Total	150	100.0

a. Listwise deletion based on all variables in the procedure.

**Table 2: Reliability Statistics – All Items**

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.980	.979	230

We then excluded the peer and self-evaluations items (task related and emotions felt during group work), retained only the degree or intensity of emotions felt (sad-glad etc.) and the knowledge gained and collaboration related items and ran the reliability tests again. We report the results in Tables 3 and 4.

**Table 3: Case Processing Summary – Only Emotion Intensity and Knowledge Items**

Case Processing Summary			
		N	%
Cases	Valid	137	91.3
	Excluded <sup>a</sup>	13	8.7
	Total	150	100.0

a. Listwise deletion based on all variables in the procedure.

**Table 3: Case Processing Summary – Only Emotion Intensity and Knowledge Items**

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.951	.951	32

The Cronbach Alpha  $\alpha = 0.951$  for the 32 items. The Cronbach Alpha  $\alpha = 0.933$  for 20 of the knowledge and collaboration items and Cronbach Alpha  $\alpha = 0.936$  for only the emotional intensity items. The group task and emotion items (self and peer evaluation) also had a high Alpha = 0.978 for 198 items. So in essence we were quite satisfied with the performance of the different scale items in asking the correct questions. We now proceed to give some of the preliminary descriptive statistics for the knowledge and collaboration items (we will be performing analysis on the rest of the data set in the coming weeks).

We ran a within subjects ANOVA on the 20 knowledge gained, motivation and collaboration intention items and report both the F-statistic and the inter item correlations for these items. For  $N=149$ ,  $F=10.188$ ,  $p<0.001$ . The inter item correlations for these 20 items are shown in table 5.

At this stage we can note from these inter item correlations that several of the items are correlating well at  $r > 0.5$  and some even at  $r > 0.7$  and all of these correlations are significant at the  $p < 0.001$  level. We are reporting only those items with a Pearson  $R > 0.5$ . While there were several other items that correlated significantly (at the  $p < 0.05$  and  $p < 0.001$  levels) these had a Pearson  $R < 0.5$  and we have highlighted only those with Pearson  $R > 0.5$ . We note that items where respondents felt that they were able to gain conceptual and new knowledge correlate highly with their abilities to work well and collaborate with their group mates (items 1, 2 and 3 in Table 5).

We also detect a high correlation between students reporting their satisfaction with their performance in the course and their expectation of getting a grade of A in the course ( $R=0.662$ ,  $p < 0.001$ ). Students also reported that while gaining respect from their group mates and hence influence in project allowed them to work collaboratively and gain knowledge, it also motivated them to participate and interact more with their group mates ( $R=0.710$ ,  $p < 0.001$  – Items 8 and 9 in table 5). We also find it interesting those students who reported that many of the emotions that they experienced during the group project motivated them to engage in the course material, also motivated them to work collaboratively with their group members and interact with them more ( $R=0.632$ ,  $p < 0.001$  &  $R=0.779$ ,  $p < 0.01$  – items 13 and 14 in table 5).

**Table 5: Inter Item Correlations for 20 Knowledge Gained and Collaboration Items – Only Correlations > 0.7 are shown**

		I feel that I gained new conceptual knowledge about the course material while working with my group mates in this course.	I feel that I gained new knowledge about collaborative work while working with my group mates in this course.	I feel that my group mates gained new conceptual knowledge about the course material while working together in this course.	I feel that my group mates gained new knowledge about collaborative work while working together in this course.	I am completely satisfied with my performance in the course.	I feel that I had the respect of group mates with whom I interacted, during the course	I feel that I had influence over decisions in class projects when interacting with my group mates during the course	I feel that gaining respect from my group mates motivated me to participate and interact more in class projects and discussions	I feel that having influence over decisions made in class projects motivated me to participate and interact more in the class projects and discussions.	I feel that participating and interacting in class discussions helped me in my learning process during the course	I feel that I have made good friends during this course	I feel that I have learnt a lot about collaborative and cooperative work during this course	I feel that many of the emotions I experienced during the group project motivated me to participate and interact more with my group members during the project	I feel that many of the emotions I experienced during the group project motivated me to engage more with course material during the project	I believe that my ability to form working relationships with my group members aided me in doing well in the group project
1	I feel that I gained new knowledge about collaborative work while working with my group mates in this course.	.656**														
		.000														
2	I feel that my group mates gained new conceptual knowledge about the course material while working together in this course.	.799**	.741**													
		.000	.000													
3	I feel that my group mates gained new knowledge about collaborative work while working together in this course.	.594**	.815**	.768**												
		.000	.000	.000												
4	I am completely satisfied with my performance in the course.	.458**	.325**	.430**	.347**											
		.000	.000	.000	.000											
5	I feel confident of getting an A in the course.	.319**	.190**	.257**	.180**	.662**										
		.000	.021	.002	.029	.000										
6	I feel that I had the respect of group mates with whom I interacted, during the course	.384**	.456**	.455**	.442**	.333**										
		.000	.000	.000	.000	.000										
7	I feel that I had influence over decisions in class projects when interacting with my group mates during the course	.342**	.372**	.403**	.469**	.382**	.283**									
		.000	.000	.000	.000	.000	.001									
8	I feel that gaining respect from my group mates motivated me to participate and interact more in class projects and discussions	.488**	.535**	.603**	.584**	.394**	.434**	.459**								
		.000	.000	.000	.000	.000	.000	.000								
9	I feel that having influence over decisions made in class projects motivated me to participate and interact more in the class projects and discussions.	.367**	.545**	.458**	.489**	.285**	.318**	.499**	.710**							
		.000	.000	.000	.000	.000	.000	.000	.000							
10	I feel that participating and interacting in class discussions helped me in my learning process during the course	.413**	.424**	.464**	.384**	.332**	.378**	.278**	.416**	.452**						
		.000	.000	.000	.000	.000	.000	.001	.000	.000						
11	I feel that I have made good friends during this course	.464**	.542**	.542**	.572**	.322**	.515**	.323**	.492**	.455**	.497**					
		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000					
12	I feel that I have learnt a lot about collaborative and cooperative work during this course	.510**	.657**	.586**	.530**	.317**	.423**	.355**	.447**	.548**	.576**	.615**				
		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000				
13	I feel that many of the emotions I experienced during the group project motivated me to participate and interact more with my group members	.494**	.565**	.519**	.501**	.311**	.319**	.380**	.636**	.559**	.378**	.544**	.632**			
		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000			
14	I feel that many of the emotions I experienced during the group project motivated me to engage more with course material during the project	.584**	.538**	.525**	.464**	.379**	.345**	.433**	.569**	.570**	.570**	.504**	.578**	.779**		
		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		
15	I believe that my ability to form working relationships with my group members aided me in doing well in the group project	.455**	.567**	.524**	.532**	.465**	.438**	.518**	.511**	.365**	.332**	.511**	.486**	.586**	.541**	
		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
16	I believe that my ability to form working relationships with my group members aided me in gaining new and conceptual knowledge	.606**	.641**	.677**	.616**	.403**	.462**	.395**	.575**	.437**	.420**	.563**	.615**	.663**	.598**	.738**
		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

## Revisiting the Research Questions

We realize that the analysis is preliminary and we will have to continue performing other levels (cross groups, cross class sections, cross university etc.) of analysis and conduct the co-orientation analysis to get a complete picture of the responses and seeks answers for all of the research questions. However, based on correlations alone, we can make an attempt at answering some of the questions to be able to eventually form hypotheses and test them.

### RQ1: Is there a correlation between the instructor grades and the self & peer evaluation?

To answer this questions we performed bivariate correlations on students confidence of getting an A for the course (item 5 in Table 5), their understanding of how they are being assessed (item 20 in table 5) with project grade (which is a combination of instructor grades and self/peer grades) and the final grade for the course. For this however, we had to consider only that part of the dataset which included the Dalhousie courses (N=83). The NCCU dataset grades had not been completely tabulated at the time of this writing. Table 6 shows the correlations between these items.

**Table 6: Bivariate Correlations between Confidence in getting an A, Understanding of Assessment and grades**

Correlations					
		I feel confident of getting an A in the course. - Completely Disagree-1	I have a clear understanding of how I am being assessed in the course and the project - Completely Disagree-1	project grade	final course grade
I feel confident of getting an A in the course. - Completely Disagree-1	Pearson Correlation	1	.122	-.279*	-.411**
	Sig. (2-tailed)		.272	.011	.000
	N	83	83	83	83
I have a clear understanding of how I am being assessed in the course and the project - Completely Disagree-1	Pearson Correlation	.122	1	.083	.145
	Sig. (2-tailed)	.272		.457	.192
	N	83	83	83	83
project grade	Pearson Correlation	-.279*	.083	1	.481**
	Sig. (2-tailed)	.011	.457		.000
	N	83	83	83	83
final course grade	Pearson Correlation	-.411**	.145	.481**	1
	Sig. (2-tailed)	.000	.192	.000	
	N	83	83	83	83

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

Straightaway we notice that students confidence of getting an A in the course correlates significantly with project grade ( $R=-0.279$ ,  $p=0.01$ ) and the final course grade ( $R=-0.411$ ,  $p < 0.001$ ). However, these values are negative and the reason for that is that while students were confident they would get an A in the course, many did not get that A. The average for the courses (across three instructors) was a B-. We also note that the project grade correlates significantly with the final course

grade ( $R=0.481$ ,  $p < 0.001$ ). This would make sense because much of the project grade has a high instructor grade component, with only 5/35 points allocated to self and peer evaluation. And since the final course grade also has a high instructor grade component, the project grade should correlate highly with the final course grade.

What was interesting to note is that students understanding of how they were being assessed did not correlate significantly with either their confidence of getting an A or the grades (project and final). So to answer RQ1, we detect high levels of correlation between instructor grades and self and peer evaluation grades. Though we must proceed with caution before making pronouncements, as the weighting of the self and peer evaluation component in the project grade is not sufficient enough to make a significant impact. Is this an indication that we need to provide for a higher self and peer assessment component?

**RQ2: Is there a correlation or congruence (agreement) between student self-evaluation and their peers’ evaluations regarding contribution to the group task, emotions experienced and network ties established?**

For this we submit have to perform co-orientation analysis for each of the items that involve group work, emotions experienced and network ties. Due to shortage of space, we present analysis of only a couple of the group work items. For this analysis we follow Kenny and Kashy’s (1994) enhanced co-orientation methods. Of the 16 group work items (see appendix A for full survey items), we will look specifically at the “Contribution to team effectiveness subset of items” and perform AB-X (consensus co-orientation), followed by X-AB (assimilation co-orientation), AB-A (self-other agreement co-orientation) and finally A-AB (assumed similarity co-orientation) analyses.

For the Contribution to team effectiveness portion, we select the “contributed to keeping the group focused on the task” item and perform a consensus co-orientation (AB-X, with X being the focus/issue at hand) analysis. Table 7 shows the results of a one-sample t-test for these five items and we note that all are significant at  $p<0.001$ .

**Table 7: One-Sample T-Test for Contribution to Keeping the Group Focused on Task item**

One-Sample Test						
	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Contributed to keeping group focused on tasks - Self	61.757	146	.000	4.415	4.27	4.56
Contributed to keeping group focused on tasks - Team member 1	53.526	146	.000	4.333	4.17	4.49
Contributed to keeping group focused on tasks - Team member 2	47.537	146	.000	4.252	4.07	4.43
Contributed to keeping group focused on tasks - Team member 3	42.749	146	.000	4.224	4.03	4.42
Contributed to keeping group focused on tasks - Team member 4	32.417	145	.000	3.945	3.70	4.19
Contributed to keeping group focused on tasks - Team member 5	22.474	119	.000	3.508	3.20	3.82

We note that N for team member 5 is less (N=119), as several teams did not have 6 full members. We now look at correlations between these items to check for AB-X consensus, i.e. each member (A or B or C... rating the other member on how they contributed to keeping the group focused on the task). Table 8 shows these correlations.

**Table 8: Bivariate Correlations for Team Members Contributions to Keeping the Group Focused on task**

		Correlations					
		Contributed to keeping group focused on tasks - Self	Contributed to keeping group focused on tasks - Team member 1	Contributed to keeping group focused on tasks - Team member 2	Contributed to keeping group focused on tasks - Team member 3	Contributed to keeping group focused on tasks - Team member 4	Contributed to keeping group focused on tasks - Team member 5
Contributed to keeping group focused on tasks - Self	Pearson Correlation	1	.593**	.311**	.299*	.164*	.067
	Sig. (2-tailed)		.000	.000	.000	.049	.468
	Sum of Squares and Cross-products	109.687	73.667	42.646	45.306	30.288	11.025
	Covariance	.751	.505	.292	.310	.209	.093
	N	147	147	147	147	146	120
Contributed to keeping group focused on tasks - Team member 1	Pearson Correlation	.593**	1	.558**	.390**	.218*	.219*
	Sig. (2-tailed)	.000		.000	.000	.008	.016
	Sum of Squares and Cross-products	73.667	140.667	86.667	67.000	45.630	43.142
	Covariance	.505	.963	.594	.459	.315	.363
	N	147	147	147	147	146	120
Contributed to keeping group focused on tasks - Team member 2	Pearson Correlation	.311**	.558**	1	.336**	.263**	.172
	Sig. (2-tailed)	.000	.000		.000	.001	.060
	Sum of Squares and Cross-products	42.646	86.667	171.687	63.694	60.973	39.800
	Covariance	.292	.594	1.176	.436	.421	.334
	N	147	147	147	147	146	120
Contributed to keeping group focused on tasks - Team member 3	Pearson Correlation	.299**	.390**	.336**	1	.585**	.386**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	Sum of Squares and Cross-products	45.306	67.000	63.694	209.592	149.753	99.342
	Covariance	.310	.459	.436	1.436	1.033	.835
	N	147	147	147	147	146	120
Contributed to keeping group focused on tasks - Team member 4	Pearson Correlation	.164*	.218*	.263**	.585**	1	.706**
	Sig. (2-tailed)	.049	.008	.001	.000		.000
	Sum of Squares and Cross-products	30.288	45.630	60.973	149.753	313.562	224.675
	Covariance	.209	.315	.421	1.033	2.162	1.888
	N	146	146	146	146	146	120
Contributed to keeping group focused on tasks - Team member 5	Pearson Correlation	.067	.219*	.172	.386**	.706**	1
	Sig. (2-tailed)	.468	.016	.060	.000	.000	
	Sum of Squares and Cross-products	11.025	43.142	39.800	99.342	224.675	347.992
	Covariance	.093	.363	.334	.835	1.888	2.924
	N	120	120	120	120	120	120

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

At a glance it appears that there is much consensus among team members about one another's contribution to keeping the group focused on task. However, consensus does not mean complete agreement or similarity as can be seen by the differing correlations across each team member's rating of the others in the team. Also, not all are significant. For example, across N=146, it appears that team member 4 feels that all the team members contributed to keeping the group focused on that task, except for team member 1. While the correlation is significant at  $p < 0.05$  ( $r = 0.164$ ,  $p = 0.049$ ), it is just barely so. We need to keep in mind that these are across several groups and different courses by different instructors and across two universities. We need to parse this at the group level to discern actual consensus, congruence and accuracies. We will leave that for discussion at the conference. With just this initial analysis, we hesitate to answer RQ2, but will attempt a complete answer after performing group level analyses on the complete data set.

**RQ8: Do student perceptions of assessments impact or influence self-assessment and perceptions of knowledge gained and result in a feeling of satisfaction or dissatisfaction about their performance in the course?**

To answer this question, we invoke that part of the correlation results that was not reported in table 5 and look at how item 20 (I have a clear understanding of how I am being assessed in the course and the project) correlates with the other knowledge, collaboration, respect, influence and emotion variables. We see from Table 6 that item 20 correlates significantly with all the other 19 items. Students have an idea how they are being assessed in the project and the course, what is required of them to assess their peers and themselves and this knowledge appears to have motivated them to collaborate, participate and contribute constructively to their group projects. However, as mentioned earlier, since these correlations are  $< 0.5$ , they were not reported in table 5, but since there appears to be some significance, we can proceed with formulating hypotheses.

**Table 9: Correlation of Item 20 – I have clear understanding of how I am being assessed...” with other items**

		I have a clear understanding of how I am being assessed in the course and the project	P value
1	I feel that I gained new conceptual knowledge about the course material while working with my group mates in	.346**	.000
2	I feel that I gained new knowledge about collaborative work while working with my group mates in this course.	.254**	.002
3	I feel that my group mates gained new conceptual knowledge about the course material while working together in	.308**	.000
4	I feel that my group mates gained new knowledge about collaborative work while working together in this course.	.222**	.007
5	I am completely satisfied with my performance in the course.	.385**	.000
6	I feel confident of getting an A in the course.	.302**	.000
7	I feel that I had the respect of group mates with whom I interacted, during the course	.203	.014
8	I feel that I had influence over decisions in class projects when interacting with my group mates during the course	.291**	.000
9	I feel that gaining respect from my group mates motivated me to participate and interact more in class projects	.242**	.003
10	I feel that having influence over decisions made in class projects motivated me to participate and interact more in	.249**	.002
11	I feel that participating and interacting in class discussions helped me in my learning process during the course	.467**	.000
12	I feel that I have made good friends during this course	.288**	.000
13	I feel that I have learnt a lot about collaborative and cooperative work during this course	.451**	.000
14	I feel that many of the emotions I experienced during the group project motivated me to participate and interact	.287**	.000
15	I feel that many of the emotions I experienced during the group project motivated me to engage more with course	.392**	.000
16	I believe that my ability to form working relationships with my group members aided me in doing well in the group	.260**	.002
17	I believe that my ability to form working relationships with my group members aided me in gaining new and conceptual knowledge	.266**	.001
18	I believe I contributed equally to the group project	.296**	.000
19	I believe I contributed more than my share to the project	.359**	.000

RQ10: Do students’ emotional experiences in the class/group project impact or influence perceptions of knowledge gained and result in a feeling of satisfaction about their performance in the course?

This question can be answered by looking at items 13 and 14 in table 5 and see that students awareness of their emotions while working with group mates in the group project, appear to have allowed them to gain new and conceptual knowledge, collaborate with their group mates, gain respect and influence from their group mates and participate and interact with their group mates in order to achieve their group goals. This is encouraging and will again allow us to formulate hypotheses to test these in various settings.

### Conclusions

Based on the findings of the initial analyses, the results are indeed encouraging and we expect to learn more as we proceed with the analysis of the different groups, class sections and across universities. There is no magic pill for assessment or for imparting or gaining knowledge. However, we feel that these

are steps in the right direction and will lead us to a better understanding of the process and help formulate simple, easy to understand and relevant assessment measures for learning that can then be employed in a wide variety of situations. We also hope to better understand how students wish to engage with the course material and their group or class mates and thereby facilitate their learning processes.

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**APPENDIX A – SELF AND PEER ASSESSMENT FORM**

**Confidential Self and Peer Evaluation Form – Your Name\* and Teammate Names\*\*:**

\* By your Name – give only First two letters of your First Name and the first letter of your Last Name, add your group number and the section number for the class.

\*\* Do the same for your teammates

**Section I – Group Work and Group Dynamics - For each of the following questions, rate yourself and your team mates on a scale of 1 to 5 (1 being the least, 3 is average and 5 being the highest) for each of the criteria.**

Criteria	Rating					
TM - Teammate	Self	TM1**	TM2**	TM3**	TM4**	TM5**
<b>Names *</b>						
<b>Organisation skills and reliability e.g.</b>						
Attends all meetings and is prepared for the task						
Meets deadlines						
Takes responsibility for allocated tasks						
Responds to messages						
Please describe briefly the reasons for your ratings:						
<b>Contribution to group dynamics/team</b>						
Shows respect, patience, good humour						
Listens to others						
Encourages and supports others						
Demonstrates a positive attitude and flexibility						
Please describe briefly the reasons for your ratings:						
<b>Contribution to Team effectiveness e.g.</b>						
Contributed to keeping group focused on tasks						
Is self-motivated and shows initiative						
Prepared to share ideas & offer constructive criticism						
Demonstrates creativity and is open to ideas						
Please describe briefly the reasons for your ratings:						
<b>Practical contribution to tasks and end</b>						
Helped to analyse and evaluate materials						
Materials produced were relevant and well-prepared						
Actively contributed to final product (presentation/paper)						
Willing to take on extra tasks if necessary						
Please describe briefly the reasons for your ratings:						

**Section II – Emotions - Consider this team member, rate which emotions you experienced when you were working with them on the group project. 1 being “not at all”, 5 being “very strongly”**

<b>Emotions</b>	<b>Self</b>	<b>TM1</b>	<b>TM2</b>	<b>TM3</b>	<b>TM4</b>	<b>TM5</b>
<b>Names →</b>						
Hope						
Joy						
Relief						
Love						
Appreciation						
Warmth						
Pride						
Fear						
Sadness						
Distress						
Disgust						
Frustration						
Dislike						
Anger						
Contempt						
Regret						
Guilt						

**The following questions pertain to the various emotions you experienced during and after the group**

For the following set of questions think back to all the times you all met or interacted as a group to work on your project and please select the number corresponding to the **degree** and **intensity** of that feeling you experienced during those events, along the line of each of the paired words below.

For example, the first paired words are Sad-Glad: If during those events you felt glad all of the time, select “5”, if you felt sad some of the time and glad most of the time, select “4”, if you felt sad all the time, select “1”.

<b>Sad</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Glad</b>
<b>Depressed</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Happy</b>
<b>Displeased</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Pleased</b>
<b>Sleepy</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Awake</b>
<b>Passive</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Active</b>
<b>Dull</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Peppy</b>
<b>Bored</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Interested</b>
<b>Indifferent</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Engaged</b>
<b>Pessimistic</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Optimistic</b>
<b>Tense</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Serene</b>
<b>Anxious</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Calm</b>
<b>Nervous</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Relaxed</b>

**Please answer the following questions to the best of your abilities. 1 stands for completely disagree, 3 for neither agree nor disagree (neutral) and 5 stands for completely agree**

Item	Description	Rating				
		1	2	3	4	5
A	I feel that I gained new conceptual knowledge about the course material while working with my group mates in this course.	1	2	3	4	5
B	I feel that I gained new knowledge about collaborative work while working with my group mates in this course.	1	2	3	4	5
C	I feel that my group mates gained new conceptual knowledge about the course material while working together in this course.	1	2	3	4	5
D	I feel that my group mates gained new knowledge about collaborative work while working together in this course.	1	2	3	4	5
E	I am completely satisfied with my performance in the course.	1	2	3	4	5
F	I feel confident of getting an A in the course.	1	2	3	4	5
G	I feel that I had the respect of group mates with whom I interacted, during the course	1	2	3	4	5
H	I feel that I had influence over decisions in class projects when interacting with my group mates during the course	1	2	3	4	5
I	I feel that gaining respect from my group mates motivated me to participate and interact more in class projects and discussions	1	2	3	4	5
J	I feel that having influence over decisions made in class projects motivated me to participate and interact more in the class projects and discussions.	1	2	3	4	5
K	I feel that participating and interacting in class discussions helped me in my learning process during the course	1	2	3	4	5
L	I feel that I have made good friends during this course	1	2	3	4	5
M	I feel that I have learnt a lot about collaborative and cooperative work during this course	1	2	3	4	5
N	I feel that many of the emotions I experienced during the group project motivated me to participate and interact more with my group members during the project	1	2	3	4	5
O	I feel that many of the emotions I experienced during the group project motivated me to engage more with course material during the project	1	2	3	4	5
P	I believe that my ability to form working relationships with my group members aided me in doing well in the group project	1	2	3	4	5
Q	I believe that my ability to form working relationships with my group members aided me in gaining new and conceptual knowledge	1	2	3	4	5
R	I believe I contributed equally to the group project	1	2	3	4	5
S	I believe I contributed more than my share to the project	1	2	3	4	5
T	I have a clear understanding of how I am being assessed in the course and the project	1	2	3	4	5

From your group, name (First two letters of First Name and First letter of Last Name, group and section number) the person whom you gained most of your knowledge from

How many people from the above list did you know prior to taking this class? Please also list their names (First two letters of First Name and First letter of Last Name, group and section number).

How many people from the above list did you not know prior to taking this class? Please also list their names (First two letters of First Name and First letter of Last Name, group and section number).

# ASB Conference 2011 Proceedings

## *Business History Stream*

University of PEI

September 30 – October 2, 2011

ASB 2011  
Charlottetown, Prince Edward Island

Patricia Genoe McLaren  
Wilfrid Laurier University

Albert J. Mills  
Saint Mary's University

**CONFLICTING IDENTITIES AND THE STRUGGLE FOR ORGANIZATIONAL  
LEGITIMACY: THE ADMINISTRATIVE SCIENCES ASSOCIATION OF  
CANADA**

Studying the management of multiple organizational identities while striving for organizational legitimacy, we undertake a critical hermeneutic analysis of the archives of the Administrative Sciences Association of Canada (ASAC) and the context in which the association exists.

In today's globally competitive world, few organizations have the luxury of existing solely within a single environment. Organizations must attract, and satisfy the needs of, a multitude of stakeholders. Universities are expected to educate the new generation of citizens and hospitals are expected to provide care and healing, while at the same time operating as viable financial corporations. Manufacturing companies are expected to maximize profits for their shareholders, while being stewards for the environment. As these organizations work to acquire and maintain legitimacy in their organizational fields, some find that they struggle to achieve the requisite coherence, and adopt the requisite norms and values, in multiple and conflicting environments (Suchman, 1995). These environments, and the differences between them, can sometimes be best captured through the identities that organizations create to function in each specific environment. Much research has been conducted as to the importance of organizational legitimacy for the success of an organization (Golant & Sillince, 2007; Greenwood et al., 2005). Likewise, organizational identity has been continuously studied since the introduction of the concept by Albert and Whetten in 1985 (Brown, 2006; Cornelissen, 2006; Whetten, 2006). The inter-relationships between legitimacy and organizational identity, however, present an under-developed area of study (Sillince & Brown, 2009).

The Administrative Sciences Association of Canada (ASAC) is a professional association composed primarily of Canadian business faculty, with a small international contingent. Since its inception in 1957, ASAC has struggled with achieving its goal of providing an internationally-recognized forum for research conducted by Canadians and/or about Canadian organizations. Through our critical hermeneutic analysis of the ASAC archives and the context in which ASAC has operated, we explore the difficulty organizations experience in achieving legitimacy when striving to build and maintain multiple, contradictory organizational identities. While growing in use amongst business historians (Genoe McLaren & Helms Mills, 2010; Genoe McLaren et al., 2009; Prasad & Mir 2002; Sanderson et al., 2010), and used occasionally in other areas of business research (Phillips & Brown, 1993), critical hermeneutic analysis has yet to be applied to

the study of organizational legitimacy and identity. It is our intent to add to the body of research on organizational legitimacy and identity through both the application of a new, to the field, methodology, and a focus on the under-developed area of the inter-relationships between legitimacy and identity. Specifically, we ask the question when multiple identities are created during the process of achieving organizational legitimacy, does the strategy selected for managing those identities influence whether or not legitimacy is achieved?

The legitimacy of ASAC has been previously analysed in Austin's (1998) study of the institutionalization of professionalism in management education in Canada. Austin used institutional theory to examine how isomorphism occurs across global boundaries, and how ASAC needs to meet both national and international norms to gain legitimacy. She concluded that ASAC has done an excellent job of communicating standards and guarding academic freedom for individual Canadian faculty, and that it offers the most accessible conference for Canadians. Our analysis differs from Austin's in that we focus on ASAC's multiple identities, we present a much deeper exploration of the context in which ASAC has developed, and we include a key period in the mid-2000s when the ASAC executive considered the sale of the association's journal to an American publisher.

### **Literature Review**

As an organization like ASAC struggles to find its footing and achieve its goals, it needs to gain legitimacy in the eyes of all of the members of its organizational field. Legitimacy refers to "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman, 1995: 574). When people ascribe legitimacy to an organization, they accept that organization as a rational entity that abides by social norms. An organizational field consists of the aggregate set of suppliers, consumers, regulatory agencies, and other organizations that constitute an organization's regular life. The organizational field extends beyond competing and directly interacting organizations, to all relevant actors in the organization's environment (DiMaggio & Powell, 1983). Organizations that are perceived as legitimate encounter minimal demands for external accountability, experience improved chances of securing necessary resources, and have an increased probability of survival within their organizational field (Greenwood et al., 2005).

An organization's legitimacy can be determined on pragmatic, moral, and cognitive dimensions (Suchman, 1995). Cognitive legitimacy comes from the collective, and is based on the ease and consistency with which an organization fits into the predictable world and makes sense. This coherence and normality of an organization allows for it to exist unquestioned in its organizational field (Golant & Sillince, 2007). Cognitive legitimacy for a professional association comes from similarity to other associations to which members, or the colleagues of members, belong. It allows professionals to become or remain members without questioning the structure and processes of the professional association. The acquisition of cognitive legitimacy also signals the acceptance of the

professional association amongst other associations and within the profession itself. For academic professional associations, this is key to having research published by the association accepted as credible within the entire academic discipline.

Pragmatic and moral legitimacy, on the other hand, are assigned by individuals. Pragmatic legitimacy is assigned by individuals as they perceive an organization to contribute to their well-being, or to have value. Moral legitimacy is assigned as the organization is perceived to be doing “the right thing” (Suchman, 1995). Gollant and Sillince (2007) refer to pragmatic and moral legitimacy together as evaluative legitimacy, as they are similar in that they are assigned individually, and, once acquired, both can lead to individuals committing, and allocating resources, to the organization (Golant & Sillince, 2007; Suchman, 1995). A professional association requires evaluative legitimacy so as to ensure the continued recruitment and retention of members from the professional population, and the willingness of members to serve in board and executive-level positions. In an academic professional association, perceptions of evaluative legitimacy are also needed to convince individuals to submit their work for presentation and/or publication. Professionals need to see that membership and publication with the association results in personal benefits.

Achieving legitimacy is not sufficient to ensure the success of an organization. Organizations also need to differentiate themselves from their competitors. Striking a strategic balance between legitimation and competition is important for organizations to offer a unique product or service that still fits into the presiding social system (Deephouse, 1999). ASAC needs to be recognized as a legitimate professional association, while at the same time needs to offer something that business faculty cannot get through existing professional associations. From its inception ASAC has striven to be a uniquely Canadian professional association that is recognized internationally. While initially focused on providing a home for Canadian business research, ASAC eventually came to realize that in order to achieve legitimacy required for success, it also needed to be recognized internationally. Capturing this elusive balance has been at the crux of ASAC’s struggles for success over the five decades of its existence.

One way in which an organization can differentiate itself is through its organizational identity, “the central and enduring attributes of an organization that distinguish it from other organizations” (Whetten, 2006). Studied from a variety of theoretical paradigms since Albert and Whetten’s (1985) definition of the concept, it is important to clearly delineate what organizational identity means within the context of this study. We view the central and enduring attributes of an organization’s identity to be socially constructed beliefs held by the collective and constructed discursively (Cornelissen, 2006). Organizations can have multiple identities when multiple claims are made about their central and enduring attributes (Pratt et al., 2000, Sillince & Brown, 2009). These multiple identities can have some shared elements, but will have contradictory elements as well (Brown, 2006). Multiple identities can co-exist successfully, such as a law firm as a defender of clients’ interests and as a high income earning business, and a credit union as a community and as a bank (Sillince, 2006). Where the contradictions are too strong,

however, tension and debate can occur (Brown, 2006). While multiple identities allow organizations to meet the expectations of a variety of members of their organizational field, at the same time resulting contradictions can affect the coherence of the organization. Seemingly incoherent organizations will have trouble acquiring or maintaining legitimacy.

An organization may have multiple identities that are holographic, meaning held by all members and stakeholders of the organization, or ideographic, meaning different identities are held by different collectives. It is possible that organizational members and stakeholders may not even be conscious of all of the identities existing within an organization (Pratt et al., 2000). International members of ASAC, for example, may be unaware of its identity as a Canadian professional association, and see it solely as a business academic association. Multiple identities can be managed, but the key is in achieving an optimal set of identities that has neither too few, nor too many, and are neither too highly related, or too distinct (Pratt et al., 2000).

The system of norms, values, beliefs, and definitions to which an organization needs to adhere in order to achieve and maintain legitimacy is socially constructed. This social construction occurs within the context, or contexts, in which the organization is situated. Indeed, one of the strengths and distinguishing features of institutional theory and research, and its study of legitimacy, is the recognition of the importance of contextualizing our understanding of organizations (Greenwood et al., 2005). Likewise, we see organizational identity as socially constructed, through discursive interactions between organizational members and the external environment.

Acquiring legitimacy requires an organization to communicate with the members of its organizational field, both verbally and through actions and non-verbal displays (Suchman, 1995). Recent research on organizational legitimacy has followed the linguistic turn in organizational studies (Alvesson & Kärreman, 2000), with a focus on language and text through both narrative and discourse analyses of organizational texts such as media reports, textbooks, and annual reports. It is our intent to present a simultaneously strong contextual and linguistic analysis through the use of critical hermeneutic analysis as we analyze the ASAC archives.

## **Methodology**

Critical hermeneutic analysis is the analysis of a single, or set of, texts situated within the context in which the text was written and has been, or is still being, interpreted. The text and its social, political, cultural, and/or historical contexts are simultaneously explored, with the intent of uncovering hidden meanings in the text that result from, and act to serve, dominant social norms, values, and beliefs. As we examine both text and context, we fuse the two analyses for a critical interpretation, thereby closing the hermeneutic circle of meaning (Prasad & Mir, 2002). Through a critical hermeneutic analysis of the ASAC archives, we can explore the contextual factors that have influenced

the multiple and competing identities of the organization, and the struggle for legitimacy of those identities and the organization as a whole. As researchers of this study, we are both deeply embedded in the contexts surrounding ASAC: both authors are members of ASAC and have attended and presented at annual conferences, and one of the authors has served in a leadership role within the organization. Thus, we also need to maintain awareness of our own embeddedness in the context so as to understand how it has shaped our interpretations (Prasad, 2005).

The critical hermeneutic analysis undertaken for this research was based on the four-stage process outlined by Prasad and Mir (2002), and also maps closely to the three-stage process proposed by Phillips and Brown (1993). The first stage calls for a choosing and analyzing the text, or what Phillips and Brown (1993) refer to, in their second stage, as the formal moment. During a critical hermeneutic study, the analysis of the text should be conducted using the textual analysis that is the best fit for the particular study. For our study, we performed a content analysis of the texts, looking for changes in the text over time. The ASAC archive consists of scanned copies of all paper documentation retained by the association from 1967 to 2007. The documentation includes minutes from annual general meetings, board meetings, and executive meetings, financial statements, personal and official correspondence between ASAC members and external organizations, constitutions and by-laws, conference planning information, recruitment material, bulletins, and conference proceedings (from 1977 to 2008), that were posted on the ASAC website (<http://www.asac.ca>) in 2006. All correspondence, meeting minutes, constitutions, bylaws, and bulletins were read. All references to Canada, Canadian research, the Canadian government, other professional associations, the United States, international countries, and the quality of research published or presented through ASAC or its journal, the Canadian Journal of Administrative Sciences (CJAS) were compiled into a focused data set. Content analysis was then used to map the changing priorities placed on Canadian research and membership, quality of research, and international research and membership.

The second stage of analysis entailed exploring the context in which ASAC was, and is, operating, and maps to Phillips and Brown's (1993) first stage, called the social-historical moment. The context in which ASAC exists influences the organization as a whole and the individual members of the organization, who are both the producers and recipients of the texts. The specific contextual factors explored for this study includes ASAC as a Canadian organization, ASAC as a professional association for business academics, and the struggle for legitimacy that business schools undertook in the 1950s and 1960s.

Where Phillips and Brown (1993) integrate the social-historical and formal moments in a third, final moment called interpretation/re-interpretation, Prasad and Mir (2002) propose a third and fourth stage to complete their analysis. The third stage of analysis involves building a critical interpretation of the meaning of the texts and the context in which they exist, thereby closing the hermeneutic circle. It is in the third stage that we questioned how the context determined the content of the texts, and how the content of the texts simultaneously maintained and reinforced the context in which they exist. It is

important to note that while the stages of the critical hermeneutic process are presented here in a linear fashion, the process is in fact dialectical and is not carried out linearly (Phillips and Brown, 1993). Where Prasad and Mir (2002) and Phillips and Brown (1993) have similar first and second stages, but in differing orders, the end result is the same as each stage informs the other and the hermeneutic circle is, in reality, a circle.

In the fourth, and final, stage we placed our analysis into a conceptual framework. It is at this stage that we bring the concepts of organizational legitimacy and identity into the analysis, using them as a framework for understanding the struggles that ASAC has experienced.

## **Analysis and Discussion**

Studying ASAC through its archives also allows us to develop an understanding of the association's identities as they are discursively created and maintained. The archives contain meeting minutes, which capture the ideas and opinions raised by both the ASAC executive and the general membership. The archives also contain general and miscellaneous correspondence, including letters between individuals and groups, memos, and notes. The items we have analysed were written for immediate and internal use, not for creating a public face, and as such we have the opportunity to explore identity creation and legitimacy acquisition as it occurred inside the organization.

### **Stage 1: Analysing the Text**

ASAC has existed in some form or other since 1957, when the deans of Canadian business schools created the Association of Canadian Schools of Commerce and Business Administration. The purpose of the association was "the promotion and improvement of higher education in the various fields of commerce and business administration" (ACSCBA Constitution, 1957). The more tangible goals were for the deans to work together to raise the status of their schools, and to provide the opportunity for business faculty to meet and present scholarly work in conjunction with the Learned Societies (Austin, 2000) – an umbrella term for the annual gathering, in one location, of most of the leading scholarly associations in Canada.

References to Canada and Canadian research are prevalent throughout the ASAC archives: from the first archive document, the Executive Meeting Minutes, December 17, 1965, in which survey results voicing a need for a forum for business research in Canada are addressed, to email communication between the members of the executive in April 2005, in which the importance of retaining CJAS's Canadian and bilingual identity when finding a publisher for the journal is stated. From 1965 to 1971, discussion at executive and general meetings focused strongly on finding ways to support business research in Canada. Ideas presented and discussed included finding financial support from both the Canadian business industry and the government, providing post-doctoral programs in

Canada for Canadian business doctorates, and establishing conference themes that focused on Canada.

Nineteen-seventy-two is the first year in which discussion arose as to the need for an international reputation for the association, and is also the beginning of many years of non-Canadian specific conference themes. Between 1972 and 1979, however, focus was still mainly on creating a strong Canadian association, with recruiting materials stating that ASAC should provide benefits that do not flow from other organizations, and ASAC executive members confident that the business climate in Canada offered enough unique circumstances that Canadian-specific research was warranted.

In 1979 an ASAC-based journal appeared on the radar for the first time, with a post-script in a letter from ASAC member Robert Burke to then-president Alan Blair. Burke stated that he felt ASAC was ready for the next stage in becoming a strong association - its own journal. After years of discussion of the need for a Canadian journal, followed by a determined effort to find funding to publish the journal, the Social Sciences and Humanities Research Council of Canada (SSHRC) agreed to fund a journal for Canadian administrative sciences research in 1982 (ASAC Bulletin, Letter from the President, December 1982). The first issue was published in 1984.

Since 1980, concerns around the quality of research being presented at the annual conference, and published in the journal, have been consistent discussion points. The ASAC executive felt that the quality of the research needed to improve to attract more Canadian members, particularly distinguished academics, and that the best way to improve the quality of the research was to convince distinguished academics, both Canadian and international, to submit their work. This is where the archives start to show the struggle that the ASAC executive went through in trying to balance building international recognition while retaining a Canadian focus. Discussion around CJAS, in particular, involved a constant back and forth around adopting and promoting a strong Canadian focus (strategic plan, 1998) and strengthening the journal through greater focus on its Canadian character (CJAS report, 2001), versus convincing well-known experts to submit articles (CJAS correspondence, 1985) and voting in favour of selling the journal to a publisher that would drop the Canadian from CJAS and create an international editorial board (exec mtg minutes Oct 14, 2004).

## **Stage 2: Exploring the Context**

While the context in which ASAC has developed is vast, there are two key factors that play a specific role in the development of ASAC into the organization as it exists today. These are the Canadian identity and the struggle by business schools to gain legitimacy within academia. Each of these factors has contributed to ASAC requiring multiple identities, and to those identities causing incoherence in the organization's legitimacy, both evaluative and cognitive.

**The Canadian identity.** Canada -- that is, the idea of Canada -- is an identity project in itself, and a contested one at that (Bothwell, 2006; Hulan, 1996; Millard, 2008). It is an identity project that has been shaped as much by its major fault line of division between French-speaking Quebeckers and English-speaking 'Canadians,' as by its geo-political relationship with the United States (Bothwell, 1992, 1995).

Compared with its southern neighbor, the United States, one of the most striking aspects of the Canadian identity is that, in some senses, it does not exist. Sparsely populated over a vast geographic area, Canada is composed of a multitude of communities with strong regional differences and associations, and without a common unity stretching across all of its communities. The country lacks a seminal event or era that marks its founding, like the American Revolution does for the United States. There is no one point in the history of the country that drew all of its citizens together in unity and commitment towards the forming of a nation. Indeed, as Bothwell (1995) explains, Canada is 'one country with two histories' and today, tensions still exist between English and French-speaking Canadians as the French-speaking minority works to maintain their culture and language within a predominantly English-speaking country.

While the historic divisions between the founding French and English help to explain a relative lack of a unified or unifying notion of Canada, understanding the contrast between Canadian and American identities is key for the analysis undertaken in this study. At a broader level the Canadian/American relationship is also an essential element of who we are as Canadians. Much of Canadian identity is expressed in terms of how Canadians differ from Americans. In many cases myth as much as fact, Canadians often describe themselves as friendlier, more polite, more tolerant, more moderate, and more quiet than their American neighbours. Living next door to a global super-power has created a popular perception of a Canadian inferiority complex, in which Canadians cannot compete with the Americans except in the areas of politeness and tolerance. Regardless of the seeming anti-Americanism in Canadians' descriptions of themselves, Canadians are not opposed to Americans. Regionally, Canadians often have a greater exchange of goods and services between their immediate American neighbours than with fellow Canadians in different provinces (Madison et al., 2000).

**The business school.** The establishment of business schools within North American academic institutions was driven in large part by corporate owners and their working managers who were struggling to find legitimacy for their roles within business and their status within society at large (Khurana, 2007). Business schools situated within universities would give managers credibility and legitimacy on several levels. The requirement of a formal education in the science and theory of management allowed managers to argue that they had special expertise and skills that were needed to successfully run an organization. The American research university had been greatly influential in both science and the professions acquiring legitimacy, and managers hoped to draw on that influence to achieve legitimacy for their own occupation. Managers also aspired to make their occupation a profession. As professional schools such as medicine,

law, and engineering now functioned mainly in universities, the education of managers needed to take place in a similar setting (Khurana, 2007).

Business schools faced many hurdles in establishing their own credibility and legitimacy, much less providing legitimacy for management as a profession and the manager as a high social status position. Universities felt that business schools did not belong in their institutions, as businesses were seen to be anti-intellectual and concerned only with profit. Managers were lacking the service to society characteristic of professions that is so strong in medicine and law. The businessmen who had significant amounts of money but were looking for social legitimacy, were highly influential in the establishment and growth of business schools, including providing financial resources, shaping curriculum, and forcing the removal or silencing of faculty whose research criticized the views of the business elite (Khurana, 2007).

In order to gain legitimacy within the research-driven universities, business schools needed to make research a central part of their activities. While business schools were firmly established within universities by the late-1920s, a stable research paradigm was not created. This led to an uneven quality of research from business school faculty and became the largest target for critics post World War II. External agents such as the government and various foundations stepped in at this point to bring some standardization to business schools. During the 1950s, the Ford Foundation had a profound impact on business schools, part of which involved bringing quantitative analysis to the centre of business school research (Greenwood et al., 2005).

In spite of criticism as to the contribution of managers and business schools to the greater society, and as to the quality of the research being produced, business schools saw extraordinary growth both prior to, and post, World War II. By 1955, business was the most popular undergraduate major in American universities (Cheit, 1985). During this time, and throughout the 1960s and 1970s, the number of journals publishing business research increased significantly, with both practitioner and scholarly journals, modeled on the social sciences, being published. Business schools became more similar to other academic faculties with a culture built around research and a decreased value placed on teaching. The importance of research grew such that, by the 1980s, research potential and productivity, including publications in leading journals and citations in the research of others, were the number one criterion for hiring and tenure and promotion in business schools situated in research universities.

Canadian business schools faced a greater struggle than their American counterparts. Canadian universities held even greater opposition than the American universities to business schools, and vocational and professional education in general, functioning within their walls. Canadian businessmen held strong biases against hiring post-secondary graduates, and viewed the value of a university education with skepticism (Boothman, 2000). It was not until post-World War II that Canadian business schools began growing rapidly.

Canadian business schools followed the path of their American counterparts and often based their structures on American models (Austin, 2000). For many years, deans and faculty of Canadian business schools had earned their PhDs at American schools, as the first Canadian business PhD program was not approved until 1961 (Yavas et al., 1985). Canadian business schools struggled to find faculty who held doctorates and a business education, and often hired their own graduates, relied on part-time instructors, or hired faculty who held doctorates in disciplines other than business (Boothman 2000). The rapid growth of undergraduate programs in business schools led to large class sizes and heavy teaching loads, and the lack of graduate programs led to a dearth of graduate teaching and research assistants. These conditions made it difficult for faculty to conduct research, thereby setting them apart from the other, more research-focused, faculties on Canadian campuses. Canadian business schools still deal with institutional resistance in the form of disproportionate financial and resource allocation.

At the same time as business schools and faculty were facing increasing pressure to be more academic-based and less of a professional education system, there was additional pressure on Canadian business schools to graduate Canadian businesspeople who could successfully compete on an international stage. The Second Annual Review of the Economic Council of Canada discussed the existence of an education gap between Canada and the United States, which was resulting in an income gap. It was recommended that Canada more rapidly develop facilities for educating at the post-graduate university level so as to develop highly skilled and educated domestic resources for economic success (Economic Council of Canada, 1965). A 1978 article in *The Globe and Mail* (at the time, Canada's only national newspaper) quoted then Prime Minister Pierre Trudeau as saying "we Canadians seem to lack the entrepreneurial spirit, lack that hustle," and then Minister of State for Science and Technology Judd Buchanan as saying "you have been unmitigated disasters in business administration training" in talks with a group of senior business executives and academics. Pressure was building on both academic and professional fronts for strong Canadian business schools.

### **Stage 3: Critical Interpretation**

ASAC was created during a period of time when Canadian business academics were feeling intense amounts of pressure to become recognized as academics within the Canadian academy, and also to become recognized as business academics within the North American and international business academy. The focus on Canadian business and research during the first 15 years of ASAC's existence shows the association attempting to achieve recognition in both areas by creating a home for Canadian business faculty, and Canadian business research. There was never any concern that the output of Canadian researchers might be of lower quality than that of their American and international counterparts, only that non-Canadian journals and conferences were not interested in Canadian-based research. Canadian business researchers have long struggled to find a home for research that focuses on Canadian-specific issues, concerns, and problems, and/or uses Canadian data. Anecdotal evidence suggests that there is a perception among Canadian researchers that American and other foreign journals do not consider Canadian-

based research to be of sufficient interest to their readers, and hence generally reject articles submitted for publication (A Proposal to Establish a Canadian Journal of Administrative Sciences, 1981, p1). This is in direct contrast to American journals such as the Academy of Management Journal and Academy of Management Review that publish mainly American research and yet are seen as the top business academic journals worldwide.

As Canadian business schools struggled to build an academic reputation within Canada, the expectation for faculty to produce research publications was increased, but there was no publication outlet for Canadian research. ASAC was created to provide this outlet, first with the conference, and later with the addition of CJAS, with a strong emphasis on publishing Canadian research to strengthen the academic legitimacy of Canadian faculty.

In their quest for acceptance within the Canadian academy, in 1972 ASAC changed its membership structure from institutional to individual so that it could meet one of its long-term goals of becoming a member of the Learned Societies. The Learned Societies, now renamed the Congress of the Humanities and Social Sciences, is a Canadian multidisciplinary academic gathering at which over 70 associations representing disciplines in the social sciences and humanities meet annually for collaboration and networking (*Why Join Congress? A Guide for Scholarly Associations*, 2010). Having business faculty meet at the same time, and in the same place, as the Learned Societies allowed for financial economies for those faculty members who wished to attend ASAC and other conferences, and also provided an opportunity for business research to acquire some of the legitimacy of the disciplines that were members of the Learned Societies. For a number of years ASAC held its conference as part of the Learned Societies, but the association eventually decided, after much debate, that the financial costs of meeting at the Learned Societies were greater than the benefits received. In 1988, ASAC held its annual conference separate from the Learned Societies on a trial basis. The independent conference was deemed a success, and has continued to be held since. What had been a major facet of the association's strategy to achieve legitimacy as a Canadian academic association was consciously discarded as the material costs were perceived to be too high. The independent conference removed ASAC, and its business faculty members, from immediate interactions with their Canadian colleagues from other disciplines, creating a more isolated and distinct group.

Discontent with the numbers and status of ASAC members, as well as submissions to the annual conference in terms of both quantity and quality, led the ASAC executive to begin discussing ways to improve the quality and international reputation of ASAC. Starting in the early 1970s, these discussions have continued over the decades, and it in these discussions is where we see conflict arising between being Canadian and being recognized internationally.

In 1973, immediately following its change to an individual member structure for the Learned Societies, ASAC adopted a divisional structure similar to that of the Academy of Management, and different from most members of the Learned Societies. The divisional

structure was adopted because it reflected that of the perceived strongest academic association for business faculty in North America, and it was adopted easily because it was the structure with which Canadian business scholars, who often presented at American conferences, were familiar (Austin, 2000). A request for a Canadian division within the Academy of Management was denied, with George Gore, then Vice President of Membership, stating that having separate meetings for Canadian versus USA management issues would be “downright perverse,” and that the wall between would be “purely political, irrelevant, and strange. It would not be in the best interests of the field and I would strongly oppose this” (letter from G. Gore to G. Steiner, January 16, 1972: Academy of Management Archives). Where ASAC was working to build a strong Canadian identity, and close the management gap between Canada and the US, the executive of the Academy of Management did not recognize any differences between Canadian and American management. At the same time, ASAC was perpetuating the perception that the Canadian and American business disciplines were the same by adopting the organizational structure of the American academic association, not the Canadian associations.

As pressure from universities and the government continued for Canadian business faculty to compete on an international, academic stage, the publication expectations on faculty also increased. Publication in respected and recognized journals became required for tenure and promotion, similar to other academic disciplines. In order for research presented at ASAC conferences and published in CJAS to be considered valid publications for tenure and promotion, ASAC needs to have international recognition for its work. Proof of this recognition would be found in the membership in the association, attendance at the annual conference, and publication in CJAS, of respected business scholars, both Canadian and international. Over the years, ASAC has raised the concern of how to attract distinguished scholars many times, but has yet to find a solution. In the association’s focus on building a reputation as an outlet for quality research, and their insistence that it will take international members and contributors to do so, ASAC again perpetuates the belief that Canadian research is of little value, that Canadian faculty produce work of lesser quality, and that being Canadian is not enough.

#### **Stage 4: Conceptual Framework**

ASAC has been in a continuing struggle to achieve legitimacy since its inception. The conflict between its Canadian identity and its international academic identity, that began in 1972, finally come to a head in October of 2004, when the ASAC executive voted in favour of the sale of CJAS to the academic press Palgrave Macmillan with the removal of Canadian from the journal name, an editorial board restructuring such that the influence of ASAC was continued but that international editors were introduced, and the continued French language content (Minutes of the Executive Meeting, Report of the CJAS Co-Editors, October 16, 2004, p3). However, a sticking point appears to have been the publisher’s insistence that the journal be published in English only.

The issue was finally resolved when, among other things, a rival publisher – Wiley – insisted that the print version of CJAS be published in English only, but that an on-line version be offered in French and English – with French authors being given the option of submitting a French version of their paper. Interestingly enough the resolve was rooted in a confluence of interests between English and French members of the Association and the publishers about the legitimacy of the journal and associated authors. The publishers convinced the ASAC Executive that the impact factor of the journal, achieved through the level of citations for individual papers, would be much less if issues included a mixture of papers in French and English. International recognition was chosen as more valuable than Canadian identity.

The central and enduring attributes (Albert & Whetten, 1985) that constitute ASAC's identity, or identities, are its Canadianism and its function as an outlet for scholarly work. If ASAC was solely focused on providing an outlet for Canadian scholarly work on a national level we would argue that it had a single identity and that it had achieved a measure of legitimacy for itself. ASAC, however, had two main goals in providing a research forum. The first was to achieve legitimacy for the business school within the Canadian university system, which could be met by publishing Canadian research. The second was to achieve international legitimacy for the Canadian business school, legitimacy which would then be transferred to the Canadian business person. Along the way, the research expectations placed on Canadian business school faculty was increased, and recognition on an international level became required for tenure and promotion. In its attempts to function successfully within this complex context, the association has attempted to create two distinct identities, that of a Canadian association, and that of an association that publishes top tier research.

Multiple organizational identities can co-exist peacefully, and even strengthen an organization. Contradictions between identities, though, can create incoherence, which can then affect an organization's legitimacy. The creation of ASAC to provide a much-needed outlet for Canadian research in some ways undermined the very goal of achieving academic legitimacy. In the early years of the association, favouring Canadian research and scholars led to the perception of a lower quality of papers submitted to conferences and CJAS. Canadian business schools were only beginning to expect research output from their faculty, and it took time for the quantity and quality of research to reach a sufficient and consistent level. The lower quality work that was accepted to ensure sufficient quantity dissuaded some potential members and research contributors from participating. In 1983 a group of deans of Canadian business schools announced that CJAS publications would receive the same credit as if they had been published in the leading academic journals, and that they hoped that tenure and promotion committees would take the same action (letter from M. Evans, Director of Research to ASAC Executive Committee, March 24, 1983). It was immediately noted that an administrative decree that ASAC publications be considered high quality could be read as paradoxical and as such would only dissuade scholars from submitting articles and risk ruining any legitimacy that ASAC had garnered.

In its early years of the process of achieving legitimacy for the organization, ASAC made a conscious decision to conform to its Canadian environment, and as such selected the Canadian identity as its prime, and potentially sole, identity. As legitimacy failed to be achieved, however, ASAC switched its strategy and began attempting to conform to the wider business discipline environment. This switch in environment created the need for a new identity, and ASAC assumed, perhaps unsuccessfully, the identity of a top tier business academic association. What ASAC failed to do, however, was manage both its Canadian and its top tier academic identity in such a way as to create synergies between them. According to Pratt and Foremen (2000), organizations can manage multiple identities through one of the following four strategies: deletion, compartmentalization, aggregation, or integration. ASAC compartmentalized its two identities, which led to the reinforcement of the Canadian identity as inferior, and caused the constant struggle that has hampered the organization's efforts to achieve legitimacy.

For ASAC to achieve evaluative legitimacy in the eyes of Canadian business school faculty, it needs to provide something valuable. The emphasis placed on Canadian research, however, led to its difficulty in acquiring cognitive legitimacy within the organizational field of professional associations of business scholars. While it does provide a publication outlet for Canadian research, it has not reached a level of cognitive legitimacy outside of Canada that allows its publications to be considered top tier in an international academic forum. The association's declared focus on Canadian research by Canadian scholars, its Canadian identity, has restricted it from achieving cognitive legitimacy as an international academic association, thereby weakening its attempts to acquire evaluative legitimacy for individual scholars, Canadian scholars included. The association's insistence on developing an internationally-recognized academic identity has, ironically, decreased the coherence of its claims to be a Canadian association, thereby threatening to decrease its cognitive legitimacy in regard to its Canadian identity. The two identities that ASAC has attempted to build and sustain have proven highly problematic, leading, as yet, to an inability of the organization to acquire either evaluative or cognitive legitimacy in Canada and in the larger academic world.

Had ASAC chosen to delete its Canadian identity, it may have achieved legitimacy in the business academy by now. The question of course, arises, as to whether or not it would still be ASAC without its Canadian identity, which is perhaps why the executive has worked so hard to retain it. Both integration and aggregation, however, are potential multiple identity management strategies that may have allowed ASAC to achieve both cognitive and evaluative legitimacy for itself and its members, while retaining its Canadian identity. With an integration strategy, ASAC would have created one new identity that fused the essential characteristics of both their Canadian identity and their top tier academic identity. With an aggregation strategy, ASAC would have retained both identities separately, but would have formed links, or synergies, between them (Pratt & Foremen, 2000). Perhaps a focus on Canada as a country with a small business industry competing in a global world with countries like the US and China would have attracted the international notice of other countries in similar positions, such as Finland, Mexico, and Australia.

In recent years, the efforts of CJAS Editor Rick Hackett to 'internationalize' the journal represents a new strategy of reconciling the Canadian and international identities. The strategy includes retaining the prominence of Canadian researchers on the Editorial Board while opening it up to an increasing number of international scholars; continuing to be a place for high quality Canadian research while also encouraging international research articles; and, by encouraging non-US based scholars to consider CJAS as the Institute for Scientific Information (ISI) certified North American journal of choice. How successful this strategy will be will depend on a number of factors and, although promising, is too early to tell.

Through our critical hermeneutic analysis of the ASAC archives we have attempted to understand the reasons behind the association's desire to achieve legitimacy within two organizational fields, and the need to build an identity for each of those fields. As a national conference and journal, ASAC has reached a level of success, although conference attendance is still dependent on location. ASAC provides a conference that is largely true to its Canadian identity, where presenters are encouraged in their work, collegial dialogue is the norm, and new members of the Canadian business academy are welcomed and supported. However, its ability to attract senior faculty and distinguished scholars (and especially PhD students as the next generation of scholars) has been spotty at best, and the weight placed on CJAS publications during tenure and promotion decisions varies widely between universities.

## Conclusion

While studied extensively individually, the interaction and relationship between organizational legitimacy and organizational identity has not been fully explored (Sillince & Brown, 2009). Our study of ASAC and its struggle to gain legitimacy as both a Canadian and an international association focuses on conflicting identities, their interaction with evaluative and cognitive legitimacy, and ways that they can be managed. A desire to maintain one identity, the Canadian identity, led to a limited success to achieve evaluative legitimacy for individual members of the association, which in turn led to a failure to achieve cognitive legitimacy within the organizational field of academic associations. A lack of cognitive legitimacy at an international level has made it difficult for the association to build a strong international academic identity, thereby weakening any evaluative legitimacy for potential contributors at an international level, which in turn cycles back to weakening evaluative legitimacy for Canadian members. The context in which ASAC was created and has grown determined the identities that were deemed crucial to build, and ASAC's identities are completely intertwined with its acquisition and retention of legitimacy. The three factors – context, identity, and legitimacy – form a complex system that make the ultimate goal of organizational legitimacy as an international academic association extremely difficult to achieve.

Using critical hermeneutics to understand and analyze this complex system provides us with specific benefits and insights. Reading the ASAC archives without an understanding of the Canadian/American relationship and the growth of business as an academic discipline would prove interesting, but would leave us unsure as to why ASAC has struggled. By understanding both the text and the context, and then critically interpreting those two elements together, we see that ASAC has been a victim of Canadian identity issues in general, and has also, unconsciously, reinforced a feeling of Canadian inferiority.

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## **CAUTION, THIS HISTORY MAKES A WIDE TURN: THE HISTORIC BREAK IN MOS**

Enactive of the call for an ‘Historic Turn’, this paper investigates the concept of the postulated ‘Historical Break’ in management and organizational studies (MOS). Eschewing the historical realism currently dominating the use of history in MOS, a Theory of History is used and a ‘*historiography of the present*’ use of history in and of MOS is presented.

While Clark and Rowlinson (2004) are not the first to critique the ahistorical nature of business scholarship (see for example Gras, Larson, Hower, De Roover, & Stalson, 1937; Kieser, 1994; Kuhn, 1970; Zald, 1993), nor to ‘call’ for business scholars to attend to history in Management and Organization Studies (MOS), they have most recently and succinctly crystalized the ahistorical problematic, and have proffered the strongest evidence for the necessity of an engagement with history in MOS. In addition to detailing the various ways, both positive and negative, in which history has been incorporated into organization studies, and identifying the potentials that an increased attention to history could yield for researchers, Clark and Rowlinson (2004) offered three conditions through which an *historic turn* in MOS could be actualized. First, they see a turning away from the predominance of science; second, a turning towards historiography both historical processes and contexts; and finally, a movement towards engagement with Theory of History. In further explicating upon this call Booth and Rowlinson (2006 p. 20) question how it is that history has come to be excluded from the field – a condition which they have coined the “historic break” (p. 20). In particular, they question how history presently still remains missing within the Business School, the site which is the center of 21st century MOS; paradoxically, a site where significant historically based research was conducted in its formative years.

In heeding the call for an *historic turning* the aim of this paper is twofold. First, it will attempt to articulate the call by *enacting history* using each of the three axes delineated by Clark and Rowlinson. However, as the first two axes are seen as dependent upon a resolution of the third (see the discussions in Durepos, Mills, & Weatherbee, 2011; Mills, Weatherbee, & Durepos, 2011) engagement with Historical Theory will be treated first. The second goal is to interrogate the current ahistorical nature of much of MOS research in historiographic terms by investigating the concept of the ‘historical break’ (Booth & Rowlinson, 2006). From these bases an historical representation of the conditions which have led to the call for the historic turn are offered to the reader; a project which may be seen as a ‘history of the present’ (Foucault, 1990) for history in MOS.

What is viewed as one of the most crucial and problematic concerns on the use of history in MOS, and one which still remains largely unaddressed (Stager Jacques, 2006), is the lack of debate and engagement with theory; particularly theories in/of History. This is not a circumstance restricted to MOS as it parallels a significant and long-running debate within the discipline of History (see for example Carr, 1961; Ermarth, 1992; Jenkins, 1995; Munslow, 2000, 2010; Tosh, 2002) and of historiography within the Social Sciences more broadly speaking .

While the debates within History are wide-ranging (Munslow, 2000), for the purposes of this project it is the core of the debates (Munslow, 2010) that are most critical in light of the call - the relationship between the *past*, or reality-as-it-was, and *history*, or our representations of that past reality (Jenkins, 1995). For MOS this is viewed as problematic at two levels; first, the *use of history* in MOS when engaging in research activities, and second, the *history of MOS* as a discipline or field. While *history in MOS* research and the *history of MOS* itself (disciplinary or intellectual history) have different conceptual 'objects' as their historical 'subject'; and are often treated separately from a conceptual basis (see for example Booth & Rowlinson, 2006; Clark & Rowlinson, 2004; Stager Jacques, 1996, 2006; Wren, 1972, 1979, 1987a, b, 1994, 2005; Wren & Bedeian, 2010), for the purposes of this project the separation of *history in MOS* and *history of MOS* is neither possible nor desired. As the difference between the *past* and a *history* centers upon the metaphysical issues of ontology, epistemology, and methodology as employed (or not) both within and to MOS, this is viewed as a necessary starting point for engagement with Historical Theory.

### **History: Theory, Reality and the Past**

Scholars engaged in historical work rarely consider the metaphysical assumptions which underlay the method that they employ when using history (Parker, 2004) and MOS scholars are no different (Stager Jacques, 2006). As a consequence, the historical activities of MOS researchers make them "spontaneous epistemological realists" (Topolski, 1996) with history generally treated under empiricist, objectivist, and documentarist beliefs (Jenkins, 1997). Method is comprised of the collection and verification of evidence, hypothesis testing, establishment of causation, and derivation of meaning (Munslow, 2000). An unreflexive approach Clark and Rowlinson call 'historical realism' (2004) where any historical work is assumed to result in a faithful representation of a past world comprised of persons, events, and actions iteratively revealed through the methodological accumulation and verification of 'facts' (Munslow, 2000). Thus, the most common employment of *history in*, and *history of MOS*, follows a logic which assumes that there is a knowable external past reality which is discoverable and where 'truth' is achieved through referential correspondence between the 'facts' and the past with *past* and *history* conceptually assumed synonymous.

However, without consideration of the relation of ontology, epistemology and methodology in any historical activity metaphysics becomes collapsed. Collapsing erases the differences in the ontological status of reality and representation. When representation becomes collapsed with reality, a belief that *history* is the *past*, "referential illusion" occurs (Berkhofer, 1997). Referential illusions lead to what Bashkar terms 'epistemic fallacy' (Bhaskar, 1997, 2009)

a condition where empirical knowledge of the world is taken *to be* the world. As the *past*, or its traces, and referent *history* are of ontologically different status, the difference may not be reconciled on either epistemological (Jenkins, 1995) or methodological grounds.

Given that mainstream MOS is largely metaphysically unreflexive, dominated by realist ontology, positivist epistemology, and an empiricist methodology, MOS scholarship may be considered to be not only Historically atheoretical but by Theory of History ahistorical as well. Ironically enough, this then begs the question of what conditions have led to the absence of History, Historical Theory, and history itself in MOS. To answer this question the historiography of MOS - needs to be interrogated. While discussion of the third axis of the 'historical turn' has been enacted through discussion of the problematic of conflation of *past* with *history*, however briefly, the first and second remain axes remain to be engaged with in the sections which follow.

### **Historiography: Process and Context**

As scholars are influenced by the epistemological and ontological assumptions conventionally held in their present (Parker, 2004), and since these assumptions remain largely unconsidered, the presumption of *past* as *history* still predominates both the discipline of History (Munslow, 2000) and that of MOS. Since a discipline's knowledge is not held by individuals but rather by communities of like-minded scholars (Popper, 1979), a field's *history* is also not singularly held – but collectively through the externalized representations of a discipline's past which are generally held to be 'true'. As the knowledge *in* MOS and *of* MOS is, by necessity, situated in time and space, and learned from the written products of the discipline itself (Kuhn, 1970) the history(ies) produced and the *history* used are largely ontologically realist, epistemologically positivistic, and methodologically scientific (Weatherbee & Durepos, 2010). Though they serve to create a MOS identity, by establishing conventions and traditions for work within a discipline (Parker, 2004), the historiography of MOS becomes problematic in light of the third axis. As MOS *history* presents us with pre-established meanings (Berger & Luckmann, 1967) our understanding of management practices and management knowledge becomes "culturally and historically [a] specific way of thinking" (Stager Jacques, 1996, p. vi). Thus, MOS scholars are both constitutive *of* and constituted *by* MOS practices in the present (Munslow, 2000) as reflected in MOS historiography and MOS use of *history* in research.

As both the use of history *in* MOS and the historiography *of* MOS are self-referential, in order to identify the conditions that may have led to the current absence of *history* it becomes necessary to look at representations of the *past* both *in* and *of* the field. These representations may be found in the longitudinal trajectory of the discipline's canon (texts, journals, etc.). Consideration of these as found in their time may allow us to see how our discipline's knowledge has been situated by various historical contexts. Contexts of relation such as; MOS and History, MOS and the Business School, relations with other fields, and the broader social world. Engagement with MOS historiography in this way fulfills the call for the third axis, understanding historical context and process. This will also set the conditions for discussion of the first axis, movement away from a positivistic scientific method.

Depending on the representation, the historiography of MOS may site the modern beginnings of the field in North America near the turn of the 20th century (George, 1968, 1972; Wren, 1972, 1979, 1987a, b, 1994, 2005; Wren & Bedeian, 2010) or in the years immediately following WWII (Augier, March, & Sullivan, 2005; March, 2005) whether intellectual origins or academic legitimation is the focus of concern. As this project is interested in a specific site, the Business School, and MOS's relations with other related fields and social contexts, in order to maintain the consistency of the polemic of this historic turning all representations will be treated *inter pares*. Therefore, even while acknowledging the arbitrary nature of any historical 'starting-point' (White, 1978), this project will commence with the former timeframe as it presents a greater opportunity for a more rich investigation and analysis of MOS across the wider context – the development of the site of the Business School.

In the latter part of the 19<sup>th</sup> century under the umbrella of modernism, a future oriented ideology which rejects the constraints of history (Tosh, 2002), science and technology were viewed as a means to manage the social disruption brought about by the increasing industrialization of U.S. society (Ross, 1993). In North America, the professionalization of History was part of the professionalization of the social sciences as the age of the 'amateur' political scientist, economist, or historian increasingly gave way to professional scholars through the academization of these disciplines (Gilderhaus, 2010). Unlike the German tradition, where much of the work of social scientists was historical in nature (Ross, 1993), in the United States, the turn to science as the way forward was such that much of the traditional method of History was left out and supplanted. The establishment of the Social Science Research Council in 1923 saw the beginning of unprecedented investment in the scientific method, and particularly in the use of statistics, quantification and experiment in the social sciences as a whole (Ross, 1993).

Within this context, legitimation meant scholars of History increasingly attempted to develop and present their work as scientifically as possible. They generally followed the Rankean philosophy of 'objectively' reporting 'what had happened' (Clark, 2004), a form of empirical realism based upon Comptian positivism. So classification and statistics became the leitmotif of social science (Wagner, 2001) with scientific method and objectivity becoming integral concepts which were seen to provide "privileged access to reality" (Ross, 1993). The culmination of this change was the convention of methodological (versus epistemological or ontological) rigor. Achieved through emulation of the methods of the natural sciences, based upon collection and verification of evidence (facts) and rigorous analysis from an objective stance (Gilderhaus, 2010). At the time, the confluence of history and business, versus history and economics, meant that historiographies were those of business and businessmen. These were usually popularly written, by journalists or other interested amateurs, rather than by scholars and this form of historiography was not viewed as serious scholarly endeavor (Gilderhaus, 2010; Williamson, 1966). It was within this context that History, as a subject area, first entered the Business School; albeit obliquely through business as the subject of study with economic history as its foundation.

This scholarly trajectory of History in business studies commences with its introduction into management education by N.S.B. Gras at Harvard University in 1927 (for an extensive historiography see Boothman, 2001; Hausman, 2003; Hidy, 1970). The intent behind the

introduction of Business History into the curriculum was twofold. First to provide students with examples of business practices from which they then could learn and improve their understanding of business. Second, to compile a collection of business cases and records in a process of aggregation for classification which, according to scientific method, was thought to be needed to precede the development of a 'science of business'. As described by the Dean of the business school at Harvard, Wallace B. Donham, in the first issue of the Harvard Business Review, in order to develop a theory of business, practitioners and scholars needed to move beyond "the rule of thumb and the limited experience of the executives" (Donham, 1922b). While acknowledging that the 'technical' [production] side of business was already based upon scientific principles, primarily those grounded in scientific management, he saw a need for a general theory of business organization and administration *in toto*.

Following in the path of the pure and applied sciences, his basis for a science of business was the collection of data [records] in case form (Donham, 1922a); empirical evidence needed for a system of classification and inductive development of business theory (Boothman, 2001). This was to be achieved through the use of Langdell's case system; a system started in Law at Harvard (Merseeth, 1991), as the scientific record of "the experiences of others in the past" in order for the business executive to "act under the conditions of the present." (Donham, 1922a). The task of "developing business theory scientifically" through "the recording of facts" and their organization into "series and relationships" needed for "generalizations" concerning business (Donham, 1922b, p. 10) commenced under Gras, however, even after a decade of effort, the use of business history was still attempting to move beyond the lessons drawn from the personal experience of business executives to that of a systematic method based upon historical cases (Heyman, 1930). Even while these 'Business Historians' were focused on separating themselves from Economic History, developing a theory of business based upon History, and crafting a unique scholarly identity, others were already using a different interpretation of science to develop a different basis of theory for business.

The solution to the problematic management of business, which continued to be conducted largely as an art relying with reliance on past practice where management still tended "to retain old devices and old procedures" (Brown, 1938), was in adopting scientific-management (Taylor, 1911). The quantitative path that the production function in business had taken, in particular the application of statistics, would allow for a new type of management research that would minimize the effects of "personal whims, prejudices, hunches, and guesses in the profession of business administration" (Perkins, 1940). It was believed this form of scientific endeavor would allow for a science and theory of business (Urwick, 1929). The methodological approach was founded upon the premise of rationalization and the "full application of science and the scientific methods" or the 'one best way' needed to expunge "existing in-efficient practices and out-of-date methods in productive industry and commercial activity" (Sheldon, 1928). Growth of Scientific Management and Science in business research was such that by the 1940's, even though Business History was largely acknowledged as a separate area of study from Economic History (Williamson, 1966), it was pushed aside remaining a very small and relatively marginalized community of scholars who were viewed by the other Social Sciences as "spokesman for business" (Williamson, 1966, p. 412) rather than scholars of history. Business Historians remained atheoretic and unwilling or unable to generalize past the object of their study

(Kroos, 1958) ultimately failing to develop the science of business so sought after by Donham and Gras.

In the Business School, 'theory' would not again combine with history until the advent of Chandler (Chandler, 1962) with his work of comparative analysis on the growth of the firm (Kobrak & Schneider, 2011). Then, for the first time, History in Business Studies permitted the 'object' of study, the business firm, to be married with theory, as found in economics, entrepreneurship, and structuralist-functional sociology (Hausman, 2003; Kobrak & Schneider, 2011). While this created a new space for Business History and brought some more *history* to MOS, there was still no engagement with Theory of History itself. Even so, by this time the context within which business, Business History, the Social Sciences, History, and the Business School existed was to change once more and History in the Business School and the emergent field of MOS would again be marginalized; the aftermath of World War II and what followed would change almost everything.

The challenges presented by the reconstruction of a global modern society after WWII required extensive government involvement and investment in science and industry was called to be in the forefront of this effort (Conant, 1947). Despite the depredations of the war, there was great optimism for the advances that science would achieve and the solutions it would provide for a world that needed to be rebuilt (March, 2005). The social sciences, also then known as the Policy Sciences, increasingly became a tool for reconstructing the West and social and economic control; used by states, governments, and business alike (Wagner, 2001). These circumstances lead to the Social Sciences emulating the natural sciences even further (March, 2005) and finally Donham and Gras' dream of a 'science of business' or by then a "recognized managerial science" (Fournier & Grey, 2000, p. 12) was given new life in the Business School - though it would be a managerial science of business without History. As science, objectivity and analytic rationality became political, economic, and social touchstones (Leslie, 1993), quantification was crowned king in academia (Porter, 1996). These approaches now methodologically dominated historical considerations with cliometrics becoming the force in economic history and with multivariate analysis in social and political history (Gilderhaus, 2010). These methods would grow and come to dominate the activities of MOS in the business school as the Business School itself underwent a unique post-war change.

From the birth of the Business School in the late 1800's through the immediate aftermath of WWII, business schools were primarily seen as institutions with a vocational orientation, extensions of business colleges focusing on the practice and practicalities of managing organizations (Wren, 1972). It was the initiatives of the Ford and Carnegie Foundations that were to be a major impetus for the 'scientization' and academization of the business school (Cheit, 1985; Gordon & Howell, 1959; Pierson, 1959) moving them away from vocationalism to professionalism by academization through science. In the context of world reconstruction this reinforced the belief that business needed science, that business needed to professionalize itself, and that post-war society needed industry and business to rebuild itself, both the United States and abroad in war-torn Europe and the Far East. For the Business School, this was one of two impulses for change. The other was the shift from war to peace.

In the years following the Second World War, millions of service persons returned to civil society. Many would enter university, seeking an education in order to survive and thrive in the emerging context of corporate America. Within a decade of war's end the undergraduate business education was the single most sought after degree in the American university system (Cheit, 1985). In response, and following the recommendations of the Ford and Carnegie Reports, Business Schools had to recruit much-needed faculty to meet the growing demand for their programs. This faculty was largely drawn from related disciplines such as economics, psychology and sociology and they brought not only an academic influence from outside of business subjects but also realist, positivist, quantitative, and statistical approaches to research (McKee, Weatherbee, & Mills, 2004). This shift in academic orientation for the Business School would be further reinforced by the appearance of a new and growing threat to the post-war alliance nations; the Cold War.

While a growing area of interest in the sociology of science literature (Solovey, 2001), the Cold War period and its influence on MOS remains a lightly touched area of study (see for example Cooke, 1999; Cooke, Mills, & Kelley, 2005; Grant & Mills, 2006; Kelley, Mills, & Cooke, 2006) and one that remains under-researched in MOS. However, even this limited historiography shows that the Cold War dynamics significantly influenced a broad range of MOS areas, including; organizational change, behaviouralism (Cooke et al., 2005), decision making and rational choice theory, strategic management and game theory (Abella, 2009) and undoubtedly others. The Cold War served to accentuate the pragmatic and material basis of US society through political, corporate-industrial, and academic-scientific mechanisms (Cooke et al., 2005). These mechanisms consisted of both implicit and explicit means; whether achieved through the MOS' cognate disciplines of psychology, sociology and economics, or directly through the conduct or funding of sponsored research. Exchange of ideas and concepts between industry, the US Armed Forces, and the academy – the military-industrial-academic complex (Solovey, 2001) and the dual employment of academics working with organizations such as RAND (Abella, 2009) or the Office of Naval Research (Cooke et al., 2005) saw the social and political Cold War 'mentality' heavily influence academia and MOS.

When taken together the political and social forces of the Cold War (Grant & Mills, 2006) created the context in which Big Science (Galison & Hevly, 1992) arose. This facilitated the growing hegemony of a realist worldview and positivist method (Porter, 1996) with the adoption of the empirical and statistical methodologies of the hard sciences (Augier et al., 2005) in both the Social Sciences and within MOS [Note: MOS origins may be sited in the administrative or policy sciences which were a focus of Cold War academic effort (Jackall, 1988)]. In combination with the rapid rise of corporatism and market logics (Chandler, 1990; Deudney & Ikenberry, 1993/1994) business also became dominated by a functional and managerial mindset (Burrell & Morgan, 1979) and managerial expertise came to dominate most institutions in society supported by the processes of professionalization, academization, scientization and the compounding growth and influence of the Business Schools within the academy (Fournier & Grey, 2000). The ontological basis of mainstream research was now thoroughly managerialist and future oriented and historiography remained largely absent from MOS. Where and when present, it was largely confined to the historical realism as found in Business History which was a marginalized presence within the Academy, or as found in the first

texts on the history of management produced in the late 1960's early 1970's (Hidy, 1970). History in the Business School would remain a marginalized element - even throughout Social Science's engagement with the linguistic turn and the 'posts'

While definitions remain the subject of much ongoing debate across the academy, the origins of the linguistic turn/poststructural or postmodern movements had their genesis in late 1960's, gaining footholds and momentum in the social sciences over the next two decades (Calhoun, 1993). These movements brought modernity, empiricism, and rationality into question; and with it metaphysics and epistemology, ontology and methodology came to be scrutinized and debated within the Social Sciences (Wagner, 2001). Reinforcing Khun's (1970) paradigmatic analysis, these movements saw the dominance of positivism and structural-functionalism in the Social Sciences weaken (Fournier & Grey, 2000). Further accelerating the movement(s) was the apparent failure of the Policy Sciences or Administrative Sciences to live up to their promises and so the Social Sciences saw movement away from empirics and quantization and an increased movement towards a more interpretative approaches (Wagner, 2001).

This period also saw the internal fragmentation of History with the development of the New Left, Feminist, Urban, Social and Postcolonial sub-branches (Gilderhaus, 2010) and the rise of Poststructural/Postmodern History (Jenkins, 1995, 1997, 1999; White, 1968, 1973, 1978). Known as the History-Theory Culture Wars, debate in History continues. Business History did not generally deal with post-modernism or post-structuralism (Booth & Rowlinson, 2006) and largely followed the Chandlerian paradigm (Hausman, 2003). Even now, despite some renewed interest in the subject area, Business History continues as a small sub-discipline within the management Academy, with the discipline dispersed amongst faculties and departments in universities and business schools (Kobrak & Schneider, 2011).

As the center of gravity for MOS, which by the 1980's was a nearly fully formed field, had shifted to the business schools in America (Augier et al., 2005) the primarily European founded philosophies/theories/methods of the 'posts', which had penetrated the Social Sciences, were restrained to the periphery of MOS mainstream scholarship (Fournier & Grey, 2000). As a consequence these movements did not significantly penetrate MOS and the Business School until later in the late 1980's -1990's (Alvesson & Karreman, 2000; Cooper & Burrell, 1988). Even then, the influence of the 'posts' was too a much lesser extent than the rest of the Social Sciences. As the focus of MOS was now the private sector and organizations of business, rather than the public sector, administration, and bureaucracy where it had focused immediately after WWII (Augier et al., 2005), its US-centric managerialist orientation prevented it from welcoming these 'foreign' philosophies.

So while pluralization of paradigmatic stance and method gained strength within the Social Sciences overall, within business schools MOS engagement lagged, letting in only a weaker more marginalized version (Adler, Forbes, & Willmott, 2007). Despite the lag, and weaker influence of the 'posts' critique of modernism, empiricism, managerialism and structural-functionalism would grow. The near absolute hegemony of the mainstream positivist worldview and its quantitative orientation would begin to lose ground (Fournier & Grey, 2000) as Critical

Management Studies (CMS) (Alvesson & Wilmot, 1992) began to emerge. First, as a loose scholarly community within Europe and then slowly spreading to North America (Fournier & Grey, 2000). With the migration of the ‘posts’ History was introduced into MOS and the Business School in a new, non-historically realist manner.

While not homogenous by any means, scholars of CMS do appear to share a number of standpoints in common. They tend to challenge structures of domination, probe taken-for-granted assumptions underlying managerialism, question issues of power/knowledge in work, and are generally more reflexive in and of their research (Adler et al., 2007). In order to question and probe these central concerns much of CMS scholarship has, by necessity, an historiographical approach using a wider range of ontological, epistemological, and methodological orientations. Consequently, within the anti-podal space created under the umbrella of CMS, History and Historiography have become a reflexive lever of critique.

The result has been a growth of ‘historical’ work ranging from; challenges to received views of the development of management and management thought (see for example Stager Jacques, 1996), questioning of the historiographical style of received historiographies (Weatherbee & Durepos, 2010; Weatherbee, Dye, & Mills, 2008) or the historical’ portrayal of scholarship in MOS (Dye, Mills, & Weatherbee, 2005), the revealing of ‘historical’ but unacknowledged and absented influences on MOS (Cooke, 1999, 2003; Cooke & Mills, 2008; Cooke et al., 2005), and even the emergence of a contemporary Theory of History (Durepos & Mills, 2012) as a tool of historiographic method and critique of MOS and its use/abuse of the *past* and *history* (Durepos et al., 2011; Mills et al., 2011). With the third axis enacted, the first axis and final discussion will focus on the problematic of scientific method.

### **Moving Away From Science**

The problematic homogeneity of realist historicism within MOS either expressed *in* or *of* MOS, has arisen from the near continuous and incremental emulation of the fact-finding cognitive styles and future oriented perspectives of science (Fuchs, 1992). This combination of common-sense-realism and empirical method has led to conflation of the *past* with *history* (Jenkins, 1997) in MOS scholarship – whether in research or historiography. As MOS has matured and developed its own unique canon, centered in the Business School and separate from the Social Sciences (Augier et al., 2005), the results of MOS scholarship have, just as found in the natural sciences, become the ‘reality’ MOS scholars both work with and within. In a process of externalization (Fuchs, 2002) the sum of MOS works – the *history* of them not the *past* of them – has become “contained in the present [through] messages and signs that form our language of contemporary communication” (Parker, 2004). MOS’ collective knowledge has become our *methodological reality*; a reality masking the metaphysical dimensions of epistemology and ontology underlying what we do!

In an effort to “hold each other’s feet mercilessly to the fire” (Stager Jacques, 2006 p. 44) and to engage with the history *in* MOS and *of* MOS, this paper offers a historiography intended to be a ‘history of the present’. A present where the dominant history of the field (George, 1968,

1972; Wren, 1972, 1979, 1987a, b, 1994, 2005; Wren & Bedeian, 2010) is almost exclusively grounded in an unacknowledged realist ontology, a positivist epistemology, which employs the scientific method from the natural sciences (Weatherbee & Durepos, 2010). So as "normal history orders the past for sake of authority and therefore power." (Berkhofer, 1988) and as history is always written for someone (Jenkins, 1999), in order to question the current taken-for-granted assumptions held within the matrix of authority that is the status quo of MOS scholarship, we must be reflexive, engage with Theory of History, and conduct our work in historical terms. This is considered essential as MOS knowledge does not have a *past* since it exists only in the present and therefore must be considered a *history* itself.

Once 'historical realism' is abandoned, and the absent nature of the *past* and its complex relationship with written representations or history is acknowledged, the act of historical authorship invokes a greater duty of care and ethical commitment (Weatherbee & Durepos, 2010). Accordingly, as this historiography is the result of engagement with traces of the *past* or representations as found in the MOS canon, it is neither wholly realist nor wholly relativist in stance. While it is an interpretation of traces where meaning has been imposed (Munslow, 2010) it should not be considered either arbitrary or whimsical. It reflects an understanding of the *history* of MOS and it offers the reader a plausible *history* based upon concepts of verisimilitude in our canon rather than 'historical truth' since the actuality of the past is unrecoverable. While it is grounded in what the historical realist would deem as 'fact' the reader should not take it as a description of what has happened! Thus, the first and final axis is enacted.

### Conclusion

The aim of this paper was twofold; first to enact the call for an Historic Turn (Clark & Rowlinson, 2004) and second, to investigate the condition of the Historic Break (Booth & Rowlinson, 2006). In keeping with the theoretical positioning of this paper, it is hoped that the first goal has been met in the preceding sections. In an attempt to meet the second goal, the following is offered in answer.

Prior to the formation of MOS as a mature field of study embedded in the Business School, History as an extant discipline was already present. It first took form as Business History and the object of its focus was the individual firm and those who conducted business within it. While these business *histories* were intended to lead to a science of business – this remained an unfulfilled and unfinished project - overtaken by the changing historical context(s) within which the Business School existed; even as these contexts changed the Business School. As the modernist impulse grew and took hold of 20<sup>th</sup> century society, belief in science (as embodied in realist ontology, positivist epistemology, and empirical methods) grew into the primary tool employed within, for, and by Western society. To move from vocationalism to acceptance as an academic field within this scientific context, the study of business first followed the Social Sciences which saw a turning away from History towards the methods of science. In order to legitimate itself as a discipline separate from the Social Sciences, empirical quantification and the scientific method became tools of choice. In parallel with the rise of corporatism and free market ideology, the Business School became an integral part of society and the primary site of MOS

scholars who now studied business through theories generated and sustained by science not History. History *in* and *of* MOS was first marginalized, then scientized, and finally so transformed that it became indistinguishable from the reality; not a Historical Break but rather a sublimation and masking.

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# ASB Conference 2011 Proceedings

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## INVESTING IN WORKING CAPITAL: A COMPARISON OF CANADIAN AND U.S. FIRMS

This study investigates empirically the working capital policies of Canadian versus U.S. firms. Using a sample of 477 Canadian and 2,843 U.S. industrial firms over the period 1989-2009, we confirm significant differences between working capital practices of Canadian and U.S. firms, despite their geographical proximity and cultural similarities. Canadian firms, on average, invest less in working capital than their U.S. counterparts, and the difference is significant and persistent. This finding is confirmed by regression analysis where various determinants of working capital are used as control variables, and the country dummy for Canada turns out to be negative and highly significant.

### Introduction

Decision making in corporate finance is broadly divided into three categories: capital budgeting, capital structure, and working-capital management. The first two are long-term in nature, and the third is short-term. Traditionally, capital budgeting and capital structure decisions have received much more attention from researchers than working-capital management. Nevertheless, working capital management is important because of a number of reasons: (i) it is essential for a firm's survival; (ii) efficient working capital management can have a significant positive effect on the company's performance (Shin and Soenen, 1998, Deloof, 2003, Lazaridis and Tryfondis, 2006, Garcia-Teruel and Martininez-Solano, 2007, Chakraborty, 2008); (iii) working capital management impacts firms' capital structure decisions (Chiou and Cheng, 2006), suggesting that long-term financial decisions are related to short-term financial decisions; and (iv) working capital can be used as a backup resource to avoid default (Bierman, Chopra and Thomas, 1975).

“Working capital” refers to short-term assets such as account receivable and short-term liabilities such as account payables. The management of working capital involves the day-to-day activities that ensure the firm has sufficient resources to continue its operations and avoid costly interruptions (Ross, 2007). Working capital is generally an important part of a firm's balance sheet. To give an idea of its magnitude, current assets constitute 43.14% and 49.13% of total assets of Canadian and U.S. firms respectively from our sample. Similarly, current liabilities account for 27.13% and 28.61% of total assets for Canadian and U.S. firms respectively.

The objective of this paper is to examine empirically the differences, if any, between Canadian and U.S. firms in their working capital management practices. Although there have been surveys (Belt and Smith, 1988 and 1991, Smith and Sell 1980, Khoury, Smith and Mackey, 1999) that reach no clear conclusions regarding possible differences, there is no rigorous empirical work on this issue. It is generally assumed, because of geographical proximity and cultural similarities, that there will be no

significant differences between Canadian and U.S. firms. However, the robust performance of the Canadian corporate sector (relative to its U.S. counterpart) during recent financial crisis suggests that Canadian firms perhaps act differently when it comes to making financial decisions such as working capital policies. The objective of this paper is to fill the gap in the literature by empirically testing for any similarities or differences in working capital policies between Canadian and U.S. firms. Similarly, a time-series comparison is conducted to explore for any varying trends over time.

Using a sample of 477 Canadian firms and 2,843 U.S. firms over the period 1989-2009, this study documents significant and consistent (over time) differences in working capital policies between Canadian and U.S. industrial firms, in spite of the geographical proximity and cultural similarities of the two countries. In a direct comparison between Canadian and U.S. firms, we find that Canadian firms on average invest less in working capital than their U.S. counterparts, and this trend is consistent over time. The analysis also reveals diverging trend in working capital policies, especially prior to and around the financial crisis of 2008-09.

A simple comparison might not be totally appropriate, because there might be other factors which affect working capital (e.g., profitability, leverage ratio), and these might differ in the two countries. In order to control for this possibility, we run a regression to explain the magnitude of working capital, with a number of explanatory variables that have been established in the literature (e.g., leverage ratio, firm size, growth opportunities, risk or volatility). We also included a country dummy to test for systematic country-wide differences. The country dummy is found to be highly significant, indicating that the country has a significant impact on a firm's working capital policies, apart from the usual determinants. This is the main contribution of our paper.

The findings of this paper have economic implications for managers who could use working capital policies to possibly enhance profitability, reduce the impact of adverse economic shocks, manage firm-specific risk, and design minimum benchmarks for working capital levels.

The rest of the paper is organized as follows. Section 2 summarizes the literature to date. Methodology including empirical hypothesis, determinants of working capital, variables, data and summary statistics is discussed in Section 3. Section 4 enumerates the univariate and multivariate empirical results, and Section 5 concludes the study.

## **Literature Review and Empirical Hypotheses**

### **Review of the Relevant Literature**

A strand of the working-capital literature has explored the determinants of working-capital. Nunn (1981) empirically tested why working-capital varies among different businesses and used a cross-sectional approach to study the “ongoing or permanent” portion of firms’ investment in working-capital for a product line, division, or other operating unit of a company, producing well-defined line of products and competing in specific markets. He examined a large number of possible determinants of working capital. However, most of the variables considered could be viewed as being industry-related, and it has been documented that industry effects have a significant and persistent impact on working capital (Hawawini, et al., 1986, Weinraub and Visscher, 1998, Filbeck and Krueger, 2005). Therefore, most of the determinants in his study could be subsumed under an industry dummy variable when trying to explain working capital policies. This is what we do in the regression analysis in Section 4.2.

Chiou and Cheng (2006) investigated the determinants of working capital management using a sample of Taiwanese firms; they looked at well-established factors such as leverage ratio, firm performance, firm size, growth opportunities, business conditions, etc.

There has been some interest in cross-country comparisons on working capital policies. A few researchers used survey methods to explore differences in working-capital management practices across countries. Belt and Smith (1991) surveyed 144 firms to understand the working-capital practices of Australian firms. The results were then compared with two previous studies in the U.S. (Belt and Smith, 1988, and Smith and Sell, 1980), and the authors found both similarities and differences. Khoury, Smith, and MacKay (1999) used a similar survey instrument to compare working-capital practices in Canada, the U.S. and Australia and found both similarities and differences in working-capital practices across countries as well as across time. The literature argues that the differences can be largely attributed to variations in firm size and other factors across countries.

Thus far, no empirical study has either explored Canadian firms' working capital policies or compared these policies with other countries. This paper makes a first attempt to empirically study working capital policies of Canadian firms and compares them with U.S. firms.

## Methodology

### Empirical Hypotheses

The existing survey evidence (Smith and Sell, 1980, Belt and Smith, 1988 and 1991, Khoury, Smith, and MacKay, 1999) finds both differences and similarities in working capital policies in Canadian and U.S. firms. Our first objective is to establish quantitatively whether the differences, if any, between working capital in Canadian and U.S. firms are statistically significant. Thus, our null hypothesis is:

*H1: On average, working capital policies of Canadian firms are not significantly different from those of U.S. firms.*

This hypothesis can be tested by means of a simple t-test. However, a simple univariate t-test, while useful as preliminary evidence, cannot be used to reach strong conclusions because it ignores the numerous factors that might affect working capital levels. Thus, our next step will be a multivariate analysis, which will include other factors that determine a firm's investment in working capital. To see if the country still affects the working capital after these factors are controlled for, we have our second null hypothesis:

*H2: In a regression with working capital as the dependent variable and with a set of appropriate explanatory variables, the "country dummy" explanatory variable will not be statistically significant.*

### Determinants of Working Capital

To test Hypothesis 2, we need a set of explanatory variables that help determine the working capital level of a firm. There is no theoretical work, to our knowledge, on the determinants of a firm's investment in working capital. We therefore rely on "a priori" theorizing to identify such determinants, as well as prior empirical evidence in the existing literature for guidance on the list of explanatory variables. As stated earlier, the two studies which have addressed this specific issue are Chiou, Cheng and Wu (2006) and Nunn (1981). In the former, the factors determining working capital policy are as follows: business conditions or expectations (called "business indicator" in their paper),<sup>1</sup> leverage ratio, operating cash flow (firm's operating performance), growth rate, and firm size (although not all were found to be

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<sup>1</sup> This factor was found to be important for working capital in a study by Merville and Tavis (1973).

statistically significant for their sample). Nunn (1981) uses a list of 19 variables grouped into four categories (production-related variables, sales-related variables, accounting-related variables, and competitive position), and find all the 19 variables to be statistically significant. However, these variables are generally proprietary in nature (e.g., % small batch production, % capacity utilization, made-to-order products, industry concentration, etc) and can be incorporated into the industry dummy.

We therefore use the following explanatory variables in our multiple regression analysis. First, the *leverage ratio* should be negatively related to the firm's investment in working capital, as explained by Chiou, Cheng and Wu (2006). Next, the *operating profitability* (or cash from operations normalized by total assets) should have a positive effect on working capital, through its positive effect on the firm's cash balance. Next, *firm size* is expected to have a negative effect on working capital. This is because bigger firms find it easier to raise funds, hence there is less need to maintain current assets (working capital). The explanatory variable *short-term borrowing cost* should have a negative effect on working capital. An increase in the short-term borrowing cost increases the opportunity cost of cash, hence the firm will reduce its cash balance and try to accelerate its collections (reducing accounts receivable); it will also try to slow down payments, thus increasing the accounts payable balance. All of these effects combine to reduce working capital, hence a negative relationship between short-term borrowing costs and level of working capital.

Working capital is also affected by expectations regarding future interest rates (this is similar to the variable "business indicator" in Chiou, Cheng and Wu, 2006). If interest rates are expected to rise, companies will reduce working capital in anticipation, as explained above. Interest rate expectations are captured by the *term spread* (difference between long-term and short-term interest rates). Thus the *term spread* should also have a negative effect on working capital. The next explanatory variable we look at is growth opportunities, mentioned as a determinant by Chiou, Cheng and Wu (2006). Growth opportunities are generally proxied by the *market-to-book ratio*. The effect of growth opportunities is not clear. On one hand, companies with large growth opportunities maintain large cash balances (e.g., Microsoft) which should increase working capital. On the other hand, if the growth opportunities are to be financed externally (with debt or equity issues), then there is lesser need to maintain working capital. Thus, the *market-to-book ratio* could have a positive or negative effect on working capital, and the sign is not clear a priori.

The variable *R&D Expenses* (normalized by sales) should also affect working capital. Companies with greater R&D activities are expected to maintain higher levels of current assets, hence the variable *R&D Expenses* is expected to have a positive effect on working capital. Finally, Nunn (1981) discusses risk as a determinant (although he specifically mentions market-share risk) of working capital. We feel that operating risk (or cash flow risk) will be an important determinant of working capital, since working capital is essentially a buffer to ensure the continuation of operations. Therefore, with a higher operating risk (or higher uncertainty or volatility of operating cash flows), the company should maintain a higher level of working capital. Thus, *cash flow volatility* should have a positive effect on working capital.

## Variables

We are interested in the firm's investment in working capital. Therefore, our prime variable of interest is the Net Working Capital (current assets minus current liabilities) normalized by total assets, or the variable NWC/TA. We are also interested in its major components, hence we look at the cash balance (CASH), accounts receivable (A/R), inventory balance (INV), and accounts payable (A/P), all normalized by total assets. Some studies have looked at the ratio of net working capital to sales; although this is not an appropriate measure of the investment in working capital, we nevertheless look at this variable (NWC/S) for completeness.

There are nine explanatory variables, as discussed in Section 3.2. LEV is the firm's leverage ratio (debt to total assets) in book-value terms. PROFITABILITY is the ratio of operating cash flow (operating income before depreciation) to total assets. SIZE is the natural log of the firm's total assets. INTRATE\_ST is the short-term interest rate, measured by the 3-month Treasury yield. TERM\_SPD is the term spread, measured by the difference between the long-term (10-year) and short-term (3-month) Treasury yields. The variable MKT\_BK is the ratio of market value to book value of the firm (stock price times number of shares plus total assets less common equity, divided by total assets). R&D is the ratio of research and development expenses to total sales. VOLA is the volatility or uncertainty of cash flows, given by the coefficient of variation of annual cash from operations. Finally, we use a country dummy, which is set to 1 for Canadian firms and 0 for U.S. firms.

## Data

Financial statement data for Canadian and U.S. firms are available from "Compustat Annual" database using Wharton Research Data Services (WRDS). Since Compustat Canadian Industrial Annual only provides data starting 1989, our starting point was 1989. Canadian interest rates data are taken from "Canadian Financial Market Research Center (CFMRS)" Summary Information Database, whereas U.S. interest rates data is sourced through Econstats website ([www.econstats.com](http://www.econstats.com)).

Observations with missing data for cash and marketable securities, net income, long term debt, debt in current liabilities, and income before extraordinary items are deleted as are the observations with missing or zero current assets, current liabilities, net sales, and total assets. All variables are winsorized at 1% tails to avoid any outliers. Companies with less than 10 consecutive years of data are dropped as are the companies in financial sector. The companies within similar and related industries were combined together using 4-digit SIC codes to create twenty one "industry groups represented by industry reference number (IRN) for analysis purpose. Then "industry groups" with less than 15 companies for U.S. sample and 7 companies for Canadian sample were eliminated as are the observations with missing or unidentified industry group. This methodology resulted in a panel of 477 Canadian firms with 6,626 observations and 2,843 U.S. firms with 52,576 observations.

Table 1 shows details of the industry groups. The largest Canadian industry group has 69 companies and smallest has 7 companies, while the largest U.S. industry group has 394 companies and smallest has 17 companies. On average, the number of firms per industry group in the U.S. sub-sample (135) is almost six times larger than in the Canadian sub-sample (23).

**Table 1****Description of Industry Groups**

Refer to Appendix A for a detailed list of SIC Codes of each industry group for Canadian and U.S. sample.

<u>Industry Reference Number</u>	<u>Industry Name</u>	<u>No of Firms within Industry</u>	
		<u>Canada</u>	<u>U.S.</u>
1	Nonferrous Metals	22	17
2	Oil & Natural Gas	69	143
3	Food & Beverages	23	87
4	Wood & Furniture	19	36
5	Paper & Publishing	19	87
6	Pharmaceutical & Bio	27	161
7	Chemical & Plastics	15	132
8	Steel & Iron	15	47
9	Hardware, Machinery & Equipment	22	160
10	Electronic Components	34	394
11	Motor Vehicle & Aircraft Parts	16	60
12	Measurement Equipment & Precious Metals	7	242
13	Transportation	14	86
14	Communication	24	88
15	Utilities Management & Distribution	22	237
16	Durable & Non-Durable Wholesale	26	131
17	Department & Grocery Store	11	51
18	Retail - Non Groceries	21	177
19	Financial & Real Estate Services	14	53
20	Professional & General Services	16	244
21	Technology & Engineering Services	41	210

**Summary Statistics**

The summary statistics for the variables discussed above are reported in Table 2. The summary statistics reveal some differences between Canadian and U.S. firms. First, we look at our main variable of interest, *NWC/TA*. Both the mean and the median of this variable are lower for Canadian firms than U.S. firms. Thus, Canadian firms seem to invest in a smaller amount of working capital than U.S. firms. We get consistent figures when we look at the major components of working capital. Both the mean and median of the variables *CASH*, *A/R* and *INV* are lower for Canadian firms, while *A/P* is higher. However, for the variable *NWC/S*, the mean is higher for Canadian firms while the median is lower.

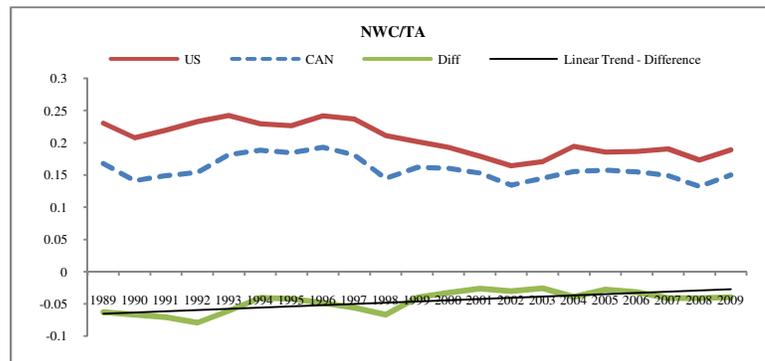
In the control variables, *LEV* is about the same for both sub-samples, while U.S. firms enjoy higher *PROFITABILITY*. For *INTRATE\_ST*, the mean Canadian rate is higher while the median U.S. rate is higher. The variables *SIZE*, *MKT\_BK* and *VOLA* are all higher for the U.S. sub-sample. For *R&D*, the Canadian sub-sample has higher mean while the U.S. sub-sample has higher median.

**Table 2****Comparative Summary Statistics**

Comparative summary statistics for Canada and U.S. samples during the period of 1989 to 2009 are presented. The variables definitions are as follows: Working capital to assets ratio (NWC/TA): Net working capital scaled by the total assets; Working capital to sales Ratio (NWC/S): Net working capital scaled by the net sales; CASH: Cash and marketable securities scaled by the total assets; INV: Inventory scaled by the total assets; A/P: Accounts payables scaled by the total assets; A/R: Total receivable scaled by the total assets; LEV: Long term debt plus debt in current liabilities divided by total assets; Profit: Operating income before depreciation scaled by total assets; INTRTAE\_ST: Annual percentage interest rates based on 3-months treasury bills yield; INTRATE\_LT: Annual percentage interest rates based on 10-years treasury bond yield rate; SIZE: Natural log of the total assets; SALES: Net sales to the total asset ratio; MKT\_BK: Common shares outstanding times stock price plus total assets net of common equity at the beginning of year scaled by the total assets at the beginning of year; R&D: Research and development expenses divided by the total sales; and VOLA: Coefficient of variation in annual cash flow over the past ten years. All variables except interest rates are winsorized at the 1% tails to avoid extreme values.

Variable		Obs	Mean	Median	Std. Dev.	Min	Max
NWC/TA	Canada	6,626	0.1590	0.1392	0.30	-1.489	0.864
	US	52,576	0.2047	0.2048	0.38	-3.634	0.862
NWC/S	Canada	6,626	1.7867	0.1329	11.87	-8.100	137.104
	US	52,576	0.4684	0.1666	2.45	-9.385	30.362
CASH	Canada	6,626	0.1337	0.0412	0.20	0.000	0.899
	US	52,576	0.1562	0.0752	0.19	0.000	0.905
INV	Canada	6,626	0.1207	0.0767	0.13	0.000	0.530
	US	52,576	0.1338	0.0934	0.14	0.000	0.613
A/P	Canada	6,626	0.1527	0.1253	0.12	0.003	0.817
	US	52,576	0.0955	0.0673	0.10	0.002	0.997
A/R	Canada	6,626	0.1537	0.1248	0.12	0.001	0.612
	US	52,576	0.1653	0.1426	0.13	0.000	0.647
LEV	Canada	6,626	0.2481	0.2191	0.24	0.000	1.664
	US	52,576	0.2552	0.2126	0.29	0.000	2.548
PROFITABILITY	Canada	6,626	0.0389	0.1074	0.31	-2.191	0.415
	US	52,576	0.0679	0.1174	0.30	-3.422	0.444
INTRATE_ST	Canada	6,626	4.3234	3.8600	2.54	0.202	12.220
	US	52,576	3.8162	4.1800	2.07	0.030	7.880
INTRATE_LT	Canada	6,626	5.6601	5.3500	1.80	2.690	10.340
	US	52,576	5.3810	5.2400	1.41	2.420	8.080
SIZE	Canada	6,626	5.2089	5.1497	2.17	-0.738	9.750
	US	52,576	5.4396	5.4719	2.49	-1.162	10.514
SALES	Canada	6,626	1.0268	0.8356	0.82	0.002	4.075
	US	52,576	1.1889	1.0095	0.85	0.012	5.074
MKT_BK	Canada	6,010	1.8229	1.2719	1.81	0.425	13.900
	US	46,769	2.1757	1.4906	2.39	0.554	23.724
R&D	Canada	2,243	1.1631	0.0326	6.68	0.000	91.844
	US	30,620	0.3623	0.0343	2.37	0.000	33.317
VOLA	Canada	1,306	0.5131	0.3376	0.60	0.088	4.220
	US	19,316	0.9669	0.3401	2.43	0.071	20.301

Figure 1 shows the behavior of the mean working capital (NWC/TA) for the two sub-samples over time. The difference seems fairly constant over time, with a linear trend that is almost flat, indicating that the difference is persistent.

**Figure 1**

## Empirical Results

### Univariate T-tests

Table 3 shows the results of t-tests for differences in means of the working capital variables. Since the summary statistics reveal that the variances of the Canadian and U.S. sub-samples are quite different, we use the student t-test for two-sample mean comparison with unequal variance. First, the mean NWC/TA for the Canadian sub-sample is significantly smaller than that of the U.S. sub-sample, with a t-statistic of 11.44, statistically significant at all levels. Consistent with this, the variables CASH, A/R and INV for the Canadian sub-sample are all significantly lower, with t-statistics of 8.69, 7.40 and 7.50 respectively, while A/P is significantly higher with a t-statistic of 36.33. Thus, a simple comparison-of-means test indicates that Canadian companies do indeed invest a smaller amount in working capital. The null hypothesis (H1) is therefore rejected.

The variable NWC/S, however, behaves in the opposite way, being larger for the U.S. sub-sample with a t-statistic of 9.01.

**Table 3**

#### Working Capital Policies Comparison - Canada Versus U.S.

Two alternate measures of working capital policies, in addition to its major components, are compared between Canada and U.S. during the period of 1989 and 2009. The measures and components of working capital include: Working capital to assets ratio (NWC/TA): Net working capital scaled by the total assets; Working capital to sales Ratio (NWC/S): Net working capital scaled by the net sales; CASH: Cash and marketable securities scaled by the total assets; INV: Inventory scaled by the total assets; A/P: Accounts payables scaled by the total assets; A/R: Total receivable scaled by the total assets. All variables are winsorized at the 1% tails. T-test is used to confirm if the difference in means between Canada and U.S. is statistically significant. Table reports the difference between Canadian and U.S. mean values for each variable, t-statistics and p-values. Note \*\*\* shows that difference in means is statistically significant at one percent, respectively.

Variable		Obs	Mean	Difference	T-Stat	P-Value
NWC/TA	Canada	6,626	0.1590	-0.046***	-11.441	0.000
	US	52,576	0.2047			
NWC/S	Canada	6,626	1.7867	1.318***	9.013	0.000
	US	52,576	0.4684			
Cash	Canada	6,626	0.1337	-0.022***	-8.686	0.000
	US	52,576	0.1562			
Inventory	Canada	6,626	0.1207	-0.013***	-7.495	0.000
	US	52,576	0.1338			
Payables	Canada	6,626	0.1527	0.057***	36.329	0.000
	US	52,576	0.0955			
Receivables	Canada	6,626	0.1537	-0.012***	-7.404	0.000
	US	52,576	0.1653			

### Multiple Regression Results

As mentioned in section 3.1, simple t-tests alone might not be convincing enough because there are other factors that affect working capital, and these factors could cause the investment in working capital to be different for the two sub-samples. For instance, the difference in working capital policies could come from differences in risk or volatility, since Canadian firms have lower cash flow volatility. Or the higher short-term interest rate in Canada could result in lower working capital in Canadian firms. In order for these factors to be controlled for, we ran a multiple regression with the explanatory variables mentioned in Section 3.3:

$$NWC / TA = \alpha_1 + \beta_1 LEV + \beta_2 PROFITABILITY + \beta_3 SIZE + \beta_4 INTRATE\_ST + \beta_5 TERM\_SPD + \beta_6 MKT\_BK + \beta_7 R \& D + \beta_8 VOLA + \tilde{\epsilon}_1$$

In addition to the explanatory variables above, the industry dummies are also incorporated. The results are displayed in Table 4, with the figures in parenthesis showing the standard errors. The first column shows the above regression, with NWC/TA as the dependent variable. As expected from the discussion in Section 3.2, the coefficient of LEV is negative and statistically significant at the 1% level.

The coefficient of PROFITABILITY is positive and significant, and that of SIZE is negative and significant, both at the 1% level. The coefficients of INTRATE\_ST and TERM\_SPD are negative, as expected, and significant at the 5% and 10% level. The coefficient of MKT\_BK, for which we had no prior expectation, is negative and significant at the 1% level. The coefficients of R&D and VOLA are both positive, as expected, and significant at the 10% and 1% levels respectively. Most importantly, the country dummy for Canada is negative and highly significant. The overall explanatory power is quite good, with an adjusted R-squared statistic of 59.2%.

The main result is that, after controlling for the various determinants of working capital, as well as industry effects, the country dummy is still negative and highly significant. Thus, there seems to be a structural difference in working capital policies between Canadian and U.S. firms, with Canadian firms investing less in working capital, even after accounting for other relevant factors that affect working capital and differ between the two countries.

When the regression is repeated with NWC/S as the dependent variable (column 2 of Table 4), the coefficients all have the same sign, but not all are significant. The coefficients of LEV and SIZE are still significant at 1%, those of R&D and VOLA are significant at 5% and TERM\_SPD at 10%; the others are not statistically significant. However, what is interesting is that the country dummy for Canada is negative and highly significant as in the previous case. Recall from the t-tests that the means NWC/S for Canadian firms was higher than for U.S. firms. What we find above is that, after controlling for the determinants of working capital, this is no longer true, since the country dummy for Canada is negative and significant. Thus, our regression results reject the null hypothesis (H2).

**Table 4**  
**Regression Analysis: Difference in Working Capital Policies**  
**Canada Vs U.S.**

Canadian and U.S. samples are taken from the period of 1989 and 2009. The Ordinary Least Square (OLS) model with robust standard error is estimated. The dependent variables include: Working capital to sales Ratio (NWC/S): Net working capital scaled by the net sales; Working capital to assets ratio (NWC/TA): Net working capital scaled by the total assets. The explanatory variables include: LEV: Long term debt plus debt in current liabilities divided by the total assets; PROFITABILITY: Operating income before depreciation scaled by the total assets; SIZE: Natural log of the total assets; INTRATE\_ST: Annual percentage interest rates based on 3-months treasury bills yield; TERM\_SPD: The difference between long term and short term interest rates; MT\_BK: Common shares outstanding times stock price plus total assets net of common equity at the beginning of year scaled by the total assets at the beginning of year; R&D: Research and development expenses divided by the total sales; VOLA: Coefficient of variation in annual cash flow over the past ten years; Country Dummy: Equals 1 for respective country and 0 otherwise; Industry Dummies: Equal 1 for respective industry and 0 otherwise. All regressions use 20 industry dummies as independent variables. One industry dummy and one country dummy are dropped to avoid multicollinearity problem. Table reports coefficients, standard errors (in parentheses), adjusted R-Squared, and the number of observations. Note: \*\*\*, \*\*, \* show statistical significance at one, five and ten percent, respectively.

Variable	Expected Sign	NWC/TA	NWC/S
LEV	Negative	-0.781*** (0.040)	-1.703*** (0.173)
PROFITABILITY	Positive	0.347*** (0.043)	0.00957 (0.174)
SIZE	Negative	-0.0230*** (0.002)	-0.0208*** (0.008)
INTRATE_ST	Negative	-0.00386** (0.002)	-0.0158 (0.011)
TERM_SPD	Negative	-0.00432* (0.002)	-0.0308* (0.016)
MT_BK	Positive or Negative	-0.0206*** (0.004)	-0.0237 (0.022)
R&D	Positive	0.0196* (0.010)	0.536** (0.227)
VOLA	Positive	0.00464*** (0.001)	0.0339** (0.014)
Country Dummy - CANADA	Negative	<b>-0.0504***</b> (0.009)	<b>-0.149***</b> (0.035)
Constant		0.463*** (0.024)	0.702*** (0.159)
Industry Dummies		Yes	Yes
Adj. R-Squared		0.592	0.132
N		10143	10143

## Conclusions

Working-capital management is critical element of financial decision making especially from standpoint of short-term operations of firms. This study used a large sample of 477 Canadian firms and 2,843 U.S. firms over a 21-year period (1989 to 2009) to examine and compare empirically the investment in working capital in Canadian and U.S. firms.

This paper's main contribution to the literature is to establish empirically that there are significant systematic and persistent differences in working capital between Canadian and U.S. firms, even after controlling for various factors that affect working capital (and these factors differ between the two countries). This is the first empirical study to examine these issues, the existing studies being based on surveys of managers regarding their attitudes towards working capital management.

We show that Canadian firms, on average, invest less in working capital than their U.S. counterparts, even after controlling for the determinants of working capital. In the process, we also confirm that these factors (leverage ratio, firm size, earnings volatility, profitability, etc) do indeed impact working capital in a manner consistent with economic intuition.

Note, however, that our results merely establish that Canadian firms use less working capital, without going into the tricky question of optimality, i.e., is it necessarily optimal to use lower working capital? This issue could be a possible extension of the paper. Also, we did not investigate the effect of the lower working capital, if any, on the default risk of the firm.

## Appendix A

<b>Description of Industry Groups</b>			
<b>IRN</b>	<b>Industry Name</b>	<b>Canadian SIC Codes</b>	<b>US SIC Codes</b>
1	Nonferrous Metals	1000/1040/1090	1000/1040/1044/1090
2	Oil & Natural Gas	1311/1381/1389/2911	1311/1381/1389/2911
3	Food & Beverages	2000/2011/2013/2020/2024/2033/2040/2050/2082/2084/2085/2086/2090	2000/2011/2013/2015/2020/2024/2030/2033/2040/2050/2052/2060/2070/2080/2082/2084/2085/2086/2090
4	Wood & Furniture	2400/2421/2452/2510/2511/2520/2522	2400/2421/2430/2451/2452/2510/2511/2520/2522/2531/2540/2590
5	Paper & Publishing	2611/2621/2631/2670/2671/2711/2731/2750	2600/2611/2621/2631/2650/2670/2711/2721/2731/2732/2741/2750/2761/2771/2780/2790
6	Pharmaceutical & Bio	2834/2835/2836	2833/2834/2835/2836
7	Chemical & Plastics	2820/2821/2844/2851/2860/2870/3060/3080/3089	2800/2810/2820/2821/2840/2842/2844/2851/2860/2870/2890/3060/3080/3081/3086/3089
8	Steel & Iron	3312/3330/3350/3357/3360	3312/3317/3320/3330/3341/3350/3357/3360
9	Hardware, Machinery & Equipment	3420/3433/3440/3470/3490/3533/3540/3550/3559/3560/3569	3420/3440/3442/3443/3448/3452/3460/3470/3480/3490/3510/3523/3530/3531/3532/3533/3537/3540/3541/3550/3555/3559/3560/3561/3562/3564/3569
10	Electronic Components	3576/3578/3580/3630/3640/3652/3661/3663/3670/3674/3690	3570/3571/3572/3775/3576/3577/3578/3589/3580/3585/3590/3600/3612/3613/3620/3621/3630/3634/3640/3651/3652/3661/3663/3669/3670/3672/3674/3677/3678/3679/3690
11	Motor Vehicle & Aircraft Parts	3711/3714/3728	3711/3713/3714/3715/3716/3720/3721/3724/3728
12	Measurement Equipment & Precious Metals	3812/3823/3841/3845/3851/3861/3911	3812/3821/3823/3824/3825/3826/3827/3829/3841/3842/3843/3844/3845/3851/3861/3873/3910
13	Transportation	4011/4100/4210/4213/4220/4400/4512/4522/4581/4731	4011/4013/4100/4210/4213/4400/4412/4512/4522/4610/4700/4731
14	Communication	4812/4813/4822/4832/4833/4841/4899	4812/4813/4832/4833/4841/4899
15	Utilities Management & Distribution	4911/4922/4923/4924/4932/4950/4955	4911/4922/4923/4924/4931/4932/4941/4950/4953/4955/4991
16	Durable & Non-Durable Wholesale	5013/5020/5031/5040/5045/5051/5063/5070/5072/5080/5082/5084/5110/ 5122/5140/5150/5172	5000/5010/5013/5030/5031/5040/5045/5047/5051/5063/5065/5070/5072/5080/5084/5090/5093/5094/5099/5110/5122/5130/5140/5141/5150/5160/5171/5172/5190
17	Department & Grocery Store	5311/5399/5411/5412	5311/5399/5411/5412
18	Retail - Non Groceries	5200/5531/5621/5651/5712/5735/5812/5912/5940/5990	5200/5211/5500/5531/5600/5621/5651/5661/5700/5712/5731/5735/5812/5900/5912/5940/5944/5945/5960/5961/5990
19	Financial & Real Estate Services	6099/6162/6211/6282/6411/6500/6531/6798/6799	6099/6159/6200/6211/6282/6324/6411/6500/6512/6513/6519/6531/6792/6799
20	Professional & General Services	6794/6795/7311/7361/7363/7389/7500/7819/7997/8000/8731/8742/8744	6794/6795/7200/7310/7311/7320/7331/7340/7350/7359/7361/7363/7380/7381/7384/7385/7389/7500/7510/7600/7812/7822/7830/7900/7948/7990/7996/8000/8011/8050/8051/8060/8062/7071/8082/8090/8093/8200/8300/8351/8700/8721/8731/8734/8741/8742
21	Technology & Engineering Services	7370/7372/7373/8711	7370/7371/7372/7373/7374/8711

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## **FORECASTING STOCK EXCHANGE OPENING WITH FOREIGN STOCK MARKETS: EVIDENCE FROM THE NYSE AND THE SSE**

The paper examines the forecasting ability of the U.S. stock performance to predict the direction of the Chinese stock price movement at the opening, and vice versa. It shows that since the recent global financial crisis, stock performance in the NYSE has shown significant forecasting ability on the SSE opening.

### **1. Introduction**

With the dramatic growth of the Chinese economy in the last few decades, the Chinese stock market has emerged as one of the largest stock markets in the world. As the Chinese economy and U.S. economy have shown strong interaction, there is considerable interest to study the interactions between the Chinese and the U.S. stock markets.

In the literature, many studies have been done on the linkage between the Chinese and U.S. stock markets. For example, Huang *et al* (2000), Yang *et al* (2003), Hsiao *et al* (2003), Chen *et al* (2003), Lin and Wu (2003) and Zhu *et al* (2004), among others, examine the relationship between the Chinese and U.S. stock markets from different perspectives, based on daily observations. However, they find little or weak evidence of co-integration between these two markets.

Though contrary to common perception, these findings are not unexpected. In fact, since there is no overlap in the trading hours between the Shanghai Stock Exchange (SSE) and the New York Stock Exchange (NYSE), the daily return on one market, which is reported at the time when the market closes, is a type of non-trading hour information to the other market. Thus, if the markets are efficient, it is reasonable to expect that the stock price movements in these two markets have little correlation.

It is interesting to note that Fan, Lu and Wang (2009) find strong evidence of the cointegration between the Chinese and U.S. stock markets when they examine the issue based on weekly observations in which the trading hours in those two markets are mostly overlapped.

For the first time in the literature, we examine the interaction between the stock price movements in the New York Stock Exchange and the Shanghai Security Exchange in the scope of market microstructures. In particular, we examine the forecasting abilities of the daily performances of the stocks in one market to forecast whether the stocks in the other market will open higher or lower in the trading session in relation to its previous close. That is, we examine the forecasts on the directions, not the magnitudes, of the stock price movements at the market opening in relation to their previous day's closing, based on the performance of the other market.

In this study, we treat the daily return on an index of the foreign stock exchange as a signal, and the directions of the opening stock price movement in relation to its previous day's closing price in a market to be forecasted as a response to the signal. We find that the daily returns on the NYSE have strong forecasting ability on the following opening of the SSE after the recent global financial crisis, while this forecasting ability was not significant before the crisis. In addition, we find that the forecasting ability has been one-sided. That is, the daily returns on the SSE have little forecasting ability on the NYSE opening.

This study will be of considerable interest to international investors, stock market index futures players, ETF and mutual fund managers, and so on. In fact, many investors in China make forecast on the SSE opening based the performances of the international stock markets, especially the NYSE, released before the SSE openings. Thus, our study may help understand the processes of stock market opening price discoveries.

In the literature, a number of research papers have examined the mechanism whereby opening prices are established by incorporating non-trading hour information. For example, Greene and Watts (1996), among others, examine the response of the NYSE and the NASDAQ opening prices to earnings announcements made during the day and overnight. Biais, Hillion and Spatt (1999) and Cao, Ghysels and Hatheway (2000) examined the price discovery process in the Paris Bourse and NASDAQ during the preopening period, respectively, and found that price discovery occurs as traders learn from indicative prices. Ellul, Shin and Tonks (2005) studied the opening and closing price formation process in the London Stock exchange (LSE); Barclay and Hendershott (2003) examined the price discovery process in the NASDAQ preopening and Barclay and Hendershott (2008) compare the trading and non-trading mechanism for price discovery. These studies show that non-trading hour information is impounded into the opening stock prices. Our study is to extend this literature by examining how a special type of non-trading hour information, the performance in a foreign market, plays a role in the opening price discovery in a market.

The rest of this paper is organized as follows. Section 2 describes the methodology of measuring and testing the forecasting ability. Our database and some primary processes of the database are introduced in Section 3. Section 4 reports the empirical results, and the discussion concludes in Section 5.

## **2. Measuring and Testing Forecasting Abilities**

In this section, we introduce our methodology to measure and test the abilities of the performance in a stock market to forecasting the performance in another stock market in a foreign country. Mathematically, our model is of the form similar to one that Merton (1981) and Henriksson and Merton (1981, hereafter HM) proposed to evaluate the performance of investment fund managers and to test the market-timing abilities, though two models are different in nature economically.

## 2.1 Measuring forecasting ability

Let  $R_1(t)$  be a signal variable and  $R_2(t)$  be the forecast variable predicted by  $R_1(t)$ , i.e., the response to  $R_1(t)$ . We consider a forecast as follows:

If  $R_1(t) \leq M$ , we predict that  $R_2(t) \leq 0$ ;

If  $R_1(t) > M$ , we predict that  $R_2(t) > 0$ .

where,  $M \geq 0$ , represents the strength of a signal. In the case of  $M > 0$ , if  $-M < R_1(t) \leq M$  at any date  $t$ , no forecast would be made at the date and the observations  $R_1(t)$  and  $R_2(t)$  will be neglected in the forecast.

Define:

$$P_1(t) = P[R_2(t) \leq 0 \mid R_1(t) \leq M] \quad (1)$$

$$P_2(t) = P[R_2(t) > 0 \mid R_1(t) > M] \quad (2)$$

$P_1(t)$  is the conditional probability of a correct forecast given that  $R_1(t) \leq -M$ , and  $P_2(t)$  is the conditional probability of correct forecast given  $R_1(t) > M$ . Then, the forecasting ability is defined by:

$$P(t) = P_1(t) + P_2(t) - 1 \quad (3)$$

$P(t)$  is a sufficient and necessary statistic for measuring forecasting ability.

## 2.2. Tests for forecasting ability

A sufficient and necessary condition for a forecaster to have no forecasting value is that  $P(t) = 0$ . Therefore, the null hypothesis of no forecasting ability is:

$$H_0: P(t) = P_1(t) + P_2(t) - 1 = 0 \quad (4)$$

To implement the test, we define:

$n_1$  = number of successful predictions, given that  $R_1(t) \leq -M$ ;  
 $n_2$  = number of unsuccessful predictions, given that  $R_1(t) > M$ ;

$n'_1$  = number of unsuccessful predictions, given that  $R1(t) \leq -M$ ;

$n'_2$  = number of successful predictions, given that  $R1(t) > M$ .

Then

$n = n_1 + n_2$  is the number of times forecast that  $R2(t) \leq 0$ ;

$n' = n'_1 + n'_2$  is the number of times forecast that  $R2(t) > 0$ ;

$N_1 = n_1 + n'_1$  is the number of observations with  $R1(t) \leq -M$ ;

$N_2 = n_2 + n'_2$  is the number of observations with  $R1(t) > M$ ;

$N = N_1 + N_2$  is the total number of observations at which a forecast is made.

These variables and relationships are shown in a matrix as follows:

	$R2(t) \leq 0$	$R2(t) > 0$	
$R1(t) \leq -M$	$n_1$	$n'_1$	$N_1$
$R1(t) > M$	$n_2$	$n'_2$	$N_2$
	$n$	$n'$	$N$

Note that given  $N$ ,  $N_1$ ,  $n$  and  $n_1$ , all other variables can be determined.

From these definitions, we have:

$$P_1 = E(n_1 / N_1) \quad (5)$$

$$P_2 = E(n'_2 / N_2) = 1 - E(n_2 / N_2) \quad (6)$$

$$P = E(n_1 / N_1 + n'_2 / N_2) - 1 \quad (7)$$

where  $E(.)$  is the expected value operator.

Therefore, from Eq.(4), it follows that the null hypothesis is:

$$H_0: P = E(n_1 / N_1 - n_2 / N_2) = 0 \quad (8)$$

Assuming that  $n_1$  and  $n_2$  are sums of independently and identically distributed random variables, given  $N$ ,  $N_1$ ,  $n$  and  $n_1$ , the p-value for the test can be calculated by using the following approach:

First, for small samples,  $n_1$  follows a hypergeometric distribution, and we can calculate the p-value by:

$$p\text{-value} = \sum_{i=n_1}^{\min(N_1, n)} \frac{\binom{N_1-i}{n-i} \binom{N-N_1}{i}}{\binom{N}{n}} \quad 9$$

where,  $n_1 = \min(N_1, n)$ .

Thus, one can reject the null hypothesis at a probability confidence level of  $\alpha$  if  $n_1 \geq n_1^*(\alpha)$

where  $n_1^*(\alpha)$  is defined as the solution to the following equation:

$$\sum_{i=n_1^*(\alpha)}^{\min(N_1, n)} \frac{\binom{N_1-i}{n-i} \binom{N-N_1}{i}}{\binom{N}{n}} = 1 - \alpha \quad (10)$$

Second, for large samples, since the computations with Eq. (9) and Eq.(10) become a problem, normal distribution is used as a good approximation of the hypergeometric distribution. The normal distribution has the following parameters:

$$E n_1 = n N_1 / N \quad (11)$$

and

$$\sigma^2 n_1 = n N_1 N_2 - N_1(N_1 - n) / [N(N-1)] \quad (12)$$

Let

$$z_{n_1} = \frac{n_1 - E(n_1)}{\sigma(n_1)} \quad (13)$$

then  $z_{n_1}$  is of standard normal distribution.

Thus, the p-value is calculated by:

$$p\text{-value} = 1 - N(z_{n_1}) \quad (14)$$

where  $N(\cdot)$  is the cumulative probability function of the standard normal distribution. Therefore,

we can determine the critical number,  $n_1^*(\alpha)$ , by solving the following equation:

$$N(n_1^*(\alpha)) = \alpha \quad (15)$$

If  $n1 \geq n1^*(\alpha)$ , one can reject the null hypothesis at a probability confidence level of  $\alpha$ .

### 3. Description of the Database

#### 3.1 Database

Our database consists of the opening values and close values of the S&P500 and the SSCI, both from Bloomberg.

The daily closing and opening values of the SSCI and the closing values of the S&P 500 cover a period of 11 years from 2000 to 2010. However, the opening values of the S&P 500 are reported in Bloomberg as are the closing values of the previous days before 2007. Thus, only the opening values of the S&P 500 from 2007 to 2010 are used.

Let:

$O(I, t)$  = the opening value of index I at date t;

$C(I, t)$  = the closing value of index I at date t;

We define the daily rate of return (RD), the overnight rate of return (RN), and the trading-hour rate of return (RT) as follows:

$$RD(I, t) = [C(I, t) - C(I, t-1)]/C(I, t-1) \quad (16)$$

$$RN(I, t) = [O(I, t) - C(I, t-1)]/C(I, t-1) \quad (17)$$

$$RT(I, t) = [C(I, t) - O(I, t)]/O(I, t) \quad (18)$$

Using Eq. (16), (17) and (18), we form five time series from our database as follows:

- 1) RD(SSCI): the daily rates of returns on SSCI, 2007 - 2010;
- 2) RN(SSCI): the overnight rates of returns on SSCI, 2000-2010;
- 3) RT(SSCI): the trading-hour rates of returns on SSCI, 2000-2010;
- 4) RD(S&P500): the daily rates of returns on S&P 500, 2000-2010;
- 5) RN(S&P500) : the overnight rates of returns on S&P 500, 2007-2010;

Since RD(SSCI) is used to predict RN(S&P500), we only take a sample period that is the same as the one of RN(S&P500). The descriptive statistics of these series are shown in Table 1.

**Table 1: Summary Statistics of the Data Series**

This table reports the characteristics of the data series used in our study. We analyzed five series that consist of daily returns, overnight returns and trading-hour returns on the SSCI, as well as daily returns and overnight returns on the S&P 500.  $N^+$  is the ratio of the number of observations greater than  $M$  and the number of observations that are equal to or lower than  $-M$ , where  $M= 0, 1\%$  and  $2\%$ , respectively.

	<b>Sample</b>		
	<b>Period</b>		
	<b>Sample Size</b>		
	<b>Mean</b>		
	<b>Std. Dev.</b>		
	<b><math>N^+ / N^-</math></b>		
	<b>(M=0)</b>		
	<b><math>N^+/N^-(M=1\%)</math></b>		
	<b><math>N^+/N^-(M=2\%)</math></b>		
<b>SSCI</b>			
Daily returns	2007-10	972	
		0.0003	
		0.0218	
		533/439	
		301/242	
		141/147	
Overnight returns	2000-10	2639	
		-0.0002	
		0.0075	

1298/1341  
73/127  
29/32

Trading-hour returns

2000-10

2639  
0.0001  
0.0133  
1329/1310  
426/457  
135/145

**S&P500**

Daily returns

2000-10

2767  
0.0000  
0.0138  
1458/1309  
439/468  
141/156

Overnight returns

2007-10

1009  
-0.0001  
0.0022  
411/598  
2/2  
0/0

	N	n <sub>1</sub>	n <sub>1</sub> <sup>*</sup>	P <sub>1</sub>	P <sub>2</sub>	P	P-value
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<p><b>3.2 Forecasts</b></p> <p>We consider forecasts in two directions:</p> <p>In the first direction of the forecasts, the NYSE is the signal emitter while the SSE is the responder. The daily rate of return on the S&amp;P 500 is reported at the close of a trading day. This information is a signal to the SSE, which opens four and a half hours later (or five and a half hours</p>											
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<p>during daylight savings time). We use the above signal to predict whether the next opening value of the SSCI would be higher or lower than its previous closing value. In addition, for the purpose of comparison, the forecasting ability of the above signal to the trading-hour rate of return on the SSCI is also examined. Therefore, in these forecasts, the time series RD (S&amp;P500) is used as</p>										
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<p>the signals, while RN (SSCI) and RT (SSCI) are used as the responses.</p> <p>In the second direction, the SSE is the signal emitter, while the NYSE is the responder. Similarly, the daily rate of return on the SSCI reported at the close of a trading day is a signal to the NYSE, which opens six and a half hours later (five and a half hours later during daylight savings time). This signal is used to</p>										
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<p>predict whether the next opening value of the S&amp;P 500 would be higher or lower than its previous closing value. Thus, in this forecast, the time series RD (SSCI) is used as the signals, while RN (S&amp;P 500) is used as the responses.</p> <p><b>3.3 Matching signals and responses</b></p> <p>Since the NYSE and the SSE are located in two different time zones with an 11 hour time difference<sup>1</sup>( a 12 hour</p>											
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<p>difference during daylight savings time) and local dates and times are used in the database, and the two exchanges have different holidays, it is critical to match each pair of signals and responses appropriately. An algorithm is developed to reorganize the data set into appropriate pairs of signals and responses<sup>2</sup>.</p> <p><b>4. Empirical Results</b></p>											
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<sup>1</sup> The difference is 11 hours during daylight savings time.

<sup>2</sup> The algorithm is available upon request.

<p><b>4.1 Forecasting the opening of the SSCI by the S&amp;P 500</b></p> <p>We test the forecasting ability of the daily rates of returns on the S&amp;P 500 to predict the sign of the SSCI in the following trading session. The null hypothesis is that there is no forecasting ability as defined in Eq. (8).</p> <p>Table 2 reports the results of the tests for each year from 2000 to 2010 and the whole period with panels A, B and C</p>											
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<p>corresponding to three different magnitudes of the rate of the return on the S&amp;P 500, or the strengths of the signal, <math>M=0</math>, 1% and 2%, respectively.</p> <p>The table reports the total number of forecasts (<math>N</math>), the number of forecasts that predict <math>RN(SSCI) &lt; 0</math> (<math>N_1</math>), the number of days in which forecasts are made, <math>RN(SSCI) &lt; 0</math> (<math>n</math>), and the number of correct forecasts on <math>RN(SSCI) &lt; 0</math> (<math>n_1</math>). We assume that <math>n_1</math> follows a hypergeometric distribution when</p>											
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<p>performing the tests for each year, while a normal distribution is assumed when performing the tests for the whole period.</p> <p>Given a set of <math>N</math>, <math>N_1</math> and <math>n</math>, the minimum value of <math>n_1</math> required to reject the null hypothesis with 99% confidence (<math>n_1^*</math>) is calculated. That is, if <math>n_1 \geq n_1^*</math>, the null can be rejected and the signal has no significant forecasting ability. P-values are also reported in the table.</p> <p>First, Table 2 shows that the forecasting</p>										
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<p>abilities are significant and the null hypothesis is rejected at a 1% confidence level for the whole period from 2000 to 2010. In the per year basis, from panel A of Table 2, it shows that, with <math>M=0</math>, there are no significant forecasting abilities during 2000 to 2005. However, the forecasting abilities have increased since 2006, especially after 2007. The null hypothesis is rejected at a 5% confidence level in 2006 and 2007 and rejected at a 1% confidence</p>											
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level from 2008 to 2010. This indicates that the daily rates of returns on the S&P 500 have significant forecasting abilities to predict the directions of the SSCI opening values during							
<b>Table 2: Forecasting SSCI opening by S&amp;P 500 daily returns (2000-2010)</b>							
<b>Year</b>							
<b>Panel A: M=0</b>							
2010	236	84	63	0.8485	0.6861	0.5346*	0.0000
2009	236	74	60	0.7048	0.7023	0.4071*	0.0000
2008	237	104	86	0.8667	0.6068	0.4735*	0.0000
2007	235	50	52	0.4673	0.6719	0.1392**	0.0205
2006	232	58	61	0.5686	0.5538	0.1225**	0.0426
2005	233	65	74	0.6500	0.3534	0.0034	0.5346
2004	234	53	64	0.5146	0.4656	-0.0198	0.6674
2003	233	61	68	0.5810	0.4609	0.0419	0.3059
2002	228	79	86	0.6270	0.4118	0.0387	0.3226
2001	219	51	61	0.4322	0.5644	-0.0034	0.5747
2000	228	29	40	0.2500	0.7054	-0.0446	0.8176
<b>2000-2010</b>	<b>2551</b>	<b>708</b>	<b>632</b>	<b>0.5895</b>	<b>0.5630</b>	<b>0.1525*</b>	<b>0.0000</b>
<b>Panel B: M=1%</b>							

2010	73	34	25	0.9189	0.8889	0.8078*	0.0000
2009	109	44	30	0.8627	0.8966	0.7593*	0.0000
2008	126	66	51	0.9296	0.7818	0.7114*	0.0000
2007	64	23	20	0.6765	0.8667	0.5431*	0.0000
2006	27	10	10	0.7692	0.7857	0.5549*	0.0056
2005	26	13	16	0.8125	0.2000	0.0125	0.6569
2004	39	10	14	0.5000	0.5263	0.0263	0.5619
2003	75	21	24	0.6364	0.5476	0.1840	0.0879
2002	108	31	39	0.5000	0.4783	-0.0217	0.6619
2001	94	24	30	0.4706	0.5349	0.0055	0.5615
2000	90	11	20	0.2340	0.6279	-0.1381	0.9515
<b>2000-2010</b>	<b>831</b>	<b>287</b>	<b>229</b>	<b>0.6598</b>	<b>0.6843</b>	<b>0.3441*</b>	<b>0.0000</b>

	N	n <sub>1</sub>	n <sub>1</sub> <sup>*</sup>	P <sub>1</sub>	P <sub>2</sub>	P	P-value
2010	241	64	67	0.5333	0.5868	0.1201**	0.0410
2009	241	51	59	0.5426	0.4830	0.0255	0.3995
2008	243	78	84	0.5652	0.5048	0.0700	0.1701
2007	238	68	78	0.8095	0.1429	-0.0476	0.8730
<b>2007-2010</b>	<b>963</b>	<b>261</b>	<b>271</b>	<b>0.5986</b>	<b>0.4118</b>	<b>0.0104</b>	<b>0.3146</b>
2010	103	31	33	0.6078	0.5962	0.2040**	0.0303
2009	133	26	32	0.5532	0.4884	0.0416	0.3912
2008	154	52	58	0.5591	0.5082	0.0673	0.2565
2007	147	40	48	0.8000	0.1443	-0.0557	0.8640
<b>2007-2010</b>	<b>537</b>	<b>149</b>	<b>156</b>	<b>0.6183</b>	<b>0.3986</b>	<b>0.0169</b>	<b>0.2773</b>
2010	31	8	10	0.5714	0.6471	0.2185	0.1968
2009	61	14	21	0.4667	0.4516	-0.0817	0.8143
2008	108	38	42	0.5758	0.5476	0.1234	0.1459
2007	85	33	35	0.9167	0.1837	0.1003	0.1595
<b>2007-2010</b>	<b>285</b>	<b>93</b>	<b>97</b>	<b>0.6370</b>	<b>0.4101</b>	<b>0.0471</b>	<b>0.1320</b>

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## **LA RÉACTION DU MARCHÉ BOURSIER CANADIEN SUITE À LA DÉCLARATION DES TRANSACTIONS D' ACTIONS DES INITIÉS DANS LE SEDI<sup>1</sup>**

Le but de cette recherche est d'étudier la réaction du marché boursier canadien lorsque les opérations d'achat et de vente effectuées par les différents initiés sont déclarées dans le SEDI. Les résultats montrent que seules les ventes de certaines catégories d'initiés signalent de l'information négative au marché pendant la période 2006-2008. Ils nous permettent aussi d'affirmer que les transactions boursières des dirigeants-administrateurs de l'émetteur influencent plus le marché que celles des dirigeants- administrateurs d'une filiale de l'émetteur. Enfin, d'après nos résultats, il semble que la réaction du marché suite aux opérations boursières d'initiés peut être influencée par la tendance du marché boursier (haussier ou baissier) qui prévaut pendant la période de l'étude.

### **Introduction**

Par « initiés », on désigne : les administrateurs, les dirigeants, les actionnaires qui détiennent plus de 10% des actions de la société, les employés de la société et toute personne qui exerce ou se propose d'exercer une activité commerciale ou professionnelle avec la société ou pour son compte. On désigne par « transaction d'initié », l'achat ou la vente de valeurs mobilières d'une entreprise par un « initié », c'est-à-dire une personne ayant connaissance d'informations confidentielles sur des faits touchant la société qui, auront probablement une influence réelle sur la valeur des actions, alors que les autres actionnaires et le grand public n'ont pas accès à cette information. En soi, les transactions d'actions par des initiés ne sont pas illégales. Dans la plupart des pays où il existe des lois qui encadrent le commerce d'actions par des initiés, ces derniers peuvent vendre ou acheter des actions des sociétés avec lesquelles ils ont des rapports, à condition qu'ils ne détiennent pas d'informations privilégiées importantes sur ces entreprises. En revanche, si l'initié dispose de renseignements confidentiels sur une société et que ces renseignements peuvent lui être utiles dans ses transactions d'achat ou de vente de titres de cette société, il doit s'abstenir de ces opérations. Une réglementation des transactions d'initiés est donc nécessaire à plusieurs égards, car elle constitue un facteur important du développement financier dans un pays [La Porta et al. (1998 ; 2000)]. L'absence de réglementation permettrait aux initiés d'utiliser des informations confidentielles pour s'enrichir au détriment des investisseurs externes. Par conséquent, la réputation de l'entreprise pourrait être entachée et plus

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<sup>1</sup> Cette étude est effectuée dans le cadre de la Chaire d'études Jeanne et J.-Louis-Lévesque en gestion financière de la Faculté d'Administration de l'Université de Moncton. Les auteurs tiennent à la remercier pour sa contribution financière à cette étude.

grave encore, c'est la confiance dans le marché boursier qui, selon Fishe et Robe (2004), serait mise en cause notamment par un éventuel problème de liquidité.

Les initiés (*insiders*) réalisent des rendements anormaux en achetant ou en vendant les titres de leurs entreprises. Ils peuvent grâce à leur position, détenir des informations spécifiques sur la firme et par conséquent, en tirer profit. De leur côté, les investisseurs (*outsiders*) à la recherche de toute information pertinente pouvant les aider à prendre des bonnes décisions d'investissement, observent et analysent les documents rendus publics par rapport aux transactions d'initiés. Selon Jaffe (1974), Finnerty (1976) et Seyhun (1986), les *outsiders* peuvent faire des profits anormaux substantiels en imitant les *insiders*. Ainsi, les transactions d'achat et de vente d'actions effectuées par les initiés ont un contenu informationnel précieux pour les intervenants du marché boursier. D'après Leland (1992), les prix des actions incorporent beaucoup d'informations et deviennent plus élevés si les opérations réalisées par les initiés sont légales. Cependant, il faut souligner que les achats d'actions par les initiés signalent des informations positives sur les potentialités de l'entreprise, contrairement aux ventes d'actions pour lesquelles, il y a peu de certitude sur la nature de l'information divulguée. D'une part, la vente d'actions pourrait signaler une information défavorable à propos de l'entreprise. D'autre part, la vente d'actions pourrait avoir un faible contenu informationnel si elle est justifiée par des besoins de liquidité.

L'objectif de cet article est d'étudier la réaction du marché boursier canadien lorsque les opérations d'achat et de vente d'actions effectuées par différentes catégories d'initiés sont déclarées dans le système électronique de déclaration des initiés (SEDI). Notre recherche se distingue des travaux précédents par le fait qu'elle considère une base élargie d'initiés (voir tableau 1) et apporte de ce point de vue, certaines contributions à la recherche relative aux transactions d'initiés. En outre, elle vient enrichir la littérature existante en la matière, en ce sens qu'elle se focalise sur les opérations effectuées par les initiés dans une période 2006 à 2008 caractérisée par un marché baissier, tandis que de nombreuses études sur les transactions d'initiés ont été effectuées dans un contexte de marché haussier. Jusqu'ici, à notre connaissance, aucune recherche au Canada ne s'est particulièrement penchée à la réaction du marché boursier canadien à la suite des opérations de bourse effectuées par les différents groupes d'initiés présentés dans SEDI. Notre travail apporte une contribution pertinente puisqu'il permet de voir si le marché perçoit certains groupes d'initiés comme détenant davantage d'informations sur la capacité de l'entreprise à générer des flux monétaires dans l'avenir et de voir si certains groupes d'initiés ont davantage d'influence sur le marché.

Pour évaluer la réaction du marché suite aux dépôts d'opérations d'achat et de vente d'actions effectuées par les différents groupes d'initiés répertoriés dans SEDI, nous avons utilisé une méthodologie d'étude d'évènement classique (Brown et Weinstein, 1985, Mackinlay, 1997, Chance et al, 2000, Yermack, 1997, Fidrmuc et al., 2006). Nous avons tout d'abord calculé le rendement anormal pour les jours qui entourent la date de dépôt des opérations d'achat et de vente d'actions dans SEDI. Pour ce faire, les rentabilités journalières des titres sont comparées à leur rentabilité normale, c'est-à-dire au rendement théorique du même jour s'il n'y avait pas eu d'opération d'initiés sur le marché boursier en tenant compte des conditions économiques qui prévalaient sur le marché à cette date. Étant donné que le dépôt d'une opération d'achat devrait théoriquement signaler de l'information positive au marché, on s'attend à un rendement anormal positif suite au dépôt d'une opération d'achat et puisque la vente d'actions devrait en théorie signaler de l'information négative au marché, on s'attend à un rendement anormal négatif suite au dépôt d'une opération de vente. Nous pourrions enfin vérifier si le signal qui découle du dépôt d'une opération de vente est supérieur au signal résultant du dépôt d'une opération d'achat en comparant les rendements anormaux.

Les résultats de l'étude montrent que ce sont seulement les opérations de ventes de certains groupes d'initiés qui signalent de l'information négative au marché pendant la période incluant 2006-2008. Les résultats sont toutefois moins concluants pour les opérations d'achat. Cette situation serait due au contexte de marché baissier qui prévaut pendant la période de l'étude. En ce qui concerne les ventes d'actions des initiés, nos résultats corroborent ceux de certaines recherches antérieures qui indiquent que le marché devrait réagir davantage aux opérations des dirigeants et ce, conformément à la théorie des signaux. Bien plus, l'originalité de notre étude tient au fait qu'elle permet de conclure que les transactions boursières des dirigeants qui sont également administrateurs de l'émetteur, influencent plus le marché que celles des dirigeants qui sont également administrateurs d'une filiale de l'émetteur. Enfin, d'après nos résultats, il semble que la réaction du marché suite aux opérations boursières d'initiés peut être influencée par la tendance du marché boursier (haussier ou baissier) qui prévaut pendant la période de l'étude. Tous ces résultats sont de nature à intéresser les investisseurs.

Le reste de l'article est organisé comme suit. Dans la première section, nous procéderons à une revue succincte de la littérature portant sur la réaction du marché boursier suite aux transactions d'initiés. Ensuite, dans la deuxième section, nous présenterons les données et la méthodologie utilisée dans l'étude empirique. Enfin, nous terminerons dans la troisième section par la présentation et la discussion des résultats.

### **Revue de la littérature**

Il existe une littérature abondante, ancienne et récente, sur les opérations d'initiés [voir Jaffe, 1974; Finnerty, 1976; Seyhun, 1986; Ke et al., 2003; Etebari et al., 2004; Fidrmuc et al., 2006; Dymke et Walter, 2008; Aktas et al., 2008; Kallunki et al., 2009; Betzer et Theissein, 2009; Betzer et Theissein, 2010; Kolasinski et Li, 2010; etc.]. La plupart de ces recherches ont conclu que les initiés réalisent des rendements anormaux en achetant ou en vendant légalement les titres de leurs entreprises. Un intérêt particulier a été porté sur la position privilégiée qu'occupent les initiés dans l'entreprise. Ils peuvent grâce à cette position, détenir des informations spécifiques sur la firme et par conséquent, en tirer profit. Quant aux investisseurs, ils sont à la recherche de toute information pertinente qu'ils peuvent avoir en observant et en analysant des documents rendus publics par rapport aux opérations d'initiés. Selon Jaffe (1974), Finnerty (1976) et Seyhun (1986), les investisseurs peuvent faire des profits anormaux substantiels en imitant les initiés. Les opérations d'initiés sont donc d'un contenu informationnel précieux pour les intervenants du marché boursier. Ainsi, d'après Leland (1992), lorsque les opérations sont légales, les prix des actions incorporent beaucoup d'informations et deviennent plus élevés. Toutefois, il convient de noter que les achats d'actions faits par les initiés véhiculent clairement des informations positives sur les perspectives de la firme, contrairement aux ventes d'actions pour lesquelles, il n'y a pas assez de certitude sur la nature de l'information divulguée. En effet, d'un côté, la vente d'actions pourrait signaler une information non favorable à propos de l'entreprise. De l'autre côté, la vente d'actions par les initiés pourrait être moins informationnelle si elle est réalisée pour des motifs de liquidité. La théorie des signaux, mise au point par Miller et Modigliani en 1961 et reprise par plusieurs auteurs [Bhattacharya (1979); Miller et Rock (1985); Ofer et Siegel (1987)] a d'abord été appliquée à la politique des dividendes. Cette intuition initiale a ensuite été étendue à d'autres décisions financières telles que les opérations de bourse effectuées par les initiés. En considérant que les initiés possèdent davantage d'informations sur la valeur de la société que les autres investisseurs, il est possible de détecter certains signaux en observant leurs prises de décisions.

L'efficacité des marchés financiers sous sa forme forte est donc remise en cause. En effet, la théorie de l'efficacité stipule que les marchés financiers incorporent les conséquences des événements passés et reflètent précisément les anticipations des investisseurs sur les

événements futurs. Ainsi, tous les événements connus ou anticipés sont intégrés dans les cours actuels des titres boursiers et donc, il serait inutile de chercher à prévoir au moyen de quelque modèle mathématique que ce soit des variations futures des cours. On peut dire que les marchés sont efficaces quand les agents (par exemple les initiés) possédant une information privilégiée ou un monopole sur certaines informations, sont incapables d'avoir une influence sur le prix des titres, ce qui sera vrai pour autant que les autorités chargées de la réglementation des marchés pourront empêcher et réprimer les délits d'initiés. Toutefois, certains spécialistes pensent qu'il ne faudrait pas réprimer le délit d'initié, parce qu'il permettrait d'incorporer plus rapidement de nouvelles informations dans les cours, rendant ainsi les marchés financiers plus efficaces.

Des récentes études ont conclu que les initiés obtiennent des rendements anormaux en transigeant les titres de leurs entreprises. Par exemple, selon, Dymke et Walter (2008), en considérant une période de 20 jours entourant la date de l'opération, les initiés des entreprises allemandes obtiennent un rendement anormal cumulé de 4,3 % sur les achats et de -1,47 % sur les ventes. Les administrateurs réalisent un profit de plus de 4 % sur les opérations (achats) non suivies de communiqués de presse ad hoc, alors même que sur ce genre d'opérations, les directeurs et d'autres initiés n'obtiennent que respectivement un rendement de 1,81 % et 2,12 %. En Allemagne, les opérations d'initiés sont associées à des rendements anormaux élevés [Betzer et Theissen (2009 ; 2010)]. Les opérations d'initiés d'entreprises allemandes précédant les annonces de bénéfices ont un impact sur les cours des valeurs mobilières. Ce qui d'après les auteurs, constitue un argument légitimant l'interdiction faite par le Royaume-Uni aux initiés d'entreprises de mener des opérations sur des valeurs mobilières avant les publications de résultats.

Certains travaux vont au-delà de l'étude de l'existence ou non de rendements anormaux basée sur la date de l'opération boursière des initiés, en investiguant sur la réaction du marché financier consécutivement aux opérations d'initiés, en calculant le rendement anormal à la date où l'information relative aux opérations boursières des initiés devient publique (voir par exemple Seyhun, 1986; Datta et Iskandar-Datta, 1996; Fidrmuc et al., 2006; Aktas et al., 2008; Ma et al., 2009; Cheng et al., 2011). Dans cette frange de la littérature relative aux transactions d'initiés, il est stipulé que le marché réagit significativement aux annonces des opérations d'initiés et qu'en l'absence de coûts de l'opération, les investisseurs sont en mesure d'obtenir des rendements anormaux en imitant les opérations d'initiés. À l'aide d'un échantillon constitué de 10 140 opérations d'achat et de 5 523 opérations de vente, Fidrmuc et al. (2006) trouvent que le rendement anormal cumulé aux jours [0;1] est de 1,16 % pour l'annonce d'achat d'actions par les initiés et de -0,26 % pour l'annonce de vente d'actions par les initiés. Selon les auteurs, les achats et les ventes des directeurs stimulent des réactions significatives immédiates du marché de l'ordre de 3,12 % et de -0,37 % sur une période de 2 jours commençant le jour de l'annonce. La faible réaction du marché par rapport aux ventes implique que le marché leur associe un contenu informationnel moindre, étant donné que les ventes d'actions par les initiés sont en partie guidées par un motif de liquidité. Fidrmuc et al. (2006) soulignent par ailleurs que, lorsque plusieurs directeurs transigent le même jour, le signal envoyé au marché devient plus crédible.

À l'aide d'un échantillon d'opérations d'initiés de 6 925 firmes américaines, Kolasinski et Li (2010) étudient la façon dont la publication des prix et des résultats influence les stratégies opérationnelles des initiés. Selon les auteurs, les initiés achètent plus et vendent moins lorsqu'un titre sous-réagit à une annonce de bons résultats que s'il sous-réagit à une annonce de mauvais résultats. Autrement dit, d'un côté, les initiés achètent massivement à la suite d'une publication de bons résultats qui est suivie d'une sous-évaluation du cours des actions. De l'autre, ils sont peu enclins à acheter après l'annonce de pertes même si celle-ci est suivie d'une réaction haussière du cours des actions. Kolasinski et Li (2010) corroborent la thèse selon laquelle, les initiés possèdent

des « qualités » de jugement et prédiction quant à la façon dont les titres de leurs firmes reflètent correctement l'information publiée (Seyhun, 1986). Les initiés sont ainsi capables d'identifier les tendances macroéconomiques qui influencent les marchés. Par exemple, lors du crash boursier de 1987, Seyhun (1990) souligne que les initiés ont massivement acheté et que ces achats ont été très profitables, bénéficiant ainsi de la surréaction du marché à cette crise boursière. Abondant dans le même sens, Ke et al. (2003) indiquent que les initiés réalisent des opérations rentables en anticipant des coupures « *breaks* » dans les résultats attendus : ils vendent (achètent) juste avant un pic (un repli) des résultats attendus.

Étudiant la contribution des transactions d'initiés à l'efficience des marchés, Aktas et al. (2008) examinent 59 244 opérations journalières effectuées par des initiés de 2110 entreprises américaines entre 1995 et 1999. Malgré l'absence de réaction forte du marché en termes de rendements anormaux suite aux opérations des initiés, les auteurs trouvent un changement important dans la sensibilité des prix par rapport aux opérations des initiés. Selon les auteurs, les initiés contribuent significativement à accélérer la découverte des prix et que les exigences de divulgation concourent à l'efficience des marchés. Datta et Iskandar-Datta (1996) trouvent que le marché obligataire réagit significativement à la publication d'informations relatives aux opérations d'initiés. En effet, les prix des obligations convertibles et non convertibles réagissent positivement à la publication dans le journal de Wall Street, des opérations d'achat et négativement aux opérations de vente des initiés. Selon les auteurs, le marché boursier aussi réagit, certes dans une moindre ampleur, mais significativement à la publication des opérations d'initiés dans le journal de Wall Street. Dans une étude similaire, Ma et al. (2009) ont examiné la réaction du marché à la suite de 163 opérations d'achat et de 251 opérations de vente intervenues dans 414 entreprises. Leurs résultats indiquent que le marché a tendance à réagir. Cette réaction du marché est significativement affectée selon eux par : (a) la présence d'un président de conseil d'administration (b) l'existence d'une forte confiance considérée comme étant le motif des achats des initiés et (c) la mention en titre, des ventes effectuées par les initiés.

D'autres travaux de recherche ont mentionné qu'il existe une différence dans la façon dont les transactions des initiés, selon qu'il s'agisse d'achats ou de ventes, affectent la performance des actions de l'entreprise. En général, les achats d'actions par les initiés sont suivis d'un rendement anormal positif tandis que les ventes d'actions par les initiés tendent à présager des rendements anormaux faibles et parfois non significatifs (Scott et Xu, 2004). Ces auteurs notent que ce sont seulement, les ventes d'un montant élevé et représentant un large pourcentage des actions détenues par les initiés, qui permettent de prédire des rendements anormaux futurs négatifs et significatifs. À l'inverse, les faibles ventes d'actions ne présagent pas une performance faible, mais elles sont corrélées avec un rendement anormal positif et significatif. Abondant dans le même sens, Lakonishok et Lee (2001) ont, en examinant des opérations d'initiés effectuées dans toutes les entreprises cotées sur les bourses NYSE, AMEX et Nasdaq entre 1975 et 1995, trouvé par exemple, que les actions achetées par des directeurs ont gagné 2% de profit anormal au cours de l'année suivante alors que les actions vendues par ces types d'initiés ont fait un rendement anormal de -1% dans le même intervalle de temps.

## Données et Méthodologie

### Données

L'échantillon a été sélectionné à partir du système électronique de déclaration des initiés (SEDI)<sup>2</sup>. Ce système permet de consulter les déclarations d'initiés qui doivent être disponibles au public selon la réglementation canadienne sur les valeurs mobilières<sup>3</sup>. Ainsi, nous avons répertorié toutes les opérations d'achat et les opérations de vente d'actions faites par les initiés des entreprises qui composaient l'indice du S&P/TSX 60<sup>4</sup> entre 2006 et 2008; soit au total 2 522 transactions d'achat et 20 889 transactions de vente. Précisons également que les rendements du marché et les rendements journaliers des actions entourant la date de l'opération et la date de dépôt ont été obtenus dans la base de données TSX-CFMRC<sup>5</sup>. Par ailleurs, notons que notre échantillon final se compose de 48 entreprises.

Le tableau 1 présente les différents types d'initiés répertoriés dans SEDI et ayant effectué les 20 899 opérations de vente et les 2 522 opérations d'achat inventoriées dans cette étude. Ce tableau permet de dresser un portrait global des différents types d'initiés existant à la bourse de Toronto et de mettre en relief l'importance de ces groupes d'initiés relativement au nombre d'opérations qu'ils ont effectuées entre 2006 et 2008. La partie A du tableau présente les opérations d'initiés effectuées par des dirigeants de l'émetteur. On observe d'abord que 13 523 opérations de ventes et 941 opérations d'achat ont été effectuées par des initiés dont leur seul lien d'apparenté avec l'émetteur était qu'ils soient dirigeants de ce dernier pendant la période de l'étude. On remarque également qu'un nombre beaucoup moins important d'opérations ont été effectuées par des dirigeants qui étaient aussi des administrateurs de l'entreprise, soit 639 opérations de ventes et 400 opérations d'achat. Certains dirigeants étaient également des administrateurs ou des dirigeants d'une filiale de l'émetteur et ont effectué 3 253 opérations de ventes et seulement 29 opérations d'achat pendant la période de l'étude. D'autres opérations ont été effectuées par des dirigeants qui étaient à la fois des administrateurs de l'émetteur tout en étant porteurs de 10% des titres de l'émetteur et impliqués au sein des filiales de l'émetteur (à titre de dirigeant ou d'administrateur). Ces opérations sont toutefois peu nombreuses et ne représentent que 181 opérations de vente et une seule opération d'achat. D'autres catégories de dirigeants sont aussi répertoriées dans SEDI, mais ces catégories n'ont réalisé que peu de transactions d'achat et de vente d'actions.

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<sup>2</sup> [www.sedi.ca](http://www.sedi.ca)

<sup>3</sup> Pour chaque opération d'initiés, SEDI fournit le nom de la compagnie, son symbole boursier, le nom de l'initié, sa relation avec la compagnie émettrice, le numéro de l'opération, la date de l'opération, la date de dépôt dans SEDI, la désignation du titre, la nature de l'opération, le nombre de titres acquis ou aliénés ainsi que leur prix.

<sup>4</sup> L'indice boursier S&P/TSX 60 est pondéré en fonction de la capitalisation boursière des 60 plus grandes sociétés ayant les actions les plus liquides inscrites à la cote de la Bourse de Toronto. ([http://www.m-x.ca/produits\\_indices\\_sxf\\_fr.php](http://www.m-x.ca/produits_indices_sxf_fr.php)). Aussi, notons que cette étude utilise les entreprises qui composaient l'indice en date du 20 mai 2009.

<sup>5</sup> Toronto Stock Exchange – Canadian Financial Markets Research Center.

**Tableau 1 : Nombre de transactions effectuées sur les titres du TSX 60 entre 2006 et 2008 par catégories d'initiés**

<b>Catégories d'initiés</b>	<b>Vente</b>	<b>Achat</b>
<b>A : Dirigeants</b>		
Dirigeant de l'émetteur	13 523	941
Dirigeant et administrateur de l'émetteur	639	400
Dirigeant de l'émetteur et administrateur ou dirigeant d'un initié ou d'une filiale de l'émetteur	3253	29
Dirigeant de l'émetteur, administrateur de l'émetteur, administrateur ou dirigeant d'un initié ou d'une filiale de l'émetteur et administrateur ou dirigeant d'un porteur de 10% des titres	181	1
Dirigeant de l'émetteur, administrateur de l'émetteur et administrateur ou dirigeant d'un porteur de 10% des titres	8	1
Dirigeant de l'émetteur, administrateur de l'émetteur et administrateur ou dirigeant d'un initié ou d'une filiale de l'émetteur	51	2
Dirigeant de l'émetteur, administrateur de l'émetteur et porteur de 10% des titres de l'émetteur	0	9
<b>B : Administrateurs</b>		
Administrateur de l'émetteur	1 677	686
Administrateur de l'émetteur et administrateur ou dirigeant d'un porteur de 10% des titres	2	1
Administrateur de l'émetteur, administrateur ou dirigeant d'un porteur de 10% des titres et porteur de 10% des titres de l'émetteur	5	0
Administrateur de l'émetteur et administrateur ou dirigeant d'un initié ou d'une filiale de l'émetteur	9	12
<b>C : Porteur de 10% des titres de l'émetteur</b>	87	31
<b>D : Filiale de l'émetteur</b>	11	0
<b>E : Administrateur ou dirigeant d'un initié ou d'une filiale de l'émetteur</b>	1351	395
<b>F : Administrateur ou dirigeant d'un porteur de 10% des titres</b>	67	4
<b>G : Administrateur ou dirigeant d'un initié ou d'une filiale de l'émetteur et initié présumé – six mois avant la date de devenir initiés</b>	0	1
<b>H : Initié présumé-six mois avant de devenir initié</b>	35	9
<b>Total</b>	<b>20 899</b>	<b>2 522</b>

La partie B du tableau ci-dessus montre les différentes catégories d'administrateurs qui ont effectué des opérations d'achat et de vente d'actions pendant la période de l'étude<sup>6</sup>. On peut ainsi remarquer que 1 677 opérations de ventes et 686 opérations d'achat ont été effectuées par des initiés dont leur seul lien d'apparenté avec l'émetteur était qu'ils en sont les administrateurs. Notons par la suite que le nombre d'opérations d'initiés effectuées par des administrateurs détenant simultanément d'autres relations avec l'émetteur est peu nombreux. À part les administrateurs et les dirigeants de l'émetteur, d'autres catégories d'initiés ont été répertoriées dans SEDI: C- les porteurs de 10% des titres de l'émetteur, D- les filiales de l'émetteur, E- les administrateurs ou les dirigeants d'un initié ou d'une filiale de l'émetteur, F- les administrateurs ou les dirigeants d'un porteur de 10% des titres, G- les administrateurs ou dirigeants d'un initié

<sup>6</sup> À l'exception des administrateurs qui sont également dirigeants de l'émetteur, étant donné qu'ils ont été incorporés à la section A du tableau 1.

ou d'une filiale de l'émetteur et H - les initiés présumés. Ces différentes catégories d'initiés impliquent toutefois peu d'opérations au cours de la période de l'étude à l'exception des 1 351 opérations de ventes et des 395 opérations d'achats effectuées par des administrateurs ou des dirigeants d'un initié ou d'une filiale de l'émetteur.

## Méthodologie

Afin d'évaluer la réaction du marché suite aux dépôts d'opérations d'achat et de vente d'actions effectuées par les différents groupes d'initiés répertoriés dans SEDI, nous avons utilisé une méthodologie d'évènement classique (Brown et Weinstein, 1985, Mackinlay, 1997, Chance et al., 2000, Yermack, 1997, Fidrmuc et al., 2006). Nous avons tout d'abord calculé le rendement anormal pour les jours qui entourent la date de dépôt des opérations d'achat et de vente d'actions dans SEDI. Pour ce faire, les rentabilités journalières des titres sont comparées à leur rentabilité normale, c'est-à-dire au rendement théorique du même jour s'il n'y avait pas eu d'opération d'initiés sur le marché boursier en tenant compte des conditions économiques qui prévalaient sur le marché à cette date. À la date des dépôts, les rendements anormaux (excès du rendement observé sur le rendement normal) seront considérés comme une mesure de la réaction du marché suite à cette annonce. Notons que la date de dépôt correspond à la date où les initiés déposent l'information relative aux opérations boursières qu'ils ont effectuées dans la base de données SEDI. Il s'agit par conséquent de la date à laquelle l'information est rendue publique au marché. Aussi, il faut souligner que pendant la période de l'étude, la réglementation imposait aux initiés de déposer l'information relative à leurs opérations boursières dans la base de données SEDI dans une période maximum de 10 jours suivant la date de l'opération<sup>7</sup>. Étant donné que le dépôt d'une opération d'achat devrait signaler de l'information positive au marché, on s'attend à un rendement anormal positif suite au dépôt d'une opération d'achat et puisque la vente d'actions devrait signaler de l'information négative au marché, on s'attend à un rendement anormal négatif suite au dépôt d'une opération de vente. Nous pourrions enfin vérifier si le signal qui découle du dépôt d'une opération de vente est supérieur au signal résultant du dépôt d'une opération d'achat en comparant les rendements anormaux. Le fait d'évaluer le rendement anormal selon les différentes catégories d'initiés permettra aussi de vérifier la perception du marché quant aux groupes d'initiés qui possèdent davantage d'information sur les perspectives d'avenir de l'entreprise. En effet, plus la réaction du marché sera forte au jour de l'évènement (le jour du dépôt et le jour suivant le dépôt), plus cela donnera l'impression qu'il s'agit des initiés les plus informés.

Les notations pour la modélisation des rendements anormaux et les procédures de tests sont largement inspirées de MacKinlay (1997). La date dépôt et la journée subséquente, constituent les dates de l'évènement soit le jour [0] et le jour [+1]. Nous définissons différents intervalles entourant la date de dépôt. La fenêtre d'estimation, qui doit être neutre en évènement, est constituée des jours [-250] à [-220], la période d'évènement relative à la date de dépôt est représentée par les jours [-5] à [+5]. Afin d'évaluer l'impact de l'évènement sur le rendement du titre, il est nécessaire de mesurer le rendement anormal entourant la période d'évènement. Mackinlay (1997) définit la rentabilité anormale de la compagnie  $i$  à la date d'évènement  $t$  comme étant la différence entre la rentabilité observée ( $R_{i,t}$ ) et la rentabilité théorique qui aurait dû avoir lieu en l'absence d'évènements [ $E(R_{i,t}|X_t)$ ]. Le rendement anormal devient :

$$AR_{i,t} = R_{i,t} - E(R_{i,t}|X_t)$$

<sup>7</sup> Depuis le 31 octobre 2010, les initiés doivent déposer l'information dans SEDI dans les 5 jours suivant leurs opérations.

À l'instar de Brown et Weinstein (1985), Mackinlay (1997), Chance et al. (2000), Yermack (1997), Fidrmuc et al. (2006), nous utilisons le modèle de marché<sup>8</sup> pour estimer le rendement normal. Selon MacKinlay (1997), le modèle de marché représente une amélioration potentielle comparativement au modèle de la moyenne constante puisqu'en retirant la partie du rendement liée à la variation du marché, la variance du rendement anormal est réduite. Dans ce cas, le rendement anormal devient :

$$RA_{i\tau} = R_{i\tau} - (\alpha_i + \beta_i R_{m\tau})$$

Où  $R_{i,\tau}$  = le rendement du titre  $i$  au temps  $\tau$ ;  $R_{m,\tau}$  = rendement du portefeuille de marché au temps  $\tau$ ,  $\alpha_i$  et  $\beta_i$  sont les paramètres du modèle de marché. L'indice composé du S&P/TSX a servi pour estimer le rendement du portefeuille de marché.

Avant d'effectuer les tests statistiques, il convient de regrouper les titres en fonction du calendrier de l'événement pour permettre de calculer la rentabilité anormale journalière moyenne et la rentabilité anormale moyenne cumulative de l'échantillon.

Le rendement anormal moyen (RAM) <sub>$t$</sub>  au jour [0]:

$$RAM_{\tau} = \frac{1}{N} \sum_{\tau=1}^N AR_{i,\tau}$$

et lorsque la période d'évènement est grande, sa variance est :

$$VAR(RAM_{\tau}) = \frac{1}{N^2} \sum_{i=1}^N \sigma_{\varepsilon_i}^2$$

Le rendement anormal moyen cumulatif (RAMC) journalier du temps  $\tau_1$  au temps  $\tau_2$  se calcule comme suit :

$$RAMC_i(\tau_1, \tau_2) = \sum_{\tau=\tau_1}^{\tau_2} AR_{i,\tau}$$

Lorsque la fenêtre d'estimation est grande, la variance de RAMC devient:

$$\sigma_i^2(\tau_1, \tau_2) = (\tau_2 - \tau_1 + 1) \sigma_{\varepsilon_i}^2$$

Pour vérifier notre hypothèse selon laquelle le marché réagit négativement aux opérations de ventes des initiés et positivement aux opérations d'achat, nous vérifions si le RAM est statistiquement différent de zéro aux jours [0] et [+1], avec la statistique  $t$  suivante :

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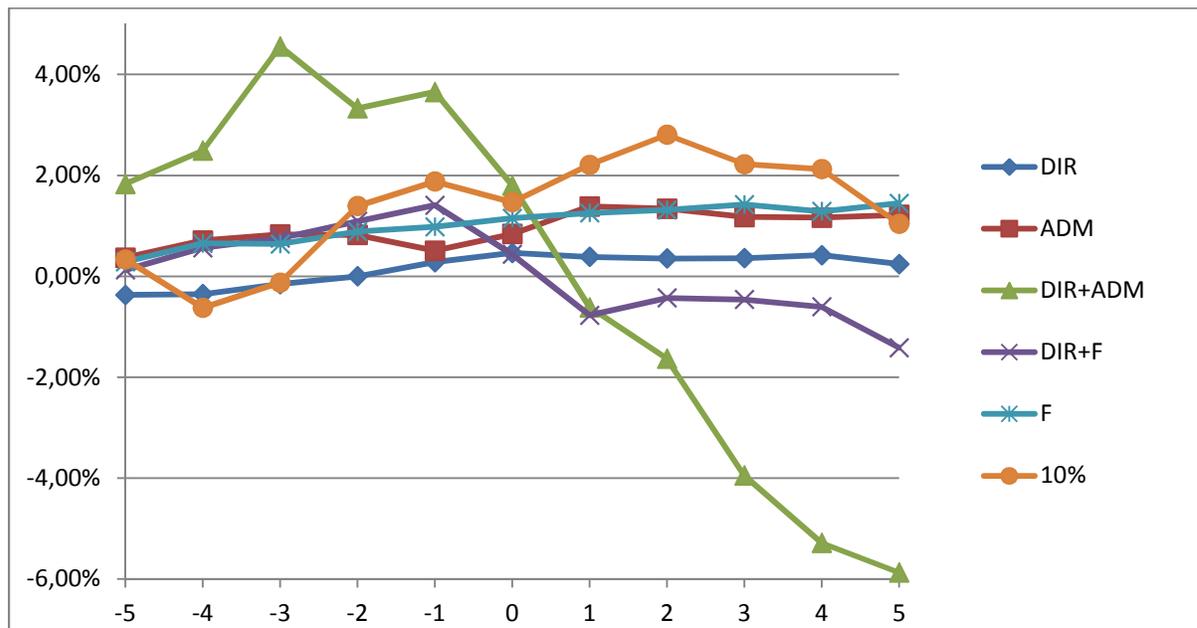
<sup>8</sup> Les paramètres du modèle de marché sont estimés sur la période d'estimation de 220 jours. Aussi, l'indice de marché utilisé dans cette étude est celui du *TSX (CFMRC equal)*. Cet indice est constitué des rendements journaliers moyens de tous les titres de capital-action domestiques de la base de données CFMRC (*Canadian Financial Market Research Center*).

$RAM_{\tau}/\hat{\sigma}(RAM_{\tau})$ . Les RAMC servent à faire une représentation graphique des RAM entourant la période de l'évènement.

## Résultats

Comment le marché réagit-il aux opérations boursières effectuées par les différents groupes d'initiés répertoriés dans SEDI? Les figures 1 et 2 présentent le RAMC à partir du 5<sup>ème</sup> jour précédant l'annonce jusqu'au 5<sup>ème</sup> jour suivant le dépôt des opérations de vente et d'achat d'actions respectivement, selon les principaux groupes d'initiés répertoriés dans SEDI. La figure 1 montre que dans le cas des opérations de ventes, le marché semble réagir négativement aux jours 0 et +1 aux opérations d'initiés, mais uniquement pour les deux groupes d'initiés suivants : les dirigeants qui sont à la fois administrateurs (DIR+ADM) et les dirigeants qui sont également administrateurs ou dirigeants d'un initié ou d'une filiale de l'émetteur (DIR+F). On remarque aussi que le marché réagit davantage aux opérations du groupe d'initiés DIR+ADM.

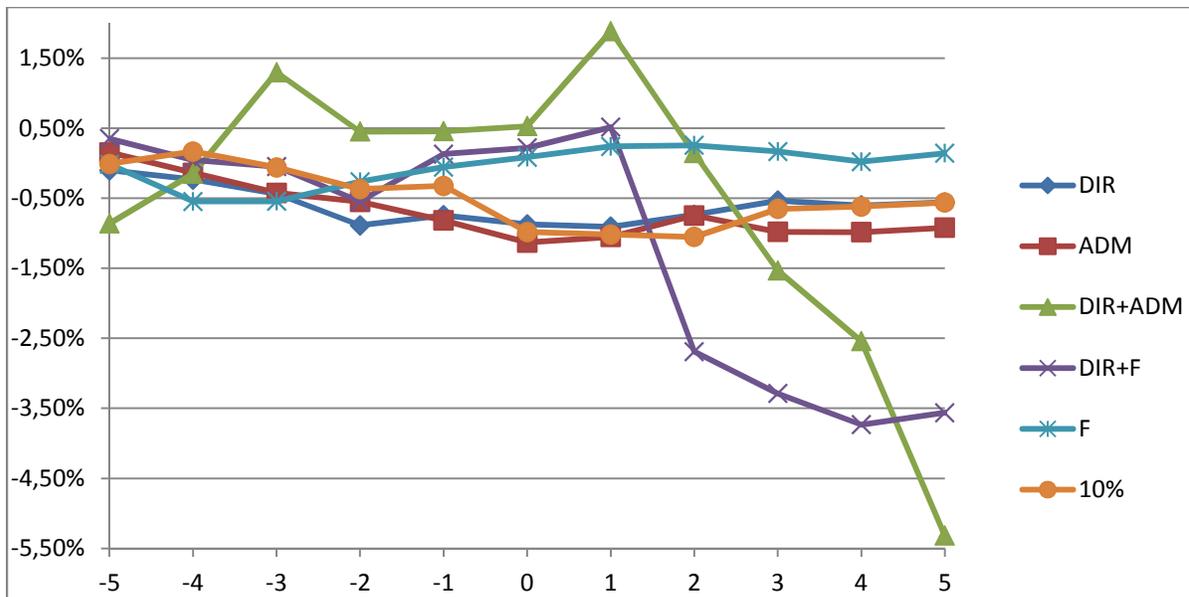
**Figure 1 : RAMC entourant la date de dépôt de l'opération de ventes pour différents groupes d'initiés**



DIR = Dirigeant de l'émetteur, ADM= Administrateur de l'émetteur, DIR+ADM = Dirigeant et administrateur de l'émetteur, DIR+F = Dirigeant de l'émetteur et administrateur ou dirigeant d'un initié ou d'une filiale de l'émetteur, F = Administrateur ou dirigeant d'un initié ou d'une filiale de l'émetteur, 10% = Porteur de 10% des titres de l'émetteur.

Quant à la figure 2, elle concerne les opérations d'achat. On remarque une réaction positive du marché aux jours [0] et [+1], pour les groupes d'initiés suivants: DIR+ADM, DIR+F, F. Encore une fois, le marché réagit davantage aux opérations effectuées par le groupe d'initiés DIR+ADM.

**Figure 2 : RAMC entourant la date de dépôt de l'opération d'achat pour différents groupes d'initiés**



DIR = Dirigeant de l'émetteur, ADM= Administrateur de l'émetteur, DIR+ADM = Dirigeant et administrateur de l'émetteur, DIR+F = Dirigeant de l'émetteur et administrateur ou dirigeant d'un initié ou d'une filiale de l'émetteur, F = Administrateur ou dirigeant d'un initié ou d'une filiale de l'émetteur, 10% = Porteur de 10% des titres de l'émetteur.

Ces résultats sont confirmés les tests sur les RAM présentés dans le tableau 2. En effet, la partie A de ce tableau indique que le marché réagit négativement et significativement aux opérations de ventes effectuées par les dirigeants qui sont aussi des administrateurs, et ce, pour les jours [0] et [+1], soit de -1,85% au jour [0] et de -2,41% au jour [-1] respectivement. Le marché réagit aussi négativement et significativement aux opérations de ventes effectuées par les dirigeants qui sont aussi des administrateurs ou des dirigeants d'un initié ou d'une filiale de l'émetteur de -0,97% au jour [0] et de -1,21% au jour [+1]. Par ailleurs, le marché réagit négativement aux opérations de ventes des dirigeants, mais de façon beaucoup moins significative et uniquement au jour [+1]. Ces résultats sont conformes à ceux des travaux antérieurs comme ceux de Fidrmuc et al. (2006) qui trouvent également que le marché réagit négativement aux annonces d'opérations de vente d'actions par les initiés. En ce qui concerne les opérations d'achat, les résultats sont moins concluants. En effet, même si la figure 2 indiquait une réaction positive du marché suite aux dépôts des opérations d'achat dans SEDI pour certains groupes d'initiés aux jours [0] et [+1], notamment les groupes DIR+ADM, DIR+F et F, seul le RAM du jour [+1] pour le groupe DIR+ADM est significatif avec un RAM de +1,36%.

Ainsi, les résultats de cette étude indiquent que le marché canadien réagit davantage aux opérations de ventes qu'aux opérations d'achat. Ces résultats ne sont pas similaires à ceux des études antérieures comme celles de Fidrmuc et al., 2006 et de Scott et Xu, 2004, étant donné que ces dernières indiquaient une plus forte réaction du marché suite aux transactions d'achat. Ces résultats permettent de supposer que c'est la tendance du marché qui va déterminer si le marché boursier réagira davantage aux opérations de ventes ou aux opérations d'achat d'actions effectuées par les initiés. Dans un contexte de marché haussier, le marché réagit davantage aux opérations d'achat et dans un contexte de marché baissier, le marché boursier réagit davantage aux opérations de ventes. Enfin, nos résultats soutiennent l'hypothèse selon laquelle le marché estime que certains groupes d'initiés possèdent davantage d'information sur les perspectives d'avenir de l'entreprise. En effet, le groupe d'initiés qui serait le plus informé serait celui des dirigeants qui font également partie du conseil d'administration, suivi des dirigeants qui sont aussi des administrateurs ou des dirigeants d'un initié ou d'une filiale de l'émetteur. Le marché ne

semble pas percevoir de signal quant aux opérations boursières des autres catégories d'initiés puisque les rendements anormaux sont soit, faibles, dans le mauvais sens ou peu significatifs.

**Tableau 2 : Tests sur le RAM**

Jours de Bourse	DIR	ADM	DIR+ADM	DIR + F	F	10%
<b>Partie A : opération de ventes</b>						
[0]	0,18 % <sup>***</sup>	0,33 % <sup>***</sup>	-1,85 % <sup>***</sup>	-0,97 % <sup>***</sup>	0,17 % <sup>***</sup>	-0,41 % <sup>*</sup>
[+1]	-0,08 % <sup>***</sup>	0,54 % <sup>***</sup>	-2,41 % <sup>***</sup>	-1,21 % <sup>***</sup>	0,10 % <sup>**</sup>	0,74 % <sup>***</sup>
N	13 523	1 677	639	639	1 351	87
<b>Partie B : opération d'achat</b>						
[0]	-0,13 %	-0,32 % <sup>***</sup>	0,07 %	0,09 %	0,14 %	-0,66 % <sup>**</sup>
[+1]	-0,03 %	0,08 %	1,36 % <sup>***</sup>	0,30 %	0,15 %	-0,04 %
N	940	686	400	29	395	31

DIR = Dirigeant de l'émetteur, ADM= Administrateur de l'émetteur, DIR+ADM = Dirigeant et administrateur de l'émetteur, DIR+F = Dirigeant de l'émetteur et administrateur ou dirigeant d'un initié ou d'une filiale de l'émetteur, F = Administrateur ou dirigeant d'un initié ou d'une filiale de l'émetteur, 10% = Porteur de 10 % des titres de l'émetteur.

### Conclusion

Notre recherche analyse la réaction du marché suite aux opérations d'achat et de ventes d'actions pour différents groupes d'initiés selon la classification offerte dans SEDI. Pour ce faire, nous avons utilisé un échantillon composé de tous les dépôts d'opérations d'achat et de vente d'actions effectuées par les initiés des entreprises constituant l'indice boursier S&P/TSX 60 pendant la période 2006-2008 ; soit au total, 2 522 opérations d'achat et 20 899 opérations de vente d'actions. De même, pour le besoin de cette étude, nous avons recueilli les données relatives aux rendements du marché et aux rendements journaliers des actions entourant la date de l'opération et la date de dépôt à partir de la base de données TSX-CFMRC. Principalement, cette étude avait pour but d'évaluer la réaction du marché boursier canadien par rapport aux opérations boursières des initiés.

Notre étude apporte certaines contributions à la recherche. En effet, elle vient enrichir la littérature existante en la matière, en ce sens qu'elle se focalise sur les opérations effectuées par les initiés dans une période caractérisée par un marché baissier. Notons que la majorité des études ayant porté sur le sujet s'intéresse à un marché haussier. Jusqu'ici, à notre connaissance, aucune recherche ne s'est particulièrement penchée à la réaction du marché suite aux opérations de Bourse effectuées par les différents groupes d'initiés présentés dans SEDI. Cela constitue une contribution intéressante car cela permet de voir si le marché perçoit certains groupes d'initiés comme détenant davantage d'information sur la capacité de l'entreprise à générer des flux monétaires dans l'avenir et de voir si certains groupes d'initiés ont davantage d'influence sur le marché.

Globalement, les résultats de l'étude indiquent que les opérations de ventes effectuées par les initiés signalent de l'information négative au marché pendant la période incluant 2006 à 2008, mais seulement pour certains groupes d'initiés. Les résultats sont toutefois moins concluants pour les opérations d'achat. Nous attribuons cela aux conditions du marché, caractérisées par un marché baissier pendant la période de l'étude. De ce fait, notre échantillon d'opérations d'achat est beaucoup moins important. En ce qui concerne les opérations de ventes, nos résultats

corroborent ceux des recherches antérieures qui indiquent que le marché réagit davantage aux opérations des dirigeants, ces résultats sont donc en accord avec la théorie des signaux. Toutefois, notre étude se démarque en mettant en évidence que les opérations boursières de certains groupes de dirigeants influencent davantage le marché que d'autres, notamment, les dirigeants qui sont également administrateurs de l'émetteur et ceux qui sont également administrateurs ou dirigeants d'un initié ou d'une filiale de l'émetteur. Enfin, en comparant nos résultats avec ceux des études antérieures, il semble que la réaction du marché suite aux opérations boursières d'initiés peut être influencée par la tendance du marché boursier (haussier ou baissier) qui prévaut pendant la période de l'étude. Tous ces résultats sont de nature à intéresser les investisseurs.

À l'instar de tout travail de recherche, le nôtre comporte un certain nombre de limites qu'il convient de souligner. Entre autres, notre étude porte sur une période incluant la crise financière de 2008. En ce sens nos résultats sont peu généralisables, mais ils permettent d'observer le comportement du marché suite aux opérations boursières des initiés dans un contexte unique. Par ailleurs, la démarche de cette étude ne permet pas de vérifier si le nombre d'opérations effectué au cours d'une journée ainsi que la taille des opérations effectuées influence la réaction du marché. Ainsi, pour pallier ces insuffisances, nous envisageons dans une recherche future d'examiner dans quelle mesure le nombre d'opérations effectué au cours d'une journée ainsi que la taille des opérations influence la réaction du marché. Une autre piste intéressante consisterait à examiner si certains groupes d'initiés effectuent des transactions boursières avant la communication au marché de nouvelles informations transmises via les communiqués de presse.

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## **INTEGRATION INTERRUPTED: VALUE LOSS FROM SIFT TAXATION<sup>1</sup>**

An after-tax value loss ratio compares newly defined SIFT's to income trusts affected by the taxation change announced on October 31, 2006. The legislation produces after-tax loss of roughly 8% based on 2010 tax rates, approaching 15% for those in higher brackets. Tax integration is incomplete, providing 5% of the loss, but the legislation penalizes the payout of capital gains and return of capital, hampering efforts to determine a clientele result in the sector. Reduction in pre-tax cash flows and additional after-tax loss in valuation, made conversion and privatization of trusts the only viable alternatives when the tax became effective.

### **Section 1: Introduction**

Income Trusts have been influential organizations during their short tenure in the Canadian securities markets, though only real estate investment trusts (REITs) retain their tax-advantaged status post January, 2011. Their initial public offerings (IPOs) were the largest security issues in 2005 and 2006, the total weighting of trusts in the domestic market approached 10% at their peak, when approximately 250 were actively traded, and their success spawned several major tax policy changes. Like all risky securities, there were good and poor performers in the sector but overall, the distributions provided relatively large and stable income streams to the unit-holders. Income trust units were popular with the Canadian investment community in the sustained bull market that followed the 2001 'dot-com' upheaval and preceded the 2008 market meltdown.

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<sup>1</sup> I would like to thank Alan Macnaughton and the two anonymous conference reviewers, who have added greater clarity to the discussion presented.

By 2004, their impact on the securities market warranted enough attention to launch a policy forum in which their rapid growth, tax consequences, and associated shortcomings were described (Aggarwal & Mintz (2004), Edgar (2004), Jog & Wang (2004)). Researchers at the Bank of Canada chronicled concerns over the rise of the securities in the domestic market, on their way to inclusion in the TSX composite index in late 2005 (King (2003) and Anderson (2006)). An initial attempt to level the playing field between income trusts and dividend-paying corporations involved a significant move towards tax integration in the May 2, 2006 budget, addressing the unequal tax treatment of dividends and interest payments. McKenzie (2006) provided reasoned insight on this first measure, suggesting that the trust structure would still provide some benefit in tax reduction for tax protected investors and others in the open market. The income trust march continued forward, unabated until October 31, 2006. On that night, the Finance Minister announced 'Tax Fairness' legislation that would impose a 31.5% tax levy, effective in 2011, on certain monies distributed by income trusts, redefined as Specified Investment Flow-Through (SIFT) trusts.

Focused academic research (presented, published, and unpublished) since that time has been scarce, as the influence of the income trust was written off as an 'unfair tax advantage' that was rightly quashed and their demise was predicted (Lyons (2008)). This paper extends understanding of the SIFT tax effect by considering the after-tax value loss suffered by investors that pay taxes at low, middle, and high income levels and by comparing their losses to tax-exempt and foreign unit-holders. Our approach relies on valuation ratios similar to Edwards and Shevlin (forthcoming), but extends their analysis by incorporating the true nature of the cash payouts and the current levels of tax integration across Canada. The first analysis indicates a significant loss for Ontario personal tax-payers and defines the upper and lower valuation loss bounds in that jurisdiction. The second test indicates the average effect across the ten provinces and three territories for 2006, 2008, and 2010. The discussion is organized into an expanded description of the taxed income trust cash flows in section 2, description of the methodology and data relating to the assessment in section 3, presentation of main results in section 4, and conclusion in section 5.

## **Section 2: Description of Monies Distributed**

The income trust organization was a tax planning innovation derived from the Canadian Income Tax Act (Act) rules pertaining to trusts, taxable entities that have existed in several forms for many years. Redistributing various cash flows from capital assets through the unit trust allowed an affordable security to be offered to income demanding investors. Sections 104-108, 122, and 132 of the Act, with reference to several bulletins, describe the tax treatment afforded to distributions. Herein, the nature of the distributions is disclosed to explain the actual effect of the Specified Investment Flow-Through (SIFT) legislation that became Part IX.1, section 197, of the

Act, which was announced on October 31, 2006, enacted on May 17, 2008, and became effective in January, 2011.<sup>2</sup>

When announced, the aim of the legislation was reported as 'leveling the playing field' by treating income trusts in much the same manner as other tax paying corporations. The original description was left sufficiently vague, however, to allow flexibility in the tax rules that were to be later drafted. The Minister allowed that certain distributions would be subject to flow-through taxation at the applicable corporate rate in order to eliminate the tax advantage, with an intention to discourage the use of SIFT-equivalent structures going forward. The message has since been misinterpreted to suggest that tax integration was intended (Edwards & Shevlin (forthcoming)). In fact, it was understood at the time that tax integration would not eliminate the tax advantage of trusts as the unit-holders reside in several tax brackets and tax-exempt investors, in particular, had a greater advantage than those who paid personal tax in the year the distribution was received (McKenzie (2006)). Further, foreign investors might not receive a tax advantage per se, but they represented a significant source of tax leakage, as neither corporate nor personal tax is fully recovered domestically (Mintz (2006)). Thus the true aim of the legislative change was to arrange a system to recover at least as much tax from the income trusts as would be normally charged to corporations.

There were two direct effects of the enacted legislation: 1) SIFT organizations would be taxed on non-portfolio earnings at a predicted rate of 31.5% and 2) the resulting distributions would be treated as dividends, receiving a tax credit.<sup>3</sup> The entity tax thus reduced the payout to all unit-holders. For pension funds and investors who hold their investments in tax-sheltered plans such as registered retirement savings plans and tax-free savings accounts, the pre-tax loss of 31.5% flows through to provide an immediate after-tax loss of the same magnitude. The reduction in pre-tax income had an immediate impact on the price of these securities in the market, providing an ideal situation for an event study in which to compare the two recent tax changes (Amoako-Adu & Smith (2008)). The drop corresponded to a rational market reaction to the loss of pre-tax payouts based on a discounted cash-flow valuation model (Glew & Johnson (2011)). Most recently, the event was used to assess a tax clientele effect (Edwards & Shevlin (forthcoming)). The legislative change also had a more subtle value-destroying impact on the distributions, due to their derivation from several sources in the underlying rent-producing asset.

Income trusts are defined as unit trusts, which are governed by the tax principles associated with mutual fund trusts, and differ from traditional 'inter vivos' and testamentary trusts because capital assets in an underlying firm or partnership are held as the income generating property. Although there is much variety in the actual organizational form chosen, Figure 1 presents a typical depiction, but with more emphasis on the cash flows that are collected and dispersed by the trust. There are fifteen possible designations for cash that is routed through the trust and reporting is

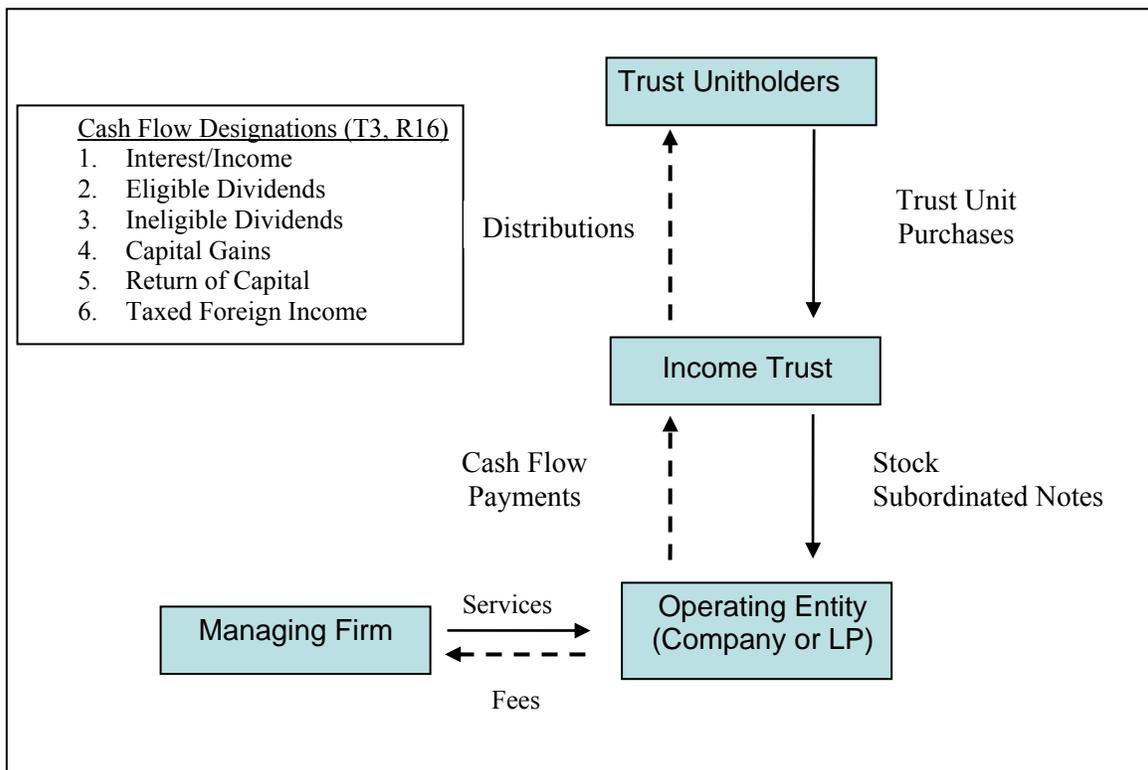
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<sup>2</sup> The wording in Part IX.1 is written as a punitive measure that may actually fail to charge the SIFT tax as drafted (Bloom & Wiener (2011)), but this analysis shall proceed as though the legislation would result in revenue collection.

<sup>3</sup> Non-portfolio earnings are defined in section 197(1) as income from business carried on by the trust, other than taxable dividends received, plus net capital gains less capital losses.

required annually through the T3, R16, Statement of Trust Income Allocations and Designations tax form. Only six designations are commonly reported for income trusts: 1) interest/other income, 2) eligible dividends, 3) other dividends, 4) capital gains, 5) return of capital, and 6) foreign income (including the amount of foreign tax paid). Each amount has a different tax history and thus deserves a different tax treatment in the hands of the unit-holder. Glew and Johnson (2011) assumed that tax legislation would preserve this information and levy tax solely on interest and other untaxed income payments. The enacted legislation only recognizes the declared dividends as previously taxed payouts, however, which interrupts the near integration of the Canadian tax system.

Figure 1: Typical Income Trust Structure highlighting Common Cash Flows



To approach integration of the tax system with respect to the various funds flowing through the SIFT, the character of the payouts would need to be retained. Interest or other income would be disallowed and taxed at the corporate tax rate to provide a dividend stream. Dividends would be left untaxed. Foreign income would require reconciliation of taxes paid and owing, depending on the source country and the tax treaty conditions. Return of capital would be disallowed and added to capital gains, and these funds would remain untaxed at the SIFT entity level, to be taxed

at half the investor's marginal tax rate in the year that the distribution is paid.<sup>4</sup> This would equate the income trust and the corporation from investors' perspectives, eliminating the equity-like debt payments, but would not address the different treatment of dividends and capital gains in the current tax system.

The SIFT legislation in Part IX.1 of the Act introduced a tax at the SIFT entity level, which collects and redistributes funds from an operating entity that is also subject to tax. The effect of the legislation is to lessen the value of the income trust distributions in the hands of all unit-holders, regardless of their tax status, as follows:

1. Interest income is taxed at the SIFT level and then treated as a dividend from the perspective of the SIFT, resulting in full taxation if the tax system integration is complete;
2. Designated dividends are unaffected, based on the definition of non-portfolio earnings;
3. Capital gains have been taxed at the corporate rate in the underlying firm and now are doubly taxed;
4. Return of capital is further taxed at the SIFT rate, eroding the benefit of depreciation tax shields, and also loses its unique character under trust law that allows deferred recognition of the benefit; and
5. Foreign income is further taxed, regardless of taxes already paid.

Thus there is an after-tax reduction of cash flows, save the interest income and dividend amounts, due to the enacted legislation. Further, the Canadian tax system relies on two levels of taxation and due to jurisdictional lags in raising dividend tax credits at the provincial level in response to the changes in the Act, the combined tax treatment only approaches integration when considering dividends.<sup>5</sup> In fact, there is a five percent loss on average, where only interest income is converted to the SIFT dividend treatment.

Nonresident unit-holders generally receive none of the tax benefits of the cash flow designations reported on the domestic forms. The SIFT legislation simply reduces the size of the distribution received by the predicted tax rate of approximately 31.5%, somewhat lower where taxable dividends flow into the SIFT trust. A withholding tax is applied, with rates sensitive to existing tax treaties, and generally, there would be no credit assessed for the SIFT tax paid, similar to treatment of other dividends received from Canadian investments. Thus the loss of 31.5% of investment earnings is the effective pre-tax and after-tax value reduction, similar to tax exempt investors.

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<sup>4</sup> This approach simply retains the different tax treatment of capital gains and dividends in the existing legislation of the Act, as equating the charge on the different funds would have a significant effect on tax, and thus investment policy. Return of capital is controversial in this respect as the payout of capital actually reduces investment in the underlying operation and taxation at the reduced capital gains level might rightly be considered poor policy.

<sup>5</sup> Only Manitoba and Quebec quickly announced and published their increased dividend tax credits, corresponding to the federal increases – Canadian Income Tax Act with Regulations, Annotated, 82<sup>nd</sup> Edition, 2006 Summer, page x.

### Section 3: Method and Data

The SIFT legislation provides a relatively simple model for the after-tax value of the firm using the discounted cash flow approach, assuming no growth in the distribution. Zero growth has been assumed in other studies without supporting evidence (Edwards & Shevlin (forthcoming)), but it can be well justified in the income trust sector. Although distributions often increased in the period, Glew and Johnson (2011) show that an assumption of no growth provides an insignificant impact on valuation estimates. From this perspective, time valuation theory provides that the tax reduced distribution divided by the required rate of return is the estimated after-tax value of the SIFT trust in January, 2011. Any convenient time can be chosen for security valuation, as the analysis eliminates time valuation concerns by comparing the newly taxed SIFT trusts and income trusts, which were subject to less tax prior to the legislation announced on October 31, 2006.<sup>6</sup> Since the SIFT legislation recognizes the dividend portion as previously taxed, after-tax cash flow is determined in several steps. The distribution is first reduced by the eligible and ineligible dividend amounts and this portion is taxed at the Sift tax rate,  $\tau_S$ , estimated to be 31.5% at the time of the 2006 announcement. Eligible dividends are added back and that amount is further taxed at the applicable eligible dividend personal tax rate. Ineligible dividends are taxed at the ineligible dividend personal tax rate. The sum of taxed eligible dividends and taxed ineligible dividends is the after-tax cash flow received by the investor. That sum divided by the investor's after-tax rate of return provides the value of The SIFT security indicated as equation (1).

$$V_S = \frac{[(1 - \tau_S)(1 - P_{div} - P_{idiv}) + P_{div}]Dist(1 - \tau_{div}) + P_{idiv}(Dist)(1 - \tau_{idiv})}{r} \quad (1)$$

Where  $V_S$  is the after-tax value of the SIFT,  $\tau_S$  is the corporate tax rate applicable to the SIFT (predicted at 31.5%),  $P_{div}$  is the eligible dividend proportion of the distribution,  $P_{idiv}$  is the ineligible dividend proportion of the distribution,  $Dist$  is the amount of the pre-tax distribution,  $\tau_{div}$  is the marginal personal tax rate on eligible dividend income,  $\tau_{idiv}$  is the marginal personal tax rate on ineligible dividend income, and  $r$  is the required after-tax rate of return.

The after-tax value of the income trust, assessed prior to the SIFT legislation, depends on the taxation of the distribution's component parts. The dividends are designated as eligible and ineligible in 2006 and thus can be assigned to the correct marginal dividend tax rate. Interest income is reduced by the full marginal tax rate. Capital gains are taxed at half the marginal tax rate. Return of capital in the trust setting allows deferral of recognition, since the net effect is a calculated reduction to the adjusted cost base of the unit, and the tax charge will only be levied when the unit is sold. In order to err on the side of understatement of the income trust's value, the return of capital will be taxed at half the marginal tax rate in the year that the return of capital is received, similar to a capital gain. Finally, foreign income is taxed to render the full marginal tax rate considering all taxes already paid, unless the tax rate is negative where it will be set to zero.

<sup>6</sup> In fact, the ratio methodology overcomes any inaccuracy corresponding to the zero growth assumption, but the described development is used to reduce algebraic complexity.

Each designated fraction of the distribution is reduced at the applicable tax rate and the sum of these is the after-tax cash flow received by the income trust investor. The value of the security is the quotient of that cash flow over the after-tax rate of return, presented as equation (2), also set at January, 2011.

$$V_I = \frac{Dist \left[ P_{div} (1 - \tau_{div}) + P_{idiv} (1 - \tau_{idiv}) + P_{Int} (1 - \tau_p) + (P_{CG} + P_{RoC}) \left( 1 - \frac{\tau_p}{2} \right) + P_f (1 - \tau_f) \right]}{r} \quad (2)$$

Where  $V_I$  is the after-tax value of the income trust,  $Dist$  is the amount of the pre-tax distribution,  $P_{div}$  is the dividend proportion of the distribution,  $\tau_{div}$  is the marginal personal tax rate on dividend income,  $P_{idiv}$  is the ineligible dividend proportion of the distribution,  $\tau_{idiv}$  is the marginal personal tax rate on ineligible dividend income,  $P_{Int}$  is the interest/income proportion of the distribution,  $\tau_p$  is the marginal personal tax rate,  $P_{CG}$  is the capital gain proportion of the distribution,  $P_{RoC}$  is the return of capital proportion of the distribution,  $P_f$  is the foreign income proportion of the distribution,  $\tau_f$  is the rate for the remaining tax on foreign income, and  $r$  is the required after-tax rate of return.

The relative value of the SIFT from equation (1) to the income trust from equation (2) will indicate the loss of value. For simplicity, both valuations were considered at January, 2011, but we can see that the time considerations cancel out to leave the simpler equation (3), which relates the after-tax cash flows to each other. Where this ratio is less than unity, there is an after-tax loss in value due to the SIFT legislation. In the trivial case, where the distribution contains no dividends and the unit-holder is tax-exempt or holds the income trust security in a tax-protected account, the loss is equal to the tax rate on SIFTs, which is 31.5% and the ratio equates to 0.685. The ratio for foreign investors is equivalent as the withholding tax will cancel out of equation (3).

$$\frac{V_S}{V_I} = \frac{[(1 - \tau_S)(1 - P_{div} - P_{idiv}) + P_{div}](1 - \tau_{div}) + P_{idiv}(1 - \tau_{idiv})}{\left[ P_{div} (1 - \tau_{div}) + P_{idiv} (1 - \tau_{idiv}) + P_{Int} (1 - \tau_p) + (P_{CG} + P_{RoC}) \left( 1 - \frac{\tau_p}{2} \right) + P_f (1 - \tau_f) \right]} \quad (3)$$

Where  $V_S$  is the after-tax value of the SIFT,  $V_I$  is the after-tax value of the income trust,  $\tau_S$  is the corporate tax rate applicable to the SIFT (predicted at 31.5%),  $P_{div}$  is the dividend proportion of the distribution,  $\tau_{div}$  is the marginal personal tax on dividend income,  $P_{idiv}$  is the ineligible dividend proportion of the distribution,  $\tau_{idiv}$  is the marginal personal tax on ineligible dividend income,  $P_{Int}$  is the interest/income proportion of the distribution,  $\tau_p$  is the marginal personal tax rate,  $P_{CG}$  is the capital gain proportion of the distribution,  $P_{RoC}$  is the return of capital proportion of the distribution,  $P_f$  is the foreign income proportion of the distribution, and  $\tau_f$  is the rate for the remaining tax on foreign income.

There were 215 income trusts that were directly affected by the announced tax legislation change announced on October 31, 2006. This number does not include REITs (33), income trusts that had suspended distributions (12), or income trusts that were involved in merger discussions at that time (8).<sup>7</sup> The designation of income data were manually collected from the publicly available T3, R16 tax forms online at CDS Innovations and filled with information from the company websites, where forms were unavailable. The designations used in all calculations are those reported for 2006, when the October 31<sup>st</sup> tax announcement lowered trust unit valuations. As affected income trusts did leave the market after the announcement, consistency in results is maintained by using these values. Table 1 indicates the summary statistics related to the tax form designations in each of the six categories and demonstrates that there is no typical payout structure, though the largest percentage of the payout is generally the interest or income portion.

**Table 1: Income Allocations on 2006 T3, R16 Tax Forms**

Of 215 income trusts that were adversely affected by the SIFT tax legislation, income was designated into six categories as indicated in the Table below. For the maximum and minimum values the number of designations in the sample is indicated below the percentage in parentheses.

<b>Designation</b>	Eligible Dividend	Ineligible Dividend	Interest/Income	Capital Gain	Return of Capital	Foreign Income
Minimum	0 (165)	0 (196)	0 (5)	0 (205)	0 (79)	0 (207)
Mean	0.0493	0.0101	0.7804	0.0015	0.1534	0.0053
Median	0	0	0.8815	0	0.0335	0
Maximum	1 (1)	1 (1)	1 (47)	0.102 (1)	1 (3)	0.232 (1)

Personal income tax data were collected from Tax Tips website (2011) and checked with respect to the tables provided in the Acts (2006, 2008, 2010). The latter years are included to demonstrate that further movement towards integration has not occurred as intended by the legislation of May 2, 2006. The dividend tax credit information for Ontario and the other jurisdictions was verified with amounts listed on the provincial tax forms, retrieved from the Revenue Canada website (2011). Ontario was chosen for the initial comparison since it is the most populous province with the largest financial centre, whose tax rates generally span those in other jurisdictions.

#### **Section 4: Results**

The calculations for low, middle, and high marginal personal tax rates indicate a sizable disparity in the results across the rates, but in no case was the value of the SIFT greater than the initial

<sup>7</sup> Funds of income funds are not considered.

valuation of the income trust. Table 2 includes the valuation ratios for four taxation levels in three calendar years. For the income trusts that simply redistributed dividends from the underlying operating entity, the maximum valuation (unity) is received. There were only two income trusts using this strategy, one distributing eligible dividends and the other distributing ineligible dividends. The minimum results correspond to those trusts that distribute all cash as return of capital and these estimates are in fact high, since deferred recognition of the tax has been ignored in the ratio denominator. In the highest tax bracket in all years, the after-tax percentage loss is even greater than the pre-tax percentage loss in valuation, dropping the ratio below 68.5%.

All Canadian tax payers that owned a diversified portfolio of income trusts were disadvantaged by the decision to tax SIFTs at the entity level, due to double taxation and lack of tax integration.<sup>8</sup> The second row presented for each year corresponds to the income trusts that distributed only interest or other income to the unit-holder: the portion of the Canadian system assumed to be integrated by the May, 2006 legislative change to increase the dividend gross-up amount and the level of the dividend tax credits. In fact, only Manitoba and Quebec followed the federal government's lead on this by August, 2006. Ontario announced their intention to raise the provincial dividend tax credit to 7.7% at that time, but reneged on such a move until the 2009 tax year, when a lower credit of 7.4% was implemented with reductions thereafter. As a federation with income tax structure determined at two levels, the integration between interest payments and dividends has not been achieved. Integration with respect to capital gains and return of capital has not yet been proposed.

Summarizing these results with a focus towards determining a tax clientele effect as suggested by Edwards and Shevlin (forthcoming) indicates several difficulties. Where an investor or fund is tax-exempt, the ratio is expected to equal 0.685 but it does vary with a changing dividend designation and in two cases where dividends were distributed by the income trusts, there is no loss in value. As well, the median after-tax loss of 31.5% is equal to the median pre-tax loss experienced by all unit-holders of the SIFT securities and cannot be separated from that effect. A generalized result on marginal investors could only be made via an assumption that the announcement had no other valuation effect in the market, as was the case in the referenced Australian study by Cannavan, Finn, and Gray (2004). The mean after-tax losses of approximately 10% across all tax levels indicate that this is not the case. Further, there are three cases corresponding to minimum ratios, in which an even greater loss was experienced by domestic investors in the highest tax bracket, trending downwards with decreasing marginal taxation rates, an effect that works counter to a tax clientele argument where those in the lower brackets are most affected. The drop in value stems from the shortcomings of the enacted legislation that greatly disadvantages the distribution of capital gains and from a lack of integration within the Canadian system, which is further illuminated below by considering all tax jurisdictions. Thus the assumptions underpinning Edwards and Shevlin's (forthcoming) analysis are violated and tax-exempt and foreign investors lack a representative comparison group who

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<sup>8</sup> Persons solely invested in Cinram International Income Fund and Deepwell Energy Services Trust were unaffected.

experienced no valuation loss effective on October 31, 2006. When multiple jurisdictions are considered below, the problems do increase.

**Table 2: Valuation Ratio of SIFT/Income Trust at Different (Ontario) Personal Tax Rates**

For 215 income trusts, the after-tax valuation of the SIFT is divided by the Income Trust valuation, prior to the legislated tax change, as indicated in equation (3):

$$\frac{V_S}{V_I} = \frac{[(1 - \tau_S)(1 - P_{div} - P_{div}) + P_{div}](1 - \tau_{div}) + P_{div}(1 - \tau_{div})}{P_{div}(1 - \tau_{div}) + P_{div}(1 - \tau_{div}) + P_{Int}(1 - \tau_p) + (P_{CG} + P_{RoC})\left(1 - \frac{\tau_p}{2}\right) + P_f(1 - \tau_f)}$$

The tax rate for the SIFT,  $\tau_S = 31.5\%$ , as predicted by the government in the announcement of the change. The expression is evaluated at a zero tax rate, to indicate the effect on distributions paid to pension funds or tax-protected personal plans such as RRSP's and TFSA's, and at three marginal levels to span the Ontario tax rates in 2006, 2008, and 2010. In no case, is the mean ratio equal to unity, indicating incomplete integration in the tax system for all years indicated and a net loss to unit-holders in all cases without conversion to avoid the additional taxation at the SIFT entity level.

<b>Valuation Ratio</b>	$\tau_p = 0\%$	$\tau_p = 21.30\%$	$\tau_p = 32.98\%$	$\tau_p = 46.41\%$
2006 Maximum	1	1	1	1
100% Income	0.685	0.923	0.930	0.958
Median	0.685	0.919	0.923	0.940
Mean	0.704	0.909	0.901	0.904
Minimum	0.685	0.813	0.746	0.668
2008 Maximum	1	1	1	1
100% Income	0.685	0.930	0.939	0.972
Median	0.685	0.926	0.932	0.954
Mean	0.704	0.915	0.909	0.917
Minimum	0.685	0.820	0.753	0.678
2010 Maximum	1	1	1	1
100% Income	0.685	0.922	0.914	0.939
Median	0.685	0.918	0.907	0.923
Mean	0.704	0.908	0.887	0.888
Minimum	0.685	0.813	0.734	0.655

To judge the extent of integration across all jurisdictions in Canada, the valuation ratios were estimated for three marginal personal taxation levels in each region. The average results at each tax level are included in Table 3 below and the overall average in each year is graphically depicted for comparison in Figure 2. Regional tax levels differ in absolute percentage rates across the sample but remain relatively stable throughout the four year period. Variation in results in Table 3 is largely attributable to changes in the dividend tax credit. In all cases, there is a loss in the after-tax valuation as a result of the SIFT tax legislation, costing high marginal taxpayers as much as 15%. The loss is greater at higher marginal tax rates throughout the table, contrary to models assuming that clientele in lower tax brackets are affected to a greater extent.

**Table 3: Mean Valuation Ratios for all Jurisdictions in Canada**

For 215 income trusts, the after-tax valuation of the SIFT is divided by the Income Trust valuation, prior to the legislated tax change, as indicated in equation (3):

$$\frac{V_S}{V_I} = \frac{[(1 - \tau_S)(1 - P_{div} - P_{div}) + P_{div}](1 - \tau_{div}) + P_{div}(1 - \tau_{div})}{P_{div}(1 - \tau_{div}) + P_{div}(1 - \tau_{div}) + P_{Int}(1 - \tau_p) + (P_{CG} + P_{RoC})\left(1 - \frac{\tau_p}{2}\right) + P_f(1 - \tau_f)}$$

The tax rate for the SIFT,  $\tau_S = 31.5\%$ , as predicted by the government in the announcement of the change. The expression is evaluated at three marginal levels spanning the tax rates in each jurisdiction in 2006, 2008, and 2010. The tax rates do not match due to regional disparities, rather these are chosen as the low, middle, and high rates, where the middle rate is closest to the median level. The mean ratio for each tax rate in each jurisdiction for the indicated years are included in the table. Mean ratios are all less than unity, varying across the jurisdictions.

Jurisdiction	Year	Lowest Marginal Tax Rate	Middle Marginal Tax Rate	Highest Marginal Tax Rate
Newfoundland & Labrador	2006	0.9018	0.8770	0.8491
	2008	0.9071	0.8800	0.8517
	2010	0.9468	0.9280	0.9106
Nova Scotia	2006	0.9316	0.9028	0.8923
	2008	0.9321	0.9028	0.8923
	2010	0.9201	0.8896	0.8577
Prince Edward Island	2006	0.9497	0.9442	0.9246
	2008	0.9501	0.9264	0.9246
	2010	0.9379	0.9131	0.9102
New Brunswick	2006	0.9679	0.9484	0.9330
	2008	0.9677	0.9478	0.9328
	2010	0.9564	0.9404	0.9261
Quebec	2006	0.9223	0.9023	0.8763
	2008	0.9228	0.9023	0.8763
	2010	0.9125	0.9004	0.8649
Ontario	2006	0.9091	0.9013	0.9041
	2008	0.9154	0.9093	0.9168
	2010	0.9082	0.8872	0.8875
Manitoba	2006	0.9542	0.9395	0.9178
	2008	0.9546	0.9407	0.9177
	2010	0.9424	0.9277	0.9036
Saskatchewan	2006	0.9541	0.9403	0.9231
	2008	0.9571	0.9403	0.9230
	2010	0.9447	0.9273	0.9092
Alberta	2006	0.9133	0.8990	0.8825
	2008	0.9318	0.9190	0.9041
	2010	0.9316	0.9195	0.9053
British Columbia	2006	0.9723	0.9560	0.9392
	2008	0.9737	0.9577	0.9392
	2010	0.9485	0.9295	0.9072
Nunavut	2006	0.9095	0.8893	0.8590
	2008	0.9099	0.8893	0.8590
	2010	0.8973	0.8760	0.8446
North West Territory	2006	0.9668	0.9485	0.9327
	2008	0.9670	0.9485	0.9327
	2010	0.9530	0.9331	0.9162
Yukon Territory	2006	0.9595	0.9458	0.9348
	2008	0.9598	0.9458	0.9348
	2010	0.9458	0.9309	0.9183

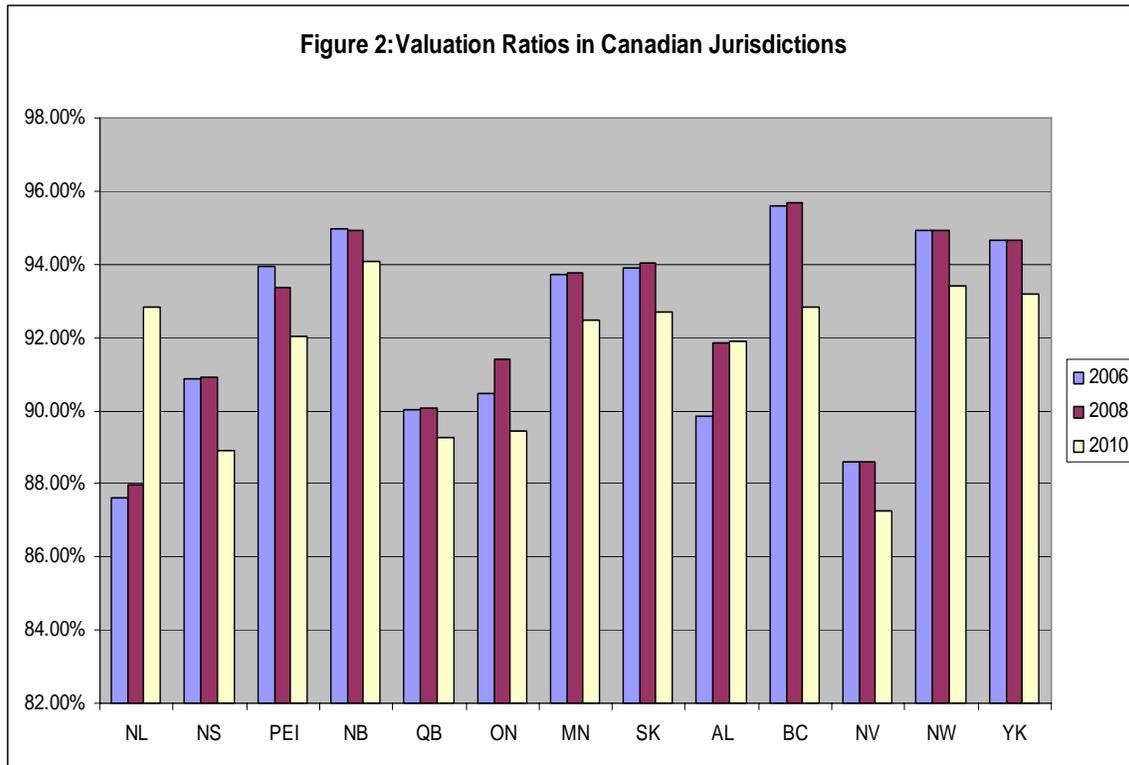


Figure 2 clearly shows variation in the overall average across the regions, relating to the varying taxation levels typical in a federation. In most cases, greater than 6% loss was expected and the results skew lower if relative populations are considered, since Quebec and Ontario indicate losses closer to 10%.<sup>9</sup> A time trend is also apparent. Although ten jurisdictions adjusted their dividend tax credits in 2006, albeit at partial levels relative to the existing corporate tax rate at the time, all others adopted a higher rate two years later in 2008.<sup>10</sup> Several provinces and the federal government subsequently reduced the dividend tax credits to make the income trust structure 1-3% less attractive by 2010. The federal tax credit dropped by 1.2% and five jurisdictions also lowered their credits from the 2008 levels. This resulted in an additional 1% gap between dividend tax treatment and interest tax treatment. In essence, the advantage to debt financing has been gradually building as a result of dividend credit claw-backs, re-establishing a known shortcoming in the Canadian corporate tax system.<sup>11</sup>

All Canadian tax payers that owned a diversified portfolio of income trusts were disadvantaged by the decision to tax SIFTs at the entity level, due to double taxation and lack of tax integration.

<sup>9</sup> Quebec and Ontario combined to account for 62% of the population in the 2006 census.

<sup>10</sup> Newfoundland and Labrador, a noted outlier due to its change in economic status in the period, and Alberta did not raise their dividend tax credits fully until 2010.

<sup>11</sup> See Department of Finance, Report of the Technical Committee on Business Taxation (Ottawa, December, 1997) page 3.4 at 51.

In fact, the value of the income trust organizational form to those firms that distribute only dividends is puzzling, and perhaps relates to non-monetary considerations. The loss in value demonstrated here can only be recouped through elimination of the redundant level of the trust organization, which now carries its own entity tax. Capital gains and return of capital have been doubly taxed, so retention of the funds in the underlying operation is preferred from both an absolute and a deferred tax perspective. The only other alternative is to adopt a highly levered structure, again without the trust layer, allowing the funds to flow directly from the underlying assets to private investors comfortable with exposure to risky debt. The benefits of the private corporation in Canada were well described by McKenzie (2006).

## **Section 5: Conclusion**

Notwithstanding the legal interpretation of its wording by Bloom and Wiener (2011), Part IX.1 of the Act effectively penalized income trusts, which became known as SIFTs, through an additional entity level tax uncharacteristic of those pertaining to other trusts. Canadian tax payers that owned income trusts were disadvantaged by the decision in two respects: 1) pre-tax cash flows to investors were reduced, and 2) the post legislation after-tax cash valuation of the SIFT is reduced. Unfortunately, simplification in cash flow models does not allow consideration of each effect independently as both occurred simultaneously on the eve of the tax change announcement on October 31, 2006.

Despite best intentions of movement towards an integrated tax system, straight taxation of interest or income payments remains below the taxation of dividends, carried out at two levels. This study assumed a corporate tax rate below the current combined rates for most Canadian jurisdictions and uncovered a retrenching towards lower dividend tax credits. As such, there was no representative comparison group of trust unit-holders without a valuation loss effective on October 31, 2006. Without a greater knowledge of the holders of income trust units and their portfolios, teasing out a clientele effect is considered an untenable feat.

In hindsight, we can see that the SIFT legislation (Part IX.1, section 197) enacted to level the playing field has only one logical conclusion: the demise of income trusts in all industries save the real estate sector. The additional level of administration that was once affordable has become very costly with an additional level of taxation at the SIFT entity level. The presented model quantifies the relative loss in the after-tax value of those trusts affected by the legislation, based on their 2006 T3, R16 income allocations, assuming no conversion. By converting to a standard corporate form, the organization can avoid double taxation of capital gains but cannot recoup the value lost on October 31, 2006.

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## **EMPIRICAL EVALUATION OF A HEURISTIC APPROACH TO VALUE INVESTING: AN EXAMINATION OF S&P/TSX 60 FROM 2006-2010**

Heuristics are useful practical tools for cutting through the complex confluence of uncertainty, limited information and bounded rationality. A disciplined use of heuristics can help to overcome the tendency for cognitive biases to creep in to investment decision making. A simple heuristic is developed based on a parsimonious set of firm characteristics and decision rules. This heuristic is then applied to the S&P/TSX 60 group of companies. Analysis of the data shows that the portfolio that is picked from this group by the heuristic has desirable descriptive statistics of a genuine value portfolio.

### **Introduction**

Psychologists have shown that in an environment with high degree of uncertainty, limited information, and constrained capacity to make globally optimal decisions, individuals tend to resort to simple heuristics to make decisions. Through several papers, Kahneman and Tversky have shown that while the use of heuristics make complex problems tractable, in many cases they create the potential for systematic cognitive biases in the decision making process. Their research eventually led to the development of the prospect theory of investment decision making (Kahneman and Tversky, 1979). One way to minimize the effect of cognitive biases in investment decision making while at the same time taking advantage of the gain in computational simplicity inherent in heuristics is to specify them in advance and to apply them with consistent discipline.

In this paper we propose a simple heuristic that incorporates the key tenets of value investing as propounded by Benjamin Graham. We hypothesize that a consistent and disciplined application of this heuristic will lead to results that will generally outperform the market average. For ease of reference in discussion we term this heuristic the O-S heuristic (Otuteye-Siddiquee heuristic). We surmise that if the O-S heuristic is valid and demonstrates superior performance when applied to the S&P/TSX 60 which by definition constitutes the high end of the TSX then it will have even more power when applied to the overall market. Hence we chose the S&P/TSX 60 as the first formal test group for the O-S heuristic.

The contribution of this paper is threefold. First, it attempts to give some clarity on what constitutes value investing. Second, it contributes to the discussion on the sources of value premium with evidence from the literature to suggest that the risk explanations may not stand up to the data but rather behavioral explanations could hold the key to understanding the value premium. Thirdly, a simple heuristic is presented using very familiar financial ratios and data from public sources to make very important portfolio selection decisions. Using the premise that decision rules are a safeguard against systematic cognitive biases, a simple heuristic that can deliver the desirable outcomes is certainly a valuable tool to have.

The rest of the paper is as follows: It begins with a discussion of the origins of value investing. Next, it expounds on the evidence about the existence of value premium and various hypotheses that have been proposed to explain it. This section also serves as a brief literature review of the value

phenomenon. This is followed by a description of O-S heuristic, the rationale behind it, and how it is applied in value investing decision making. The data and methodology are then presented followed by the results, summary and conclusion.

### **Origins and Definition of Value Investing**

Defining value investing is a daunting task since Benjamin Graham, the acknowledged father of value investing did not define value or value investing anywhere in his classics - *Security Analysis* and *The Intelligent Investor*. Rather he distilled the secret of sound investment into three words – MARGIN OF SAFETY (Graham, 1949). We have tried to explain what is really meant by value or value investing in general by investigating the writings or thinking of legendary value investors like Warren Buffett, besides the academic explanation of value or value investing.

In the 1992 Berkshire annual report, Warren Buffett (1992) considered the term “value investing” as redundant:

“...we think the very term ‘value investing’ is redundant. What is ‘investing’ if it is not the act of seeking value at least sufficient to justify the amount paid? Consciously paying more for a stock than its calculated value – in the hope that it can soon be sold for a still-higher price – should be labeled speculation (which is neither illegal, immoral nor - in our view - financially fattening).”

Also in his book, *The Essays of Warren Buffett: Lessons for Corporate America*, Warren Buffett reiterated the same. He emphasized the relationship between price (what an investor pays) and value (what he gets) in carefully separating investment from speculation. When asked to describe his investment style, Warren Buffett talks about “focused” or “intelligent” investing. Notwithstanding variations in definition and use, the Benjamin Graham and Warren Buffett style of investing has become commonly known as value investing and we will adopt the terminology in the same context.

It is widely accepted that value investing as an enduring investment philosophy evolved in the early 1930s, when Benjamin Graham, then professor of investments at Columbia Business School, wrote the book *Security Analysis* in 1934. Bierig (2000) narrated the evolution of value investing from the writings, speeches, lectures and practices of Benjamin Graham and his disciples. Seung-Woog and Sang (2006) have traced back the root of value investing to 1920s although Benjamin Graham and David Dodd published the first edition of *Security Analysis* in 1934 and *The Intelligent Investor* in 1949.

Even before Ben Graham, Roger W. Babson, an American entrepreneur and theorist used an investing approach to determine what he termed “normal” value by applying a suitable multiplier to average earnings. His investing philosophy was fundamental-based, long-term style of equities, pretty close to today's value investing. He wrote the text, *Enduring Investments* in 1921 long before Graham's text *Security Analysis* in 1934. We conjecture that Graham might have been influenced by Babson's writings.

One variable that is common in defining value and growth stocks is price, which makes sense since Benjamin Graham considered margin of safety (the difference between intrinsic value and market price) as a key distinguishing element in the style of investment he advocated. The traditional approach is that stocks that have high price relative to some other financial metric are classified as growth and those that have relatively low price compared to those financial indicators are classified as value. However, defining value by a mere ratio or two like earnings-price ratios (E/P), book-to-market equity (B/M) (Fama and French, 1992) or B/M, E/P, cash flow to price (C/P), and dividend yield (D/P) (Fama and French, 1998) would be of little use in explaining the value premium. Bourguignon and de Jong (2003) have also cast doubt on the validity of this kind of definition. What is even more interesting is that the legendary value investors and their modern disciples do not use these metrics as the basis for making their value portfolio decisions.

Although B/M has got the attention of academia as an indicator of value-growth orientation, it is by no means an ideal measure. Other relevant measures, such as E/P, CF/P might also serve as the bases for investment strategies (Chan and Lakonishok, 2004). Dhatt, Kim and Mukherji (1999) tried to exploit the value premium that exists from stock in the Russell 2000 Index, forming a portfolio based on P/E, P/S, and M/B ratios. Athanassakos (2011) uses P/E and P/B ratios to categorize value and growth stocks in the Canadian market.

The Computerized Portfolio Management Service (CPMS), owned by Morningstar Canada maintained seven Canadian-equity style portfolios, such as momentum, earnings value, industry relative, income, predictable growth, bargain, and dangerous portfolios. Among these, earnings value portfolios have used some variables to identify companies that fit the classic value-investing mantra, such as P/E, company's earnings momentum (measures the rate of change in quarterly operating EPS), percentage change in estimated earnings and the percentage by which a company's actual earnings beat estimated earnings (Morningstar Canada, 2011).

### **Evidence and Explanation of the Value Premium**

There is sizeable amount of research that shows evidence of superior performance of value stocks over growth stocks in the long-run. Benjamin Graham showed in a 1976 performance study that over a half century prior to that (1925-1975), the value approach consistently resulted in a 15 per cent or better per annum return, which is twice the record of the DJIA for this long-period (Graham, 1976). Buffett (1984) has tracked the performance of nine successful investment funds<sup>1</sup>, seven of which are the residents of "Graham-and-Doddsville." Out of these funds, seven investment partnerships have demonstrated average long-term returns with a double-digit lead over the market average. Even pension funds, bound to be more conservative portfolio mix, showed 5 percent and 8 percent lead.

Oppenheimer (1984) selected some stocks listed on NYSE and AMEX using Graham's criteria during 1974-1981 and reported that an investor who had used Graham's criteria would have achieved a mean annual return of 38 per cent against the CRSP Index return of 14 per cent. Ibbotson and Riepe (1997) have documented the performance of various value and growth indexes, such as Wilshire, Frank Russell, S&P/BARRA, and Barclays Global Investors and found that regardless of capitalization, every value index provided higher returns with less volatility than their growth counterparts. Dhatt, et al (1999) have confirmed that value stocks during 1979-1997 outperformed growth stocks by 5.28 to 8.40 percentage points a year and had lower standard deviations and lower coefficients of variation than growth stock. Seung-Woog and Sang (2006) suggest that investors, on average, always benefit from value investing regardless of economic conditions (both expansion and contraction periods), but benefit more when they pursue a value investing strategy during a period of economic contraction. They also showed that value investing results in superior return by exploiting the suboptimal behavior of these market participants.

The existence of value premium is not confined to the US market only. Fama and French (1998) confirmed that value premium exists in the twelve major EAFE markets (Europe, Australia, and the Far East). Chan and Lakonishok (2004) summarized the various explanations of the superior performance of value over growth stocks, and provide some new results on the profitability of value strategies based on an updated (incorporating data through 2001) and expanded sample (developed markets outside the United States). Using a short sample period (10 years), Capaul, Rowley, and Sharpe (1993) confirmed that value premium is pervasive in international stock returns whereas Chan, Hamao, and Lakonishok (1991) documented a strong value premium in Japan. Using four valuation ratios (i.e. P/E, price to cash flow, P/B and Dividend yield), Bauman, Conover and Miller (1998) found that value stocks generally outperformed growth stocks on a total-return basis and on a risk-

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<sup>1</sup>WJS Limited Partners; TBK Limited Partners; Buffett Partnership Ltd.; Sequoia Fund Inc.; Charles Munger Ltd.; Pacific Partners Ltd.; Perlmeter Investments Ltd.; Washington Post Master Trust; and FMC Pension Fund.

adjusted basis in 21 countries for a 10-year period. Chen and Zhang (1998) documented that value stocks offer reliably higher returns in the US, Japan, Hong Kong and Malaysia, but not in the high-growth markets of Taiwan and Thailand. Capaul, et al (1993) analyzed value (low price/book ratios) and growth (high price/book ratios) for six countries over the period from January 1981 through June 1992 and confirmed that value stocks outperformed growth stocks on average in each country during the period studied, both absolutely and after adjustment for risk.

To our knowledge, only two studies (Athanasakos 2009, 2011) have been conducted so far to test the existence and pervasiveness of value premium in the Canadian market. Athanasakos (2009) documented a consistently strong value premium using Canadian data from 1985-2005, which persisted in both bull and bear markets, as well as in recessions and recoveries. Unlike Fama and French (1992), Athanasakos (2009) showed that value portfolios have lower betas than the growth portfolios, irrespective of whether sorting is based on P/E or P/BV. However, he acknowledged the appeal of risk argument of explaining the value premium like Fama and French (1992), Chen and Zhang (1998) and Rozeff and Zaman (1998).

Yee (2011) reported that over the last 25 years, momentum portfolio (consisting of companies with strong earnings growth) has an annualized return of 21.5 percent, followed by earnings value (consisting of companies that fit the classic value-investing criteria) with a 17.7 percent annual return. In fact, the earnings value portfolio has outperformed the Canadian equity market in nine of the 11 calendar years from 1999 to 2009, including a spectacular return of 122.2 percent in 2010 and a solid performance during the economic downturn of 2008-2009.

Academia is in agreement that value stocks outperform growth stocks. However much less consensus exists about the underlying reasons behind this superior performance. For example, Fama and French (1992, 1996) reported that higher returns of value stocks relate to their higher level of risks because these stocks are more prone to financial distress. Chen and Zhang (1998) find that value stocks are riskier because they are usually firms under distress, have high financial leverage, and face substantial uncertainty in future earnings. Just like the Fama-French model, the findings of Rozeff and Zaman (1998) also identify growth stocks as less risky and value stocks as more risky. The findings of these studies are in serious contradiction with some other studies, like Lakonishok, Shleifer and Vishny (1994) and Ibbotson and Reipe (1997). For example, Lakonishok, et al (1994) suggested that investors' cognitive biases and agency costs of professional investment management were behind this superior performance.

Psychologists have suggested that in an environment with high degree of uncertainty, limited capacity to process information or ascertain the quality of information, individuals tend to resort to simple heuristics for decision making. This opens up the possibility of judgmental biases in investment behavior. La Porta, Lakonishok, Shleifer and Vishny (1997) reported that the superior return of value stocks is due to the expectational errors made by investors. Although not complete and satisfying (since they considered only one behavioral factor, i.e. expectational errors to explain the superior performance of value stocks over growth stocks), this study suggests that behavioral factors (expectational errors specifically) play an important role. Chan and Lakonishok (2004) documented that the market betas of both the value and glamour portfolios are very close to each other, so systematic risk is not an obvious suspect for explaining the value premium. Chan, Karceski, and Lakonishok (2000) examined the relative performance of value and growth stocks in the late 1990s and concluded that only a behavioral thesis can explain the recent relative stock price performance of the equity asset classes, not the rational-asset-pricing hypothesis or the new-paradigm thesis.

Lakonishok, et al (1994) observed that value stocks tend to have a past history of poor performance than growth stocks (in terms of growth in earnings, cash flow, and sales). However we don't think this explanation is valid since stocks with poor performance in terms of earnings, cash flow or sales growth will not fulfill the criteria used by true value investors. Rather we have seen overvalued growth stocks with poor fundamentals. Chan, et al (2000) argued that the high prices of growth stocks

did not reflect their fundamentals, rather, they reflected investors' rosy expectations of future growth and of the companies' ability to sustain growth.

### Overview of the “O-S” Heuristic Approach to Value Investing

The O-S heuristic is an attempt to develop a process that is reliable for portfolio selection decisions and that one can depend on to deliver desirable portfolio outcomes. As Montier (2010) pointed out:

“Focusing on process seems to lead to better decisions. The same is true in investment. Focusing upon process frees us up from worrying about aspects of investment which we really can’t control – such as return. By focusing on process we maximize our potential to generate good long-term returns.” (p. 210).

The philosophical underpinning of the O-S heuristic is that it is possible to create a simple value investing decision making tool using criteria based on earnings potential, financial soundness, and fair valuation. Furthermore, the application of this tool will help the user to develop a consistent and disciplined approach to value investing decision making that will yield very satisfactory results. Another key requirement that we imposed on our heuristic is that it must be a tool that even investment novices can use and still produce robust portfolio outcomes. The O-S heuristic has three parts, namely, the “5-Minute QuickScan”, “Value Indicators”, and “Valuation” which we have explained in this section.

The 5-Minute QuickScan is a preliminary screening tool to narrow down the group of companies that will be analyzed further after an initial (primary) set of screening criteria has been used to make the initial selection of stocks. The primary screening criteria we use are normally a set from the ratios that have been popularly referred to in the literature as value criteria: low P/E ratio, low price to book ratio, low price to cash flow, etc. Normally, these screens are applied to stocks from popular databases such as finance.yahoo.com, money.msn.com, or google.com/finance. From the set of companies that pop up we then go to the next level to apply the 5-Minute QuickScan screen. For this study, we used the S&P/TSX 60 Index group of companies as the stock selection universe. The criteria for the 5-Minute QuickScan and rationale are shown in Table 1.

**Table 1: 5-Minute QuickScan Screening Criteria**

	<b>Criterion/ Question</b>	<b>Decision Rule</b>	<b>Rationale</b>
1	This is to check whether the company’s ticker symbol has a .OB (NASDAQ bulletin board stock) or .PK (pink sheet) extension	Reject if the ticker has either .OB or .PK extension.	Information about .OB or .PK shares tends not to be up to date, reliable and hence not widely followed. Although .OB has to file regular forms with the SEC, but still not as safe as stocks listed on the major exchanges.
2	Is the company’s market capitalization below \$500 million?	Include only companies with market cap > \$500 million	The original intent of setting up this heuristic is to design a system that investment novices can use and not lose money. For that clientele we felt it advisable to limit them to well established companies and this criterion increases the chances of that.
3	Recent IPO	Reject if the company does not have at least 3 years of public trading data.	Same reason as criterion # 2 – to limit the search to relatively well established companies with a reasonable (5 years) public trading history.
4	3 to 5 years of positive	Include only companies with	A critical indicator of future profitability

	EBIT?	positive operating profit for at least 3 years but preferably 5 years or more.	is a track record of past profitability. Operating profit is regarded as a sign that this company can sustain itself through its business operation and also an indicator that it may have a sound business model.
5	3 to 5 years of Cash Flow from Operating Activities?	Include only companies with positive cash flow from operating activities for at least 3 years but preferably 5 years or more.	This shows that the company is able to end up with positive cash flow of its own. Rationale similar to criterion # 4.
6	5 years of ROE >10%	Accept only companies with at least 3 continuous years of ROE > 10%. If one of the past three years has ROE < 10% then look for 3 years out of the past 5 years.	ROE is an indicator of profitability and a 3 to 5-year track record is an indicator that the profitability has been sustained in the past.
7	5 years of Debt/Equity ratio < 1	Accept only companies that meet that condition.	The goal is to limit the set to low leverage companies. Prefer companies with zero debt.
8	Current Price/Book Ratio < 2	Accept only companies that meet this condition.	The rationale is to increase the chances of finding a company that is priced with a margin of safety. Although ideal P/B ratio would be 1, but it's not guaranteed to get value stocks within this range.
9	Tangible Book Value > 0 for the past 3 years.	Accept only companies that meet the condition.	While companies with good business models and sustainable competitive advantage can have negative net tangible value, analysis of such companies might be beyond the scope of starters.

Once a company passes the 5-Minute QuickScan screen, the analysis proceeds to Stage 2 called the "Value Indicators Work Sheet." The Value Indicators Work Sheet has two segments: (a) Earnings Strength, Earnings Stability and Moat Indicators; and (b) Financial Strength and Financial Stability.

### Earnings Strength, Earnings Stability and Moat Indicators

There are ten items on this checklist. The items and the requirements are presented below:

- i. **Return on Invested Capital (ROIC):** ROIC must be at least 10% in each of the past five years since most businesses have borrowing rates between 8% and 12%.
- ii. **Equity Growth Rate:** The annual compounded equity growth rate (measured by the rate of growth of Book Value per Share) must be at least 10% for each of the past 4 years.
- iii. **Rate of Growth of Earnings per Share (EPS):** The annual compounded EPS growth rate must be at least 10% for each of the past 4 years.
- iv. **Sales Growth Rate:** The annual compounded rate of growth of sales must be at least 10%.
- v. **Operating Cash Flow (OCF) Growth Rate:** The annual compounded rate of growth for OCF must be at least 10%.
- vi. **Free Cash Flow (FCF) Growth Rate:** The annual compounded rate of growth for both FCF must be at least 10%.
- vii. **Gross Margin:** A gross margin greater than 40% is classified as an indicator of durable competitive advantage.
- viii. **Operating Margin:** First we find the average Operating Margin for the industry or a core group of competitors. And what we are looking for here is that the company's operating margin must be above the average of the industry or its competitors.

- ix. **Net Margin:** Net margin greater than 20% is considered a sign of durable competitive advantage and net margin less than 10% is interpreted as the company being in a highly competitive environment.
- x. **Free Cash Flow (FCF) Margin:** FCF margin greater than 10% is considered a sign of durable competitive advantage. FCF margin less than 3% will lead to the company being rejected.

## Financial Strength and Financial Stability

This category is subdivided into three parts: Short-term financial health, Long-term financial health and Susceptibility to bankruptcy.

### A. Short-term Financial Health

There are four indicators in this section:

- i. **Current Ratio:** Current ratio has to be greater than 2.
- ii. **Quick Ratio:** It has to be greater than 1.5.
- iii. **Interest Coverage Ratio:** Interest Coverage Ratio has to be at least 5.
- iv. **Operating Cash Flow Ratio:** OCF ratio has to be at least 1.

### B. Long-term Financial Health

There are three indicators in this section:

- i. **Leverage Ratio:** Leverage ratio (measured by Debt to Total Assets) has to be less than 0.5 except utilities for which leverage ratio equal to or less than 1.0 is acceptable.
- ii. **Debt to Equity Ratio:** Debt-Equity ratio has to be less than 1.
- iii. **Long-Term Debt to Operating Cash Flow Ratio:** This ratio is used to measure how long it will take to pay off long-term debt using OCF and it has to be 3 years or less.

### C. Susceptibility to Bankruptcy

We use two indicators, namely Piotroski's F and Altman's Z indices to determine if the company is at risk of bankruptcy in the near future<sup>2</sup>. In terms of the sequence of decision making process, this step comes after valuation which is a Stage 3 analysis.

- i. **Piotroski F-Score:** Companies are accepted if the F-Score is 8 or 9 and they are rejected if the F score is less than or equal to 2. However, for companies with F score greater than 2, the decision to accept or reject is more subjective and the overall profile of the company in light of the other ratios is considered in the decision making process.
- ii. **Altman Z-Score:** A company with Z score less than 1.8 is rejected. However, for companies with Z scores greater than 1.8 the entire profile of the company is considered before a final "accept" or "reject" decision is made.

## Company Valuation

Once a company is accepted based on the outcome of earnings potential and financial strength, we then proceed to the valuation phase to estimate the intrinsic value of the company using the following two valuation techniques: the P/E Ratio approach and the Discounted Free Cash Flow (DFCF) approach.

- A. **P/E Ratio Valuation:** The intrinsic value ( $V_0$ ) of the stock is determined as  $V_0 = V_{10}/(1+k)^{10}$  where  $V_{10} = (\text{Avg}(P/E)) * E_0 * (1+g)^{10}$  where  
 Avg (P/E) = 10-year average P/E ratio for the company (with obvious outliers and negative P/E ratios excluded);  
 $E_0$  = Latest full year Earnings per Share;

<sup>2</sup> See Piotroski (2000) and Altman (1968) on how these indices are calculated.

g = Rate of growth of earnings, obtained as  $g = \text{Min}[4\text{-year EPS growth rate, 4-year Book Value per Share growth rate, Analysts estimate of the next five years EPS growth rate}]$ ;  
k = Discount rate (required rate of return), set at 15%<sup>3</sup>.

**B. Discounted Free Cash Flow (DFCF) Valuation:** The intrinsic in this case is estimated as  $V_0 = \text{FCF}_1/(1+k)^1 + \text{FCF}_2/(1+k)^2 + \text{FCF}_3/(1+k)^3 + \dots + V_{10}/(1+k)^{10}$  where  
 $V_{10} = \text{FCF}_{11}/(k-g)$   
 $\text{FCF}_t = \text{FCF}_{t-1}(1+g_1)$   
 $\text{FCF}_{11} = \text{FCF}_{10}(1+g_2)$   
FCF = Free Cash Flow  
 $g_1 = \text{Min}[10\%, \text{company's 4-year FCF growth rate}]$   
 $g_2 = 3\%$  (estimate of long-term rate of growth of GDP).

## Final Decision

For inclusion in the portfolio, the company must be selling at a margin of safety of at least 20%; that means the current price must be, at least, 20% below the estimated intrinsic value. If the margins of safety from both valuation methods are in the acceptance zone the company is included in the value portfolio. But sometimes, the P/E ratio and the DFCF methods will give conflicting margins of safety. In those cases the decision is made based on the overall profile of the company. If all other indicators are stellar, the company may be included but if it just passes the other criteria then it will be rejected.

To avoid a value trap (a possible situation where a value candidate may experience further and possibly permanent price decline), we have included both the Piotroski F-Score and Altman Z-Score. These two scores will give investors some indication of potential bankruptcy of the company, discussed in details above.

## Data and Methodology

### Data

We used the FPInfomart financial database for our study. Using the history of the first five years (2001 to 2005) of financial statement data, we created three portfolios (i.e. "Value", "Watch" and "Other") from the S&P/TSX 60 universe based on the analysis of the O-S heuristic approach. The companies that qualify according to the O-S heuristics we call "Value." The companies that have satisfactory financial stability and earnings potential but do not have an acceptable margin of safety we call "Watch." We used the label "Other" for the portfolio of companies which do not fall in either of the above two categories. The data from 2001 to 2005 is used to form the portfolios and the portfolio performance is tracked on a monthly basis from January 2006 to May 2011. We used three portfolio performance tracking periods: the entire period (from January 2006 to May 2011); the recession period (from October 2007 to July 2009); and the period from October 2007 to May 2011 to check performance from the recession period to date.

We used the constituents of the S&P/TSX 60 Index as our stock universe for two reasons. First, this group constitutes approximately 73 per cent of Canada's equity market capitalization and addresses the needs of investment managers who require a portfolio index of the large-cap market segment of the Canadian equity market (Standard & Poor's, 2011). Secondly, we chose the S&P/TSX 60 for a first empirical test of the O-S heuristic because if the heuristic can successfully extract a value

<sup>3</sup> Based on the fact that nominal US stock returns averaged between 9-12% (7% real return) over a 200-year period. See, for example, Siegel (2002), esp. Chapter 2 and Chapter 12.

portfolio from this group of relatively high-end category of stocks then it is bound to have more discriminating power when applied to the entire market.

### **Comparing Portfolio Performance**

Apart from showing descriptive statistics for purposes of providing information about the portfolios, there are two main things we are interested in examining in order to make judgment as to whether the use of the heuristic adds value in the value investing context. First, we hypothesize that if the value portfolio derived from the O-S heuristic adds value then the distribution of the returns of the value portfolio should be more negatively skewed than the group it is derived from (the S&P/TSX 60) or compared to the other portfolios formed from the index. Becoming more negatively skewed than the parent group or cohorts from the group implies that we have members of the set (the value portfolio) whose returns are far greater than the average than the comparison group. What this will demonstrate is that the O-S heuristic is capable of selecting portfolios with the following characteristics: the stocks that outperform will do so by such a wide margin to more than compensate for those that underperform. In any portfolio you will expect the returns of some members to be higher and others to be lower than the average, by definition. If the distribution is symmetric then the extent of outperformance by the upper half of the group is exactly matched by the underperformance of the other half. If it is negatively skewed then the outperformance of the upper half is greater than the underperformance of the lower half and vice versa for a positively skewed distribution.

The second criterion on which we intend to compare the performance of the O-S heuristic with the other portfolios is long-term returns. In the value investing paradigm measuring and comparing returns on short-term basis is meaningless. While t-tests of differences in daily and monthly returns is common in the literature (and we do present some results here), that type of comparison is out of line with the philosophical basis of value investing. Therefore, for purposes of comparing performance, what we intend to do is to compare the cumulative return over a five-year period of the value portfolio with the other portfolios. In the value investing paradigm the time horizon for investing is generally long but without any generally accepted definition of what “long” is. In his 1988 letter to the shareholders of Berkshire Hathaway, Warren Buffett said, “...when we own portions of outstanding businesses with outstanding managements, our favorite holding period is forever.” (Buffett, 1988). An unwritten part (i.e. not included in the steps listed above) of the O-S heuristic is that the portfolio must be held for at least five years. The philosophy of the O-S heuristic approach is that if you need cash from the capital value of your investment (not just dividends or other distributions) in less than five years then you should not have that wealth invested in the stock market.

## **Results, Analysis and Discussion**

### **Descriptive Statistics**

Tables 2 to 4 show the average monthly compounded means, medians, and variances of the four portfolios: the index, value portfolio, watch list, and other. As mentioned under the Methodology section above, the month-to-month performance of value portfolios has little or no significance in the value investing paradigm so these descriptive statistics are provided mainly for information. However, a few observations are in order. The fact that the value portfolio ranked first over the entire period but ranked second during the other sub-periods is interesting. We would expect that Value will rank first in each period. Another interesting observation is that the Index portfolio ranked fourth in each period which means that the index as a whole ranks below each of the three portfolios that were derived from it. While we assert that a test of differences in mean monthly portfolio returns is not a meaningful

exercise in value investing, we carried out those tests anyway and they are shown in Table 5<sup>4</sup>. The variances and their ranks are shown in Table 4.

**Table 2: Average Monthly Compound Return**

Portfolio	Entire Period (Jan 06 – May 11)	Oct 07 – Jul 09	Oct 07 – May 11
Index	0.0020 (4 <sup>th</sup> )	0.0018 (4 <sup>th</sup> )	0.0014 (4 <sup>th</sup> )
Value	0.0102 (1 <sup>st</sup> )	0.0033 (2 <sup>nd</sup> )	0.0062 (2 <sup>nd</sup> )
Watch	0.0059 (3 <sup>rd</sup> )	0.0028 (3 <sup>rd</sup> )	0.0040 (3 <sup>rd</sup> )
Other	0.0083 (2 <sup>nd</sup> )	0.0059 (1 <sup>st</sup> )	0.0068 (1 <sup>st</sup> )

Index is the S&P/TSX 60; Value is the portfolio created with the O-S heuristic; Watch is the portfolio with shares that meet the O-S financial statement analysis criteria but did not meet the margin of safety requirement. The index has 60 members, Value has 5 members, Watch has 20 members and Other has 12 members. The ranks of the portfolios in ascending order of mean returns are given in parentheses. Since high return is a desirable attribute of a portfolio, 1<sup>st</sup> refers to the portfolio with the highest mean return.

**Table 3: Median Monthly Compound Return**

Portfolio	Entire Period (Jan 06 – May 11)	Oct 07 – Jul 09	Oct 07 – May 11
S&P/TSX 60 Index	0.0018 (4 <sup>th</sup> )	0.0037 (4 <sup>th</sup> )	0.0010 (4 <sup>th</sup> )
Value	0.0088 (1 <sup>st</sup> )	0.0063 (1 <sup>st</sup> )	0.0084 (1 <sup>st</sup> )
Watch	0.0051 (3 <sup>rd</sup> )	0.0043 (3 <sup>rd</sup> )	0.0049 (3 <sup>rd</sup> )
Other	0.0083 (2 <sup>nd</sup> )	0.0056 (2 <sup>nd</sup> )	0.0078 (2 <sup>nd</sup> )

Ranks of the portfolios in terms of medians are shown in parentheses. Since return is a desirable trait 1<sup>st</sup> refers to the highest median.

**Table 4: Variance of Monthly Compounded Returns**

Portfolio	Entire Period (Jan 06 – May 11)	Oct 07 – Jul 09	Oct 07 – May 11
S&P/TSX 60 Index	0.005 (2 <sup>nd</sup> )	0.006 (2 <sup>nd</sup> )	0.005 (2 <sup>nd</sup> )
Value	0.004 (1 <sup>st</sup> )	0.005 (1 <sup>st</sup> )	0.004 (1 <sup>st</sup> )
Watch	0.008 (4 <sup>th</sup> )	0.006 (2 <sup>nd</sup> )	0.005 (2 <sup>nd</sup> )
Other	0.007 (3 <sup>rd</sup> )	0.008 (4 <sup>th</sup> )	0.006 (4 <sup>th</sup> )

The ranks of the portfolios according to their variances are given in parentheses. Since high variance is an undesirable attribute, 1<sup>st</sup> refers to the portfolio with the lowest variance.

### Tests of Differences in Monthly Returns

The summary of the results shown in Table 5 is that based on month-to-month returns. We have the following order of returns: Index > Watch > Value > Other. This outcome is a bit counterintuitive in light of the fact that the value portfolio ranked first in average monthly returns and also first (lowest variance) in variance of those monthly returns. This is a good indication of why value investing does not place much value or emphasis on this type of test.

<sup>4</sup>This is more to satisfy the curiosity of readers and critics just because the current prevailing mindset craves these statistics to feel a sense of validation.

**Table 5: Significance Tests of Differences in Means**

	<b>Hypothesis</b>	<b>Decision</b>
Index vs. Other	$H_0: \bar{R}_O > \bar{R}_I; H_1: \bar{R}_O < \bar{R}_I$	$t = 5.25, H_0$ rejected
Index vs. Watch	$H_0: \bar{R}_W > \bar{R}_I; H_1: \bar{R}_W < \bar{R}_I$	$t = 4.84, H_0$ rejected
Other vs. Watch	$H_0: \bar{R}_W > \bar{R}_O; H_1: \bar{R}_W < \bar{R}_O$	$t = -2.12, H_0$ not rejected
Index vs. Value	$H_0: \bar{R}_V > \bar{R}_I; H_1: \bar{R}_V < \bar{R}_I$	$t = 7.56, H_0$ rejected
Other vs. Value	$H_0: \bar{R}_V > \bar{R}_O; H_1: \bar{R}_V < \bar{R}_O$	$t = 1.45, H_0$ not rejected
Watch vs. Value	$H_0: \bar{R}_V > \bar{R}_W; H_1: \bar{R}_V < \bar{R}_W$	$t = 4.29, H_0$ rejected

Note: All the reject/not reject decisions are based on one-tail t-test at the corresponding 5% critical values.

$\bar{R}_I$  is the mean return for the Index;  $\bar{R}_V$  is the mean return for Value portfolio;  $\bar{R}_W$  is the mean return for the Watch portfolio;  $\bar{R}_O$  is the mean return for the Other portfolio;

**Table 6: Correlations Among Monthly Portfolio Returns**

<b>Panel A: Entire Period from January 2006 to May 2011</b>				
	S&P/TSX 60 Index	Value	Watch	Other
S&P/TSX 60 Index	1	0.807	0.827	0.840
Value		1	0.837	0.734
Watch			1	0.634
Other				1
<b>Panel B: October 2007 to July 2009</b>				
	S&P/TSX 60 Index	Value	Watch	Other
S&P/TSX 60 Index	1	0.960	0.936	0.962
Value		1	0.969	0.904
Watch			1	0.883
Other				1
<b>Panel C: October 2007 to May 2011</b>				
	S&P/TSX 60 Index	Value	Watch	Other
S&P/TSX 60 Index	1	0.793	0.851	0.922
Value		1	0.954	0.868
Watch			1	0.875
Other				1

As expected, since all the portfolios come from the same source, the correlations are very high. An interesting observation is that the correlations went up during the recession period (Oct. 2007 to July 2009).

### Skewness

One of the more relevant statistics from a value investing perspective is what happens to skewness when a portfolio is created on the basis of sound value investing heuristic. The expectation is that if the heuristic adds value to the portfolio selection process then the *ex post* skewness should be more negative than the prior portfolio. If the original group is not negatively skewed then the portfolio that is created using the heuristic should become negatively skewed. This is what is observed with the Value portfolio compared to the other portfolios as shown in Table 6. The Value portfolio has a coefficient of skewness that is 4 times that of the index and Watch has skewness that is 5 times that of the index. That means the better performance of the Value portfolio than the Index is attributed

mainly to the stocks that had returns above the median of the Value group. So the O-S heuristic is capable of selecting stocks with a bias towards outperformance, which is what we want.

**Table 7: Skewness**

Portfolio	Entire Period (Jan 06 – May 11)	Oct 07 – Jul 09	Oct 07 – May 11
S&P/TSX 60 Index	-0.175 (3 <sup>rd</sup> )	-0.209 (3 <sup>rd</sup> )	-0.004 (4 <sup>th</sup> )
Value	-0.716 (2 <sup>nd</sup> )	-0.564 (1 <sup>st</sup> )	-1.380 (1 <sup>st</sup> )
Watch	-0.864 (1 <sup>st</sup> )	-0.364 (2 <sup>nd</sup> )	-1.204 (3 <sup>rd</sup> )
Other	0.256 (4 <sup>th</sup> )	0.165 (4 <sup>th</sup> )	-0.298 (2 <sup>nd</sup> )

The ranks of the portfolios are given in parenthesis where high negative skewness is the desirable characteristic that is being sought.

### Cumulative Returns

Apart from skewness, the other comparison that we consider to be meaningful in the context of value investing is the overall cumulative return over the entire period. For value investors that is what really matters. This is because the value investor sets an investment horizon and then structures a portfolio that will preserve the original investment and yield a “satisfactory” return at the end of the investment horizon. For this comparison, what we did was to find the percentage of the members of each of the three portfolios that beat the index performance. The results are given in Table 7. The Value portfolio ranked first in each of the three sub-periods. Granted that in the value portfolio we are dealing with small numbers because there are only five companies in that group but that is the nature of value investing: you will invariably end up with a very small fraction of the stock universe that you are choosing from. Another observation is that the Watch portfolio consistently ranked second in all three periods. Both of these observations support the notion that the O-S heuristic must be picking stocks not only in the manner desired by value investors but also producing desirable outcomes.

**Table 8: Cumulative Returns**

Portfolio	Entire Period (Jan 06 – May 11)	Oct 07 – Jul 09	Oct 07 – May 11
S&P/TSX 60 Index	1.135	0.80	0.93
Value	4/5 = 80% (1 <sup>st</sup> )	3/5 = 60% (1 <sup>st</sup> )	5/5 = 100% (1 <sup>st</sup> )
Watch	11/20 = 55% (2 <sup>nd</sup> )	8/20 = 40% (2 <sup>nd</sup> )	14/20 = 70% (2 <sup>nd</sup> )
Other	6/12 = 50% (3 <sup>rd</sup> )	4/12 = 33% (3 <sup>rd</sup> )	8/12 = 67% (3 <sup>rd</sup> )

The ranks of the portfolios are given in parenthesis. The percentages represent the percentage of the group of stocks in the portfolio that outperformed the index.

### Sharpe Ratios

The final performance statistic for examining the O-S heuristic is the Sharpe Ratio. The Sharpe Ratio,  $S_p$  is given by:  $S_p = (R_p - R_f) / \sigma_p$ , where  $R_p$  is the portfolio return;  $R_f$  is the risk-free rate, and  $\sigma_p$  is the standard deviation of portfolio returns. To calculate the Sharpe ratios, we used the monthly returns of the 90-day Treasury Bill returns as the risk-free rate. The ratios for the various portfolios for the different time periods are given in Table 8. For the entire period the Value portfolio posted the best ratio. However, we need to keep in mind that this performance measurement is based on monthly returns and therefore subject to the same deprecating perception that value investors have of short-term performance measurements. Table 9 shows the number of stocks in a particular portfolio whose Sharpe ratios beat the market. Focusing on the entire period, it is interesting to note that the value portfolio as a whole did better than the index or either of the other two portfolios. But when it comes to the percentage of members in the portfolio that beat the market, the value portfolio actually ranks last. This confirms what we had said about the skewness: the value portfolio depends on a small

number of shares to significantly outperform the benchmark to more than compensate for the underperformance of the rest of the portfolio.

**Table 9: Sharpe Performance Ratios**

Portfolio	Entire Period (Jan 06 – May 11)	Oct 07 – Jul 09	Oct 07 – May 11
S&P/TSX 60 Index	0.0387 (4 <sup>th</sup> )	0.03931 (1 <sup>st</sup> )	0.0071 (4 <sup>th</sup> )
Value	1.1963 (1 <sup>st</sup> )	0.0016 (3 <sup>rd</sup> )	0.0536 (2 <sup>nd</sup> )
Watch	1.0476 (2 <sup>nd</sup> )	0.0010 (4 <sup>th</sup> )	0.0371 (3 <sup>rd</sup> )
Other	0.8023 (3 <sup>rd</sup> )	0.0042 (2 <sup>nd</sup> )	0.0757 (1 <sup>st</sup> )

The numbers in parentheses are the ranks of the portfolios.

**Table 10: Sharpe Ratios for Individual Companies in the Portfolios**

Portfolio	Entire Period (Jan 06 – May 11)	Oct 07 – Jul 09	Oct 07 – May 11
S&P/TSX 60 Index	0.03867	0.03933	0.00709
Value	2/5 = 0.40 (3 <sup>rd</sup> )	2/5 = 0.40 (3 <sup>rd</sup> )	2/5 = 0.40 (3 <sup>rd</sup> )
Watch	9/20 = 0.45 (2 <sup>nd</sup> )	11/20 = 0.55 (1 <sup>st</sup> )	13/20 = 0.65 (1 <sup>st</sup> )
Other	8/12 = 0.67 (1 <sup>st</sup> )	5/12 = 0.42 (2 <sup>nd</sup> )	6/12 = 0.5 (2 <sup>nd</sup> )

The first row shows the Sharpe ratio for the Index for the various periods. The rest of the data show the proportion of each group that beat the index based on the Sharpe ratio.

### Summary and Conclusion

The paper presented a brief overview of the origins of value investing. Although there is no question that there is value premium, there are conflicting explanations as to why it exists. Psychologists suggest that when decision makers find themselves with limited capacity to deal with complex data and high degrees of uncertainty (as in making investment decisions) they resort to the use of heuristics as a simplifying tool. However, the use of heuristics comes with the possibility of systematic cognitive biases in those decisions especially when the heuristics are developed on the fly. One way by which one can minimize the chances of being subject to cognitive biases is to specify the decision making process (rule) in advance and stick to it with strict emotional discipline. In light of that we developed a value investing heuristic and applied it to stock selection using the S&P/TSX 60 as the stock universe. A presentation of some pertinent descriptive statistics show that the value portfolio based on the heuristic ranks above the other portfolios. Thus this heuristic could potentially be used as a valid tool for making value investing decisions.

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MANAGERIAL RISK TAKING INCENTIVES, RELATIONSHIP LENDING  
AND COST OF DEBT<sup>1</sup>

This paper provides empirical evidence on how lending relationships can impact lending banks' sensitivities to managerial risk taking incentives. Bank loans with higher managerial risk taking incentives will carry higher loan spreads, all else being equal. However, relationship lending can reduce the lending banks' sensitivities to managerial risk taking incentives by 36% on average in terms of loan spreads. Such impact is more pronounced in firms with a higher information opacity level. Overall, our results imply that lending relationships play an important role in mitigating agency cost of debt from managerial risk taking incentives.

**I. Introduction**

One of the fundamental questions in corporate finance is how to align manager-shareholder interests to reduce managerial agency cost. Specially, since risk-averse managers are less diversified than shareholders, they may have a preference for lower risk taking incentives. Therefore, as argued by previous works (e.g. Jensen and Meckling 1976, Agrawal and Mandelker 1987), shareholders use equity based compensation to align manager-shareholder interests and encourage managers to implement risky investment policies. However, the nexus structure of a firm (e.g. Alchian and Demsetz 1972) suggests that shareholders' motivation to encourage managerial risk taking incentives may affect other stakeholders in the firm, such as creditors<sup>2</sup>. By switching to riskier investment, shareholders have the incentives to expropriate wealth from creditors, which is commonly referred as the wealth transfer effect in corporate finance (Fama and Miller 1972, Jensen and Meckling 1976).

Consequently, it is not surprising that creditors will pay extra attention to managerial risk taking incentives embedded in the executive compensation contract. For example, A 2007 Moody's Investor Service Special Comment states that "executive compensation is incorporated

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<sup>1</sup> I would like to thank my supervisor Jiaping Qiu and thesis committee members Luke Chan and Peter Miu for the excellent guidance. I also would like to thank participants at my proposal defense for valuable comments.

<sup>2</sup> Alchian and Demsetz (1972) argue that firms consist of nexus structure of contractual relationships between different constituents such as creditors, shareholder, managers, customers and suppliers. Each relationship is self-interest motivated therefore conflicts of interests exist among them.

into Moody's credit analysis of rated issuers because compensation is a determinant of management behavior that affects indirectly credit quality (p.1)." By observing managerial risk taking incentives, rational lenders will anticipate the potential risk and price managerial risk taking incentives *ex ante* at the time of debt issuance regardless of *ex post* results of the project. Therefore it is a tradeoff for shareholders to choose between aggressive managerial risk taking incentives to increase equity value versus the potential higher cost of debt from risk taking incentives. Given the importance of this issue in corporate finance, it is of particular interest to understand how shareholders handle the tradeoff and find a possible solution to the dilemma. However, extant literature largely keeps silent on this question.

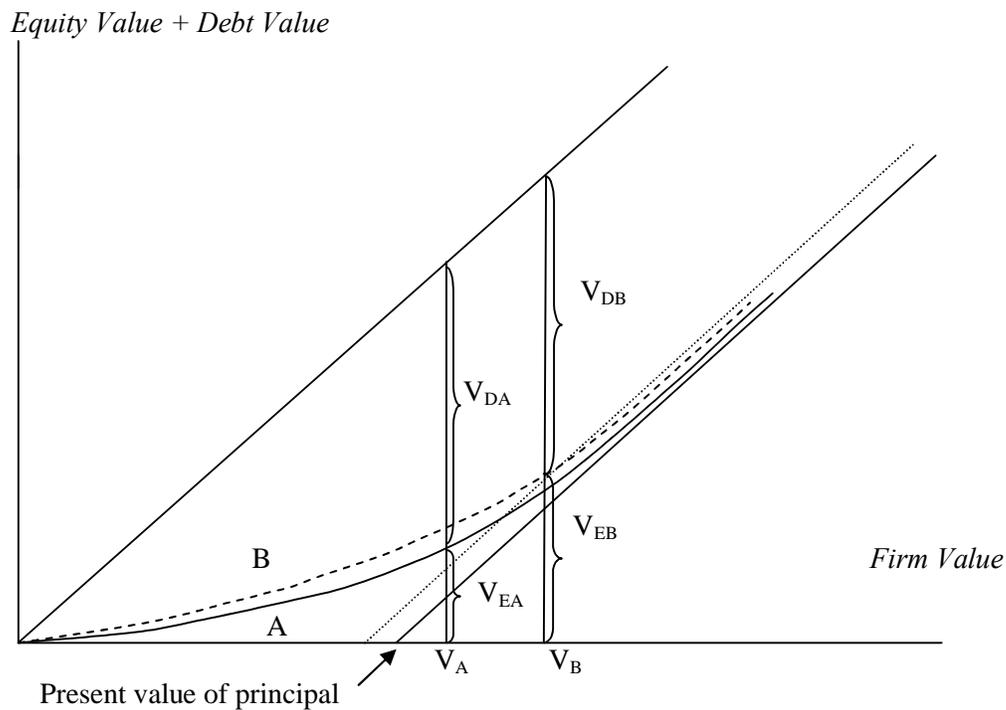
In this paper, I try to answer this question by examining the impact of firm-creditor relationships on the creditor's attitude towards managerial risk taking incentives and investigate how relationship lending can help shareholders out of the dilemma of managerial risk taking incentives. Financial intermediation literature (e.g. Diamond 1984, 1991) argue that banks as single lenders can utilize their monitoring and information production advantage to neutralize the information and monitoring deficiency in arm length debt. Further, the information production and monitoring advantage can be enhanced through repetitive transactions with the same lender over time through relationship lending (Bharath et al. 2010). Moreover, relationship lending can facilitate *implicit* long term contracting by adding flexibility and discretion to *explicit* loan contracts, and make possible value-enhancing intertemporal transfers in loan price by permitting loans not profitable in short term but profitable in long term as a lending relationship progresses (Boot 2000). Empirically, Chava and Roberts (2008) study the impact of technical default of debt covenants on firm investment decisions. They find firms will suffer significant decline in investment if loan covenants are approaching technical default. However, such effect is negligible if firms have lending relationships with creditors, suggesting that relationship lending can reduce creditor's sensitivities to firm risk and cash flow change. In sum, this strand of literature suggest that the implicit contracting features of relationship lending will mitigate the agency and information problems between firms and creditors on firm risk taking behavior and alleviate potential cost of debt arising from managerial risk taking incentives due to information asymmetry and inefficient monitoring.

The above argument can be best demonstrated by considering equity as a European call option to buy a firm from creditors at debt maturity with the principal amount of debt as the strike price as depicted in Figure 1. Suppose we have two projects, project A and project B. Project A has lower cash flow volatility than project B, as depicted by curve A and B and the project value will be  $V_A$  and  $V_B$  respectively in Figure 1. Since the value of the call option increases with the volatility of cash flow of the underlying asset, shareholders have incentives to choose projects with higher volatility to increase equity value. Therefore, for a given firm value, the equity value will go up when managers are motivated by higher risk taking incentives to increase cash flow volatility. If managers choose a project of higher volatility with the same value as project A, the equity value of the project will increase while the debt value will decrease at the expense of creditors. This is the typical argument of wealth transfer effect by Jensen and Meckling (1976) and others.

However, it is also possible for managers to choose a project of higher volatility but with higher value, such as project B in Figure 1. In this case, project value distribution between

shareholders and creditors will be  $V_{EB}$  and  $V_{DB}$  respectively. Note that both equity value and debt value will increase in this case.  $V_{EB}$  is greater than  $V_{EA}$  and  $V_{DB}$  is greater than  $V_{DA}$ . To the extent that the creditor cannot counteract managerial risk taking incentives, or feasibly discover the existence of project B due to imperfect monitoring and information asymmetry, creditors will consider the possibility of the wealth transfer effect and price it *ex ante* regardless of *ex post* results. However, if there is better monitoring and information symmetry between a creditor and a firm, it is possible for the creditor to discover that both project A and project B are available. In this case, the creditor is certain that shareholders will prefer project B because project B is dominant for shareholders as well. Therefore the creditor will not price project B with higher cost of debt even though project B has higher volatility. To the extent that relationship lending characterizes enhanced monitoring and information production between a creditor and a firm, one can argue that relationship lending will impact the creditor's sensitivities to managerial risk taking incentives. Specifically, as we noted above, the ongoing lending relationship can lower a creditor's sensitivities to managerial risk taking incentives.

**Figure 1**



To empirically test the argument, we follow extant literature (e.g. Coles et al 2006, Guay 1999) and employ Core and Guay (2002)'s one-year-approximation method to estimate CEO risk taking incentives. Lambert et al. (1991) argue that measuring the partial derivative of the change in executive compensation with respect to a change in a performance variable is the preferred way to assess managerial incentives, rather than to calculate percentage of total executive compensation tied to performance variables. Two measures of CEO risk preference are derived

from executive compensation packages. One is the sensitivities of a CEO portfolio value to stock price (*delta*) and another is the sensitivities of a CEO portfolio value to stock return volatility (*vega*). Knopf et al. (2002) disentangle the opposing effect of CEO portfolio wealth on managerial risk taking incentives. They argue that *vega* should encourage managerial risk taking incentives while *delta* should discourage managerial risk taking incentives because firms tend to hedge more if *delta* increases and hedge less if *vega* increases. In addition, Guay (1999) finds that *vega* is positively related to firm growth opportunities. Coles et al. (2006) find that *vega* is associated with riskier investment policies such as higher leverage, larger R&D expenditures and less investment in PPE. In sum, this line of literature suggests that *vega* (*delta*) should have a positive (negative) impact on the cost of bank loan since *vega* (*delta*) is positively (negatively) related to managerial risk taking incentives.

We first investigate the impact of lending relationships on a bank's sensitivities to CEO risk taking incentives with a sample of 8567 facility-firm-year observations from 1992 to 2008. We find that *vega* (*delta*) is positively (negatively) related to loan spreads and relationship lending can mitigate *vega*'s positive impact on loan spread. The results suggest that relationship lending can reduce a bank's sensitivities to CEO incentives encouraging risk taking (*vega*), consistent with our previous argument. The results are of statistical as well as economic significance. In our baseline model, one standard deviation change of *delta* and *vega* will cause a change of 22 basis points for non relationship loans, compared to a 14 basis points change for relationship loans, a drop over 36%.

We then investigate how such impact varies cross-sectionally with the information opacity level of a borrowing firm. Firms with lower information opacity have more publicly available information and are more likely to reveal the true risk level. Therefore, relationship lending is less beneficial for firms with lower information opacity because propriety information through relationship lending is less valuable for such firms (Bharath et al. 2010). Thus, relationship lending should have less impact on reducing a bank's sensitivity to managerial risk taking incentives for firms with lower information opacity. Three measures are employed to proxy a firm's information opacity level: public bond market access, S&P 500 index inclusion and analyst coverage. We find relationship lending's benefit in reducing a bank's sensitivities to *vega* is more significant when firms do not have public bond access, less analyst coverage or are not included in the S&P 500 index. The results suggest that proprietary information production and monitoring from relationship lending are more valuable to firms with a high information opacity level to reduce agency cost from excessive managerial risk taking incentives. This is consistent with the results in Bharath et al. (2010) which demonstrate that relationship lending can make a greater deduction in the cost of bank loan for firms with higher information opacity.

This paper makes two contributions to literature. Firstly, the paper adds to the executive compensation literature and provides undocumented evidence that the lending relationship between borrowing firms and creditors has great impact on executive incentive contracts. A firm is a nexus of contractual relationships of different constituents within the firm. The optimization of one contract is usually conditional on other contracts. Brockman et al. (2010) find that short maturity debt can mitigate agency cost of debt from managerial risk taking incentives. Billet et al. (2010) find that excess bond returns increase (decrease) with *delta* (*vega*) when firms announce new CEO stock option grants. We complement this line of research and argue that debt contracts

play an important role in executive compensation design. Specifically, the lending relationship between firm and creditor can impact the optimization of an executive compensation contract. A lasting lending relationship can reduce the agency cost of debt from CEO risk taking incentives so that shareholders can offer optimal risk taking incentives in the compensation contract without suffering from related agency cost.

Secondly, we shed light on financial intermediation literature on relationship lending and provide a channel through which firms can benefit from relationship lending. Extant financial intermediation literature (e.g. Petersen and Rajan 1994, Berger and Udell 1995 and Bharath et al. 2010) provide evidence that borrowing firms in relationship lending enjoy lower cost of debt because of mitigated information asymmetry between firms and banks. In this study, we investigate the possible source of relationship lending's benefit, i.e., relationship lending can alleviate information asymmetry and improve monitoring intensity so that lending banks can perceive the true risk level of CEO risk taking incentives and reduce possible cost of debt from managerial risk taking incentives.

The rest of the paper proceeds as follows. Section II discusses the sample construction and variables description. Section III presents empirical methodology and results and Section IV concludes.

## **II. Sample Selection and Variables**

Our sample is drawn from the following databases: Dealscan (LPC), Execucomp, Compustat and CRSP from year of 1992 to 2008. Dealscan provides detailed information for U.S. and foreign financial institutions loans made to corporations around the world. Execucomp, Compustat and CRSP provide company financial information, stock return and the executive compensation information required to calculate the sensitivities of CEO compensation portfolio to stock price and stock return volatility. The next step is to merge Dealscan loan information. The basic observation unit in our empirical analysis is at the individual loan level, also known as facility in Dealscan. We follow the methodology outlined by Chava and Roberts (2008) to merge Dealscan data with borrowing firm information from Compustat, Execucomp and CRSP. Since there has been quite an amount of M&A activities in the U.S. banking industry during our sample period, it is necessary to control the M&A history of lenders in our sample to trace lending relationship through time. We also exclude financial service firms and utility firms and observations with missing value in loan spread, delta and vega. The final sample contains 8567 loan facilities with 1559 firms from 1992 to 2008.

The dependent variable in our analysis is the natural logarithm of the cost of a bank loan, *loan spread*, which is defined as all-in-spread-drawn in basis point above LIBOR or LIBOR equivalent. The major treatment variables are the logarithm term of sensitivities of CEO portfolio to stock price (*prcsen*), sensitivities of CEO portfolio to stock return volatility (*volsen*) and relationship lending variables (*rl*). The details on calculation of *prcsen* and *volsen* are provided in Appendix A.

We follow the method outlined in Bharath et al. (2010) to identify whether a particular loan is considered to be relationship lending or not. For each loan, we search all the previous loan transactions of the borrowing firm in our sample over the previous five year window from loan

activation date. Since over 90% of loans in Dealscan are syndicated, we also need to identify the lead lender for each loan. We follow the Sufi (2007) and Bharath et al. (2010) to identify the lead bank, i.e., besides the “lead arranger credit” in Dealscan, a bank is also taken as the lead bank if it has one of the following lender roles: agent, administrative agent, arranger and lead bank. Then we construct a relationship lending measure  $rl$  for each loan observation.  $rl$  is a dummy variable to identify the existence of prior lending transactions with the same lender. It takes value of 1 if the borrowing firm has previous transactions with the same bank within a 5 year look-back window period from the loan activation date and a value of zero if otherwise.

We also include a number of control variables motivated by previous executive compensation and loan contract literature (e.g. Graham et al. 2008, Coles et al. 2006). For firm characteristics, we control for firm size (*size* as total assets in natural logarithm), leverage (*leverage*), book to market ratio (*book to market*), profitability (*profitability*), interest coverage (*interest coverage*), Altman’s Z-score (*altman*), stock return volatility (*return volatility*) and cash flow volatility (*cash flow volatility*). For CEO characteristics, we control for common share ownership (*ownership*) and CEO tenure (*tenure*). For loan characteristics, we control for loan amount (*amount* in logs), loan maturity (*maturity* in logs), collateral dummy<sup>3</sup> (*collateral*) and dummy variables for loan type and loan purpose. We also control two digits SIC dummy for industry effect and year dummy for year effect. All variables are winsorized at 1% and 99%. The detailed definition for all variables can be found in Appendix B.

### III. Results

#### A. Summary Statistics

Table 1 presents the summary statistics of CEO compensation variables and some loan contract terms. Panel A contains descriptive information of CEO incentives and compensation information. The median values for key treatment variables *Prctsen* and *Volsen* (in thousands) are 262 and 71 respectively, comparable to related extant empirical studies. For example, median values of *Prctsen* and *Volsen* are 247 and 71 respectively in Shaw (2007), 206 and 34 in Coles et al. (2006) or 210 and 104 in Knopf et al. (2002). Panel B provides descriptive statistics on some important loan contract terms. They are all comparable to related research. For example, the median value for loan spread is 100 basis points compared to 109 basis points in Brockman et al. (2010) and 110 basis points in Shaw (2007).

[Table 1 About Here]

Panel A of table 2 presents the distribution of relationship lending and non relationship lending in our sample over the year. The division of a relationship lending and non relationship lending facility follows the  $rl$  variable constructed earlier in our sample. The distribution of relationship lending is comparable to related research such as Bharath et al. (2010).

[Table 2 About Here]

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<sup>3</sup> Since approximately 30% observations in our sample from Dealscan have a missing value in collateral, we treat all missing values in collateral as “not secured” following Bharath et al (2010). Our main results hold when excluding the observations with missing value in collateral.

Panel B of table 2 presents the mean comparison of three key variables in this study, *loan spread*, *prcsen* and *volsen* in relationship lending group and non relationship lending group. Over the sample period, *loan spread* (in basis points), *prcsen* (in thousands) and *volsen* (in thousands) have mean values of 169, 540 and 134 respectively in the non-relationship lending group and mean values of 122, 823 and 196 respectively in the relationship lending group. Both *prcsen* and *volsen* have higher mean values in relationship lending group than non-relationship lending group, while *loan spread* has lower mean value in relationship lending group than non-relationship lending group. The results suggest that CEOs of firms in relationship lending have higher risk taking incentives but the cost of the bank loans is lower than firms in non-relationship lending. This provides some evidence that firms in relationship lending can offer higher CEO incentives while enjoy lower cost of debt. Next, we will present empirical methodologies and the results in multivariate analysis.

### B. The impact of relationship lending on bank's sensitivities to CEO risk taking incentives

As argued earlier, high managerial risk taking incentives could either increase or decrease the debt value of a project, depending on its nature. Relationship lending can therefore mitigate information asymmetry and monitoring deficiency between a borrowing firm and a lending bank to allow creditors to observe the true risk level of managerial risk taking incentives. Therefore, this implicit feature of relationship lending will reduce a lending bank's sensitivities to firm value change due to managerial incentives and alleviate the possible agency cost of debt from the conflict of interest between shareholders and creditors in terms of managerial risk taking incentives. We estimate the following model to test this hypothesis:

$$\text{Log}(\text{loanspread}_{f,t}) = c + a*rl_{f,t} + b*lprcsen_{f,t-1} + d*lvolsen_{f,t-1} + f*rl_{f,t}*lprcsen_{f,t-1} + g*rl_{f,t}*lvolsen_{f,t-1} + h*X_{f,t-1} + j*Y_{f,t} + e_{f,t} \quad (1)$$

We are expecting *f* being *positive* (relationship lending can reduce the negative relationship between *lprcsen* and cost of bank loan) and *g* being *negative* (relationship lending can reduce the positive relationship between *lvolsen* and cost of bank loan). In addition, we should expect *b* being *negative* (sensitivity of CEO portfolio to stock price has negative impact on cost of bank loan), *d* being *positive* (sensitivity of CEO portfolio to stock return volatility has positive effect on cost of bank loan), and *a* to be *negative* (relationship loans have lower spread than non relationship loan).

The multivariate results for testing our hypotheses are shown in Table 3. Model 1 to 3 reports OLS results of equation (1) without interaction terms between CEO risk taking incentives and relationship lending to check the consistency of our treatment variables with previous studies. Model 4 reports the OLS results of equation (1) with *rl* as relationship lending variable. In Model 5 and 6, we break down the sample into non relationship lending group and relationship lending group by *rl* to test the difference in sensitivities of bank loan spreads to CEO incentives.

[Table 3 About Here]

The results from Model 1 through 3 are generally as expected and consistent with extant literature. The coefficient of *rl* is negative and significant at 1% level, suggesting that relationship loans carry lower spreads than non relationship loans. The coefficients of *lvolsen* and *lprcsen* are

positive and negative respectively, indicating that *vega* and *delta* have positive and negative impact on the cost of bank loan respectively. In Model 4, the coefficients for *lprcsen* and *lvolsen* are negative and positive respectively and significant at 1% level, suggesting that *delta* and *vega* have negative and positive effects on cost of bank loans respectively. The coefficients of *rl x Lprcsen* and *rl x Lvolsen* are positive and negative respectively as expected. However, only the coefficient of *rl x Lvolsen* is statistically significant. The results suggest that relationship lending only has impact on reducing a bank's sensitivity to *vega*, the sensitivity of CEO wealth to stock return volatility. Coles et al. (2006) argue that it is *vega* instead of *delta* that influences managerial decisions on firm investment, higher the *vega*, greater the firm investment risk. Our findings are consistent with this line of literature, suggesting that relationship lending can help reduce the creditor's sensitivities to CEO incentives that encourage risk taking behavior (*vega*).

Relationship lending literature has suggested that relationship loans carry lower spreads than non relationship loans. Therefore the coefficient of *rl* should be negative in the baseline model of equation (1). However, the coefficient of *rl* is not negative as expected and has no statistical significance either as shown in Model 4 of Table 3. We interpret the results as follows. When there is no managerial risk taking incentives in executive compensation (i.e., *Lprcsen* and *Lvolsen* are both zero), relationship lending has no statistical significant benefit to borrowing firms. It suggests that the benefit of relationship lending to borrowing firms is conditional on managerial risk taking incentives, i.e., when executive compensation contracts carry no risk taking incentives, relationship lending has no significant advantage to the borrowing firm. This implies that mitigated agency cost of debt from managerial risk taking incentives is an important source of benefit of relationship lending. The improved information asymmetry and monitoring intensity from relationship lending is mainly focused on evaluating managerial risk taking incentives.

Moreover, we break down the sample into non relationship lending group and relationship lending group by relationship lending dummy *rl* to investigate the difference in loan spreads sensitivities to CEO risk taking incentives between relationship loans and non relationship loans. Model 5 reports the results from non relationship lending group and Model 6 includes results from relationship lending group. The coefficients for *Lprcsen* and *Lvolsen* are -0.095 and 0.051 respectively at 1% significance level in non relationship lending group. For relationship loans, the coefficient for *Lprcsen* is -0.034 and significant at 5% level, and the coefficient for *Lvolsen* is 0.004 without statistical significance. The results suggest that the creditors are sensitive to CEO risk taking incentives (i.e., *vega*) only in non relationship lending, consistent with our theory that relationship lending can reduce a lending bank's sensitivities to managerial risk taking incentives.

Overall, our results suggest that CEO risk taking incentives have different impacts on cost of bank loan. Sensitivities of CEO portfolio to stock price (*delta*) have negative effect on bank loan cost while sensitivities of CEO portfolio to stock return volatility (*vega*) have positive effect on bank loan cost. However, the impact of sensitivities of CEO portfolio to stock return volatility (*vega*) on cost of bank loans will be attenuated if a bank loan is considered as relationship lending. The improved information asymmetry and monitoring intensity from relationship lending can alleviate possible cost of debt from managerial incentives that encouraging risk taking behavior (*vega*).

### C. Information opacity, relationship lending and CEO risk taking incentives

Relationship lending literature (e.g. Boot 2000) argued that relationship lending can generate customer-specific proprietary information through repeated transactions which can be used to reduce monitoring cost. Therefore, as argued by Bharath et al (2010), the benefit of relationship lending to a borrowing firm would depend on the relationship lender's ability to generate proprietary information, which is related to a borrowing firm's information opacity level. The greater the information opacity of the firm, the greater will be the value of relationship lending. The intuition is that the proprietary information produced through relationship lending is more valuable for firms with high information opacity compares to information transparent firms where the proprietary information is more publicly available and harder to produce. Therefore, we posit that relationship lending's impact on lending bank's sensitivity to CEO incentives should also vary by the degree of a borrowing firm's information opacity level. More specifically, relationship lending should have a greater impact when a borrowing firm's information opacity level is high and a less impact when borrowing firm's information opacity level is low. To test the hypothesis, we estimate equation (1) conditional on cross sectional difference of firm opacity level and present the results in Table 5.

[Table 4 About Here]

Column 1 through 3 estimate equation (1) for low information opacity firms while Column 4 through 6 estimate equation (1) for high information opacity firms. We employ three measures, public bond market access, S&P500 index inclusion and analyst coverage, to proxy information opacity level of borrowing firm. Intuitively, firms issuing public bonds will have lower information asymmetry because they are monitored by credit rating agencies. As argued by Faulkender and Petersen (2006), almost all firms with public bond rating have a positive amount of public debt, therefore we use whether or not the firm has a public bond rating as the proxy of access to public bond market. For each loan facility in our sample, we search in Mergent FISD for the public bond rating record of borrowing firm before loan activation date. Column 1 estimates equation (1) for firms with public bond rating record and Column 4 estimates equation (1) for firms without public bond rating record. Firms included in S&P 500 index are generally followed by more media coverage and investor following, so these firms should have lower information opacity and be more transparent. For each loan facility in our sample, we identify whether if the borrowing firm is included in S&P 500 index from Compustat. Column 2 estimates equation (1) for firms included in S&P 500 index and Column 5 estimates equation (1) for firms not included in S&P 500 index. Analyst coverage is another proxy often used by empirical studies to capture the information asymmetry level of firms. Using I/B/E/S data on number of analysts that issue earning forecasts for the borrowing firm at the time of loan, we try to investigate if our earlier findings will vary by the level of analyst coverage. For each loan facility, we match the number of analyst forecasts to borrowing firms and sort the sample by it. Column 3 estimates equation (1) for firms in the top quartile of analyst following and Column 6 estimates equation (1) for firms in the bottom quartile of analyst following.

The results support our hypothesis that the impact of relationship lending on bank loans' sensitivities to CEO risk taking incentives is more pronounced in firms with high information opacity. In regression results, we find none of coefficients of interaction terms between  $rl$  and  $Lprcsen$ ,  $Lvolsen$  are statistical significant for firms with low information opacity. For firms with

high information opacity, the coefficients of interaction terms between *rl* and *Lvolsen* are statistically significant. The results suggest that relationship lending can produce proprietary information and efficient monitoring which will reduce the potential agency cost of debt from CEO risk taking incentives for high information opacity firms only.

## V. Conclusion

While research on executive compensation has long focused from the perspective of shareholders, this paper advances the research in this area by examining it from the angle of creditors. Contrary preference of managerial risk taking incentives in executive compensation causes a conflict of interests between creditors and shareholders, which contributes to the cost of debt from managerial risk taking incentives. In this paper, we investigate how lending relationship between creditors and borrowing firms will impact such costs and present evidence that relationship lending can mitigate the agency cost of debt from managerial risk taking incentives. The theories behind these empirical results show that relationship lending will improve information symmetry and monitoring intensity between borrowing firms and lending banks, as well as add implicit flexibility and discretion to explicit loan contact terms. Therefore, the unique features of relationship lending will reduce a lending bank's sensitivities to firm risk and also mitigate the agency cost of debt from managerial risk taking incentives.

This paper also provides new insights into the importance of relationship lending by providing the channel through which relationship lending can benefit firms – relationship lending can mitigate agency cost of debt from managerial risk taking incentives and help firms offer optimal CEO incentives in executive compensation packages without arousing the creditor's concern toward potential rising credit risk.

The results documented here can help us better understand the interactions of different contractual relationships within the firm and how best to optimize one contract when it is conditional on other contracts. Taken together, our findings provide additional rationale for relationship lending and show how it can translate into valuable gains for all firm stakeholders such as shareholders, creditors and firm executives.

## Appendix A: Calculation of CEO portfolio Sensitivities

Following the methodology outlined by Core and Guay (2002), We define the sensitivity of CEO portfolio to stock price (*prcsen*) as the change in the value of the CEO's stock and option portfolio due to a 1% change in the price of the firm's common stock. Sensitivity of CEO portfolio to stock return volatility (*volsen*) is defined as the change in the value of the CEO's option portfolio due to a 1% change in the annualized standard deviation of the firm's stock returns. Partial derivatives of the option price with respect to stock price (*delta*) and stock return volatility (*vega*) are based on the Black and Scholes (1973) option-pricing model, adjusted for dividends by Merton (1973) as follows:

$$\Delta = e^{-dt} N(Z)$$

$$v = e^{-dt} N'(Z) S \sqrt{T}$$

$$Z = \frac{\ln(s/x) + T(r-d + \alpha^2/2)}{\alpha \sqrt{T}}$$

where

$N$  is the cumulative probability function for the normal distribution;

$N'$  is the density function for the normal distribution;

$S$  is the price of the underlying stock;

$X$  is the exercise price of the option;

$\sigma$  is the expected stock return volatility;

$r$  is the natural logarithm of the risk-free interest rate;

$T$  is the time to maturity of the option in years;

$d$  is the natural logarithm of the expected dividend yield.

We follow Core and Guay (2002) one year approximation method to compute *delta* and *vega*. This method has been applied in empirical studies such as Brockman et al. (2010), Coles et al. (2006) and Shaw (2007). Once the *delta* and *vega* of each option partition are determined, we can calculate *prcsen* and *volsen* as follows:

$$Prcsen = \frac{S}{100(\Delta_{ng} N_{ng} + \Delta_{pgex} N_{pgex} + \Delta_{pgunex} N_{pgunex} + N_{stock})}$$

$$Volsen = \frac{1}{100(v_{ng} N_{ng} + v_{pgex} N_{pgex} + v_{pgunex} N_{pgunex})}$$

where  $S$  represents the stock price and  $N$  represents the number of options or stocks in hundreds of thousands. The subscripts *ng*, *pgex*, *pgunex* and *stock* stand for new grants, previously granted exercisable options, previously granted unexercisable options and stock holdings respectively.

## Appendix B: Variables Definitions and Data Sources

Variable	Definition
Altman Z-score	defined as $(1.2 * \text{working capital} + 1.4 * \text{retained earnings} + 3.3 * \text{EBIT} + 0.999 * \text{sales}) / \text{total assets}$ .
Book to Market	defined as $(\text{total assets} - \text{total liabilities}) / \text{common share outstanding} * \text{fiscal year end stock closing price}$ .
Cash Flow Volatility	defined as the standard deviation of quarterly cash flows over past 4 years scaled by total asset.
Collateral	Defined as dummy variable takes value of 1 if the loan is secured or 0 otherwise.
Interest Coverage	defined as $\log(1 + \text{EBITDA} / \text{interest expenses})$ .

Leverage	defined as (long term debt + debt in current liabilities)/total assets.
Log (amount)	defined as log term of loan facility amount.
Log (asset)	defined as log term of firm's total assets.
Log (maturity)	defined as the log of loan facility maturity.
Lprcsen	log term of prcsen
Lvolsen	log term of volsen
Ownership	defined as the CEO stock ownership deflated by firm outstanding common shares.
Prcsen	defined as the change of CEO stock and option portfolio to 1% change of stock price.
Profitability	defined as EBITDA/total assets.
Return Volatility	defined as standard deviation of annualized monthly stock returns over past 60 months.
rl	defined as dummy variable takes value of 1 if the borrowing firm of the loan facility had transactions with lender before in 4 year look back window period before current loan and 0 otherwise
rl_loan	defined as the ratio of number of loans with the lender to the number of total loans by borrowing firm in 4 year window period before current loan.
rl_amount	defined as the ratio of dollar value of the loans with the lender to the total dollar value of loans borrowed by the firm in the last 4 year before current loan.
Tenure	defined as natural log of number of years CEO in position, equals the difference between the year of observation and the year when the CEO in position
Volsen	defined as the change of CEO option portfolio for 1% change of standard deviation of annualized stock return.

### Table 1 Summary Statistics

The table presents summary statistics for CEO compensation, loan contract terms and firm characteristics for the sample of 8567 loan facilities of 1559 firms over 1992-2008. Panel A provides CEO incentive compensation data from ExecuComp.

Panel A: CEO Compensation						
Variable	N	Mean	Std Dev	Q1	Median	Q3
Prcsen (in thousands)	8567	753	1557	103	262	680
Volsen (in thousands)	8567	181	296	25	71	194
Lprcsen	8567	5.55	1.5	4.63	5.56	6.52
Lvolsen	8567	4.15	1.64	3.22	4.25	5.27
Panel B: Loan Contract Terms						
Variable	N	Mean	Std Dev	Q1	Median	Q3
Loan Spread (in basis point)	8567	133	117	40	100	200
Loan Maturity (Month)	8238	43	23	12	48	60
Loan Amount (in Millions)	8567	536	1098	100	250	550

**Table 2 Relationship Lending from 1992-2008**

This table presents relationship lending distribution from 1992-2008. Panel A presents the frequency of relationship lending over 1992-2008. For a particular facility, If the borrowing firm borrows from the same bank in the past 5 years, then this facility is considered as relationship lending. Panel B presents the mean and difference of CEO incentives and cost of bank loan in relationship lending and non relationship lending sample. Significance level at 10%, 5% and 1% is indicated by \*, \*\* and \*\*\* respectively.

Panel A			
Year	Non Relationship	Relationship	Total
1992	18	32	50
1993	63	176	239
1994	97	267	364
1995	123	307	430
1996	127	413	540
1997	129	418	547
1998	165	427	592
1999	175	464	639
2000	179	538	717
2001	180	555	735
2002	118	516	634
2003	121	545	666
2004	148	511	659
2005	161	488	649
2006	144	417	561
2007	145	282	427
2008	43	75	118
Total	2136	6431	8567

Panel B			
Variables	Non Relationship	Relationship	Difference
Pricesen (in thousands)	540	824	284***
Volsen (in thousands)	135	196	61***
Loan Spread (in basis points)	169	122	47***

**Table 3 Relationship lending's impact on CEO incentives-cost of bank loan relationship**

The table presents results of equation (1), relationship lending's effect on CEO incentives and cost of bank loan relationship. The dependent variables are natural log of loan spread in basis point. *rl* is a dummy variable taking value of 1 if the borrowing firm of the loan facility had transactions with lender before in 4 year look back window period before current loan. 2 digits SIC industry dummy, calendar year dummy, loan purpose and loan type dummy are included in all models. Heteroskedasticity robust t-statistics are in parentheses and clustered at firm level. \*, \*\* and \*\*\* indicate significance level at 10%, 5% and 1% respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
					Non Relationship Lending	Relationship Lending
rl	-0.051** (-2.37)		-0.050** (-2.28)	0.031 (0.42)		
Lprcsen		-0.052*** (-3.93)	-0.051*** (-3.82)	-0.060*** (-3.36)	-0.095*** (-4.38)	-0.034** (-2.28)
Lvolsen		0.019** (1.98)	0.018** (1.97)	0.045*** (3.11)	0.051*** (3.39)	0.004 (0.32)
rl x Lprcsen				0.011 (0.72)		
rl x Lvolsen				-0.036** (-2.39)		
Log(Assets)	-0.169*** (-11.45)	-0.148*** (-9.12)	-0.147*** (-9.04)	-0.146*** (-9.00)	-0.137*** (-5.72)	-0.144*** (-7.72)
Leverage	0.701*** (6.89)	0.671*** (6.56)	0.680*** (6.64)	0.680*** (6.65)	0.828*** (4.77)	0.640*** (5.71)
Book to Market	0.238*** (8.48)	0.224*** (7.76)	0.224*** (7.69)	0.222*** (7.70)	0.216*** (4.57)	0.209*** (6.59)
Interest Coverage	-0.068*** (-3.91)	-0.062*** (-3.46)	-0.064*** (-3.56)	-0.063*** (-3.52)	-0.040 (-1.48)	-0.079*** (-3.93)
Profitability	-1.151*** (-5.24)	-1.034*** (-4.59)	-1.036*** (-4.60)	-1.048*** (-4.66)	-0.517 (-1.29)	-1.153*** (-4.71)
Altman Z-score	-0.036** (-2.38)	-0.041*** (-2.67)	-0.040*** (-2.61)	-0.040*** (-2.62)	0.013 (0.46)	-0.061*** (-3.63)
Return Volatility	0.747*** (9.23)	0.742*** (8.89)	0.735*** (8.82)	0.734*** (8.85)	0.765*** (4.86)	0.724*** (8.12)
Cash Flow Volatility	1.303*** (3.55)	1.391*** (3.78)	1.407*** (3.82)	1.408*** (3.81)	0.605 (1.01)	1.857*** (4.60)
Ownership		0.001*** (4.04)	0.001*** (3.97)	0.001*** (4.01)	0.001*** (2.85)	0.001*** (2.79)
Tenure		0.003* (1.67)	0.003* (1.66)	0.003* (1.69)	0.004 (1.32)	0.003 (1.55)
Log(Amount)	-0.061*** (-5.02)	-0.062*** (-5.04)	-0.060*** (-4.92)	-0.061*** (-5.00)	-0.058*** (-2.89)	-0.070*** (-4.97)
Log(Maturity)	-0.058*** (-2.81)	-0.052** (-2.49)	-0.053** (-2.54)	-0.052** (-2.51)	0.016 (0.42)	-0.088*** (-3.92)
Collateral	0.505*** (20.60)	0.508*** (20.57)	0.505*** (20.47)	0.505*** (20.54)	0.496*** (10.96)	0.497*** (18.16)
N	7192	7018	7018	7018	1612	5406
R-square	0.710	0.714	0.714	0.714	0.694	0.728

**Table 4 Relationship Lending, CEO Incentives and Firm Opacity**

The table presents the results of equation (1), relationship lending's effect on CEO incentives and cost of bank loan relationship with different firm information opacity level. The dependent variables are natural log of loan spread in basis point. Independent variables are defined same in table 3.

	(1)	(2)	(3)	(4)	(5)	(6)
	High Firm Opacity			Low Firm Opacity		
	With Bond Access	S&P 500 Inclusion	High Analyst Coverage	Without Bond Access	No S&P 500 Inclusion	Low Analyst Coverage
rl	0.045 (0.37)	-0.017 (-0.10)	0.055 (0.63)	0.039 (0.44)	0.020 (0.24)	0.011 (0.09)
Lprcsen	-0.057* (-1.80)	-0.050 (-1.32)	-0.042** (-2.02)	-0.053*** (-2.64)	-0.049** (-2.58)	-0.072*** (-2.65)
Lvolsen	0.032 (1.20)	0.041 (1.42)	0.025 (1.46)	0.056*** (3.57)	0.046*** (2.95)	0.068*** (3.52)
rl x Lprcsen	0.012 (0.45)	0.028 (0.82)	-0.004 (-0.20)	0.017 (0.91)	0.011 (0.65)	0.032 (1.31)
rl x Lvolsen	-0.027 (-0.99)	-0.032 (-1.16)	-0.025 (-1.34)	-0.056*** (-3.22)	-0.042** (-2.48)	-0.053** (-2.56)
Log(Assets)	-0.125*** (-5.13)	-0.158*** (-5.41)	-0.156*** (-8.69)	-0.154*** (-8.70)	-0.086*** (-5.10)	-0.136*** (-5.43)
Leverage	0.477*** (2.76)	0.854*** (3.85)	0.653*** (5.65)	0.766*** (7.38)	0.694*** (7.03)	0.715*** (4.60)
Book to Market	0.228*** (4.86)	0.531*** (5.40)	0.190*** (6.14)	0.218*** (7.06)	0.155*** (5.98)	0.313*** (6.73)
Interest Coverage	-0.149*** (-4.35)	-0.056 (-1.58)	-0.068*** (-3.15)	-0.038** (2.00)	-0.050*** (-2.74)	-0.056** (-2.22)
Profitability	-1.010*** (-2.97)	-0.834* (-1.86)	-1.082*** (-4.00)	-0.978*** (-3.65)	-0.851*** (-3.71)	-0.997*** (-2.94)
Altman Z-score	-0.047* (-1.76)	-0.048 (-1.39)	-0.031* (-1.68)	-0.032* (-1.79)	-0.028* (-1.84)	-0.047** (-2.08)
Return Volatility	0.714*** (4.93)	0.883*** (4.36)	0.782*** (7.78)	0.777*** (8.28)	0.617*** (7.42)	0.687*** (5.95)
Cash Flow Volatility	2.380*** (3.82)	2.474*** (3.26)	0.899** (2.16)	0.977** (2.44)	1.283*** (3.48)	2.223*** (3.92)
Ownership	0.001** (1.97)	0.001* (1.89)	0.004*** (2.60)	0.001*** (3.54)	0.001*** (3.17)	0.001 (0.75)
Tenure	0.003 (1.32)	0.004 (1.30)	0.002 (0.60)	0.002 (1.16)	0.002 (1.25)	0.005** (2.36)
Log(Amount)	-0.081*** (-4.82)	-0.084*** (-3.33)	-0.048*** (-3.21)	-0.051*** (-3.36)	-0.066*** (-5.18)	-0.071*** (-3.66)
Log(Maturity)	-0.049 (-1.45)	-0.018 (-0.41)	-0.027 (-1.12)	-0.057** (-2.38)	-0.057** (-2.58)	-0.090*** (-2.69)
Collateral	0.609*** (13.73)	0.582*** (9.07)	0.492*** (16.92)	0.431*** (16.04)	0.458*** (19.26)	0.517*** (12.95)
N	2840	2285	1592	4178	4733	1583
R-square	0.761	0.693	0.705	0.693	0.659	0.746

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## **TOO BIG TO FAIL, TBTF: A BETTER SOLUTION IS A MIXTURE OF SOLUTIONS**

This paper presents a critical analysis of a subset of solutions of the too big to fail, TBTF, problem in the banking sector. For evaluation, it uses specified criteria factors which are pooled in one place from the existing literature. Findings show that no single solution is sufficient enough to solve the TBTF problem; suggesting that a mixture of solutions is a better solution.

### **1. INTRODUCTION**

This paper presents a critical evaluation of a subset of solutions of the TBTF problem in the banking sector and then argues that no solution entails all the desirable results. Therefore, it is postulated that for the public authorities a more appropriate course may be to adopt a mixture of solutions.

In the banking sector, the term too big to fail, TBTF, is frequently used to describe how regulators bailout a large failing bank. The term came into common usage in 1984 when the Continental Illinois National Bank – the seventh largest bank and the largest corresponding bank in the USA at that time, was rescued from failure. A clear statement about the TBTF policy emerged when in the defence of the bailout of Continental Illinois National Bank, the then Comptroller of Currency stated that regulators cannot permit any of eleven largest banks (in the USA) to fail (Kaufman, 2002).

The main reason for the TBTF policy has been the regulators' concern about adverse spillover effects or systemic risk, of a large bank failure on other financial institutions and simultaneously and ultimately on the real economy. The TBTF policy has short-run gain arising from the avoidance of spillover effects, but it has both short-run costs and long-run costs. According to Goodlet (2010), the short-run costs consist of the taxpayers' funds which are used for the rescue, while long-run costs arise from the inefficient allocation of resources due to moral hazard behaviour of the TBTF institutions. With respect to 1980s bailouts of savings and loan associations, Stern and Feldman (2009) report that long-run costs were three times the short-run

costs. In the extant literature on the TBTF problem, though no comparison of estimated benefits and costs of the TBTF policy has been made, yet it is generally believed that costs outweigh benefits in the present value terms (Goodlet, 2010).

In the 2007-2008 financial crisis, the bailouts through such methods as direct supply of equity to failing banks, creation of special purpose vehicles to deal with toxic assets and direct asset purchases, expanded both in size and coverage. According to the Bank of England (2009), such extraordinary interventions amounted to 75% of 2007 nominal GDP in the USA, 95% of 2007 nominal GDP in the UK, and 30% for the Continental Euro area. With the widespread usage of the bailouts during the crisis, the TBTF policy appears to be more entrenched than before. It is commonly believed by several analysts that stronger expectations of continued moral hazard, lack of market discipline, and competitive non-neutrality in favour of large banks will result in more devastating financial crises in the future with much worse effects on the real economy (Goodlet, 2010). It is also generally believed that the expanded safety net exhibited by governments in the 2007-2008 financial crisis will be difficult to be maintained in the future due to stringent fiscal situations. A debate has been raging among academicians, market participants, and policy makers about solving the TBTF problem, and this debate has led to a host of correcting measures or solutions. In this paper, some of these solutions are critically evaluated in the light of a list of possible criteria factors. The conclusion will be that no single correcting measure may solve the TBTF problem; only a policy mix may be more appropriate.

The remainder of the paper is organized as follows. In Section 2, a list of possible solutions is provided, covering only those solutions in some details, which are analysed later on. Section 3 presents criteria factors to assess the suitability of each solution. The critical evaluation of each of the selected solutions is provided in section 4, along with the argument for a mix of solutions. Section 5 provides summary and conclusions of the paper.

## 2. POSSIBLE SOLUTIONS AND A BRIEF DETAIL ON SOME SOLUTIONS<sup>1</sup>

In the extant literature, several solutions have been suggested by various authors and regulators. A list of those solutions is as follows:

- a) A limit on size
- b) Tax on profit of TBTF banks
- c) Regulating systemic risk: a systemic risk board
- d) Improving bank governance: enhanced responsibility of directors
- e) Increasing deposit insurance premium rates for TBTF banks and simultaneously insuring uninsured depositors
- f) No bank is TBTF: no bailout
- g) Raising capital adequacy requirements for TBTF banks
- h) Embedded contingent capital
- i) Elimination of the limited liability provision of banks' stockholders

We choose only a subset of above solutions as the same point can be made with the subset as with the whole list. For no particular reasons except perhaps for more diversity among solutions and more popularity of some of the solutions in the current literature, we cover explanations of the five solutions in some detail below.

### 2.1 A Limit on Size

This solution requires taking bigness out of a TBTF institution. For an existing large bank, this correcting measure requires divestments to curtail the size which has been identified as the maximum critical size, and secondly, it requires not letting any emerging small bank to rise to a TBTF level.

Despite some tricky practical issues: how to measure size; what should be a limit on size of a given bank; and how to handle other factors such as liquidity, leverage, interconnectedness, role

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<sup>1</sup> The solutions to be listed, but not to be covered in detail later on, are very briefly as follows: (a) tax on profit of a TBTF bank involves taxing excessive profit, arising from the TBTF status as Buiter (2009) argues that the size creates a negative externality which needs to be taxed; (b) Regulating systemic risk requires targeted regulation of institutions with higher levels of systemic risk. Advocates are Moss, Volcker, Summers, Bernake (see Thompson (2009)). This approach requires an agreed upon common definition and measurement of systemic risk; (c) increasing premium rates of risk-based deposit insurance for TBTF institutions so that you avoid taking excessive risk. Also, covering uninsured depositors with corresponding costs will avoid a free riding problem. The main advocates are regulators of G20 countries; (d) the elimination of limited liability of banks' stockholders will create enormous market discipline which will curtail the possibility of failure enormously. There is no direct advocate of this solution, but the argument can be derived from John, John, and Senbet (1991), and White (1990).

in clearing and payment systems, the rationale behind this solution is two-fold: (a) a large bank is difficult to manage effectively, resulting in more likelihood of failure, and (b) there are less significant spillover effects of failure of a small bank.

Key advocates of cutting down the size and breaking of large financial institutions into parts are: King (see Treanor (2009)), Greenspan (see Buiter (2009)), Drucker (see Dickson (2010)), and Johnson and Kwak (2010).

## **2.2 Improve Bank Governance: Enhanced Responsibilities of Directors**

In the wake of the recent financial crisis, people are questioning whether directors of banks' boards have enough skills to understand the increased complexity of financial transactions and risk management techniques; do they monitor activities of management adequately; are they accountable for decisions they undertake; and are they independent of management teams. On these accounts, boards' performance has been found to be poor. According to Leechor (1999), good bank governance would require creating personal stake of directors, increase transparency by making disclosure requirements to the market the same as those to the regulatory authorities, and clear accountability of directors' actions. Alles and Friedland (2010) propose that directors should be subject to the prudent investor rule, replacing the currently prevalent business judgement rule. According to the business judgment rule, directors are not responsible for their decisions as long as they make these decisions on a good faith and not neglectfully. This rule frees directors from any probable liability and does not protect shareholders if they break their duty of loyalty. Under the prudent investor rule, directors are accountable for their actions. This rule requires the investigation of each decision, based on its effect on the whole enterprise risk, instead on the risk of individual investments only.

## **2.3 No Bank is TBTF: No Bailout**

This solution suggests that if a bank is in the territory of negative equity, let its old stockholders and /or new stockholders recapitalize it. If that does not happen, the bank has to be liquidated. There should be no bailout or rescue through any of the methods such as, purchase and assumption, open bank assistance, modified purchase and assumption, the systemic risk exemption, or an agency agreement.

The rationale of this solution arises from the fact that it creates the best possibility of market discipline by creditors and stockholders of the bank and consequent reduction in the moral hazard problem. It also avoids the competitive disadvantages to smaller banks due to the TBTF status of larger banks. Finally, it avoids both short-run and long-run costs associated with the TBTF policy.

According to Stern and Feldman (2009), this solution is the only way to break the expectations of the use of the TBTF policy in the future. Moss (see Thompson (2009)) argues that if targeted reputation of a systemically important financial institution (SIFI which is another name for TBTF financial institution) and limited assistance do not work, the troubled institution must go to receivership.

## **2.4 Raising Capital Adequacy Requirements**

Basel Accord in 1988, now known as Basel I, defined various types of capital, identified credit risk weights to various assets of a bank, took off-balance sheet assets into account, and specified capital adequacy rules. The 1995 amendment to the Accord (Basel II) introduced the incorporation of market risk in determining capital adequacy requirements. Basel II implemented in most countries in 2008, was based on introducing many more categories of risk with different weights, strengthening the supervisory process in evaluating adequate bank's internal procedures to determine its capital need and improving market discipline through increased disclosure of details about bank's credit exposure, its amount of reserves and capital, and effectiveness of its internal rating system.

Basel III is currently being finalized and the Bank for International Settlements defines Basel III as "a comprehensive set of reform measures, developed by the Basel Committee on Banking Supervision, to strengthen the regulation, supervision and risk management of the banking sector".

Besides, raising total capital adequacy requirements relative to risk-weighted on-balance and off-balance sheet assets from 8% to 10.5%, Basel III proposes a capital surcharge for systemically important financial institutions. A capital surcharge is not yet known, but this surcharge is because of the TBTF problem. A higher surcharge will be preferable in this context.

Raising the capital adequacy requirements for TBTF banks will increase cost of capital to these banks, introduce more market discipline by stockholders, and make insolvency less likely due to larger size of capital. The major proponent of this measure is the Basel Committee on Banking Supervision and thereby the member countries of this committee.

## **2.5 Embedded Contingent Capital**

This solution requires that a bank issues non-equity securities: bond/debentures and preferred stock, with the conversion feature which must be triggered when the bank is in serious trouble. These non-equity securities are known as embedded contingent capital. According to Dickson

(2010) who is one of the main advocates of this measure, the trigger point for conversion would arise when the regulators would be ready to control the institution. The trigger point can also be set earlier in the process than what Dickson (2010) suggests as, for example, in the case of Lloyds Bank's issuance of contingent convertible bonds in 2009, the trigger was set at a point where the consolidated core tier I ratio would fall below 5%. The point is that the trigger has to be preset reflecting deteriorating financial situation of the institution.

The rationale behind this embedded contingent capital approach is, as Dickson (2010) stated, that the contingent capital will act like self-insurance, prefunded by private investors to protect solvency. Secondly, it would impose market discipline by both, the investors in the contingent capital securities and the equity holders who will face a substantial dilution of ownership and value at the time of conversion.

### **3. CRITERIA FACTORS FOR EVALUATION**

In the extant literature on the TBTF problem, several factors have been suggested in evaluating each of the various solutions proposed. No single paper contains all the criteria factors for evaluation at one place. We do that below, with a brief explanation of each of the factors.

#### **3.1 Lowering the Probability of Failure**

A TBTF situation would arise only when a large bank would fail but if the failure would become less likely, the problem would to that extant disappear. Consequently, if a solution will lower the probability of insolvency, then, everything else the same, it will obviously be a favourable solution.

#### **3.2 Smaller or No Spillover Effects**

The spillover effects of a failing bank arise from capricious runs on other depository institutions due to panic and sequential service nature of deposits, a decline in money supply and its consequent effect on spending, declining pace of additional loans to consumers and businesses, and disruption of normal functioning of financial and product markets.

Everything else the same, if a solution will reduce or eliminate the adverse spillover effects, then, it will be a desirable measure<sup>2</sup>.

### **3.3 Lesser Moral Hazard: More Market Discipline**

Moral hazard refers to behaviour of excessive risk taking with the expectation that if the losses will accrue; they will be borne by another party. In the banking sector, moral hazard refers to giving more risky loans, taking speculative positions in non-derivative and derivative securities, and in loan evaluation not following the prudent underwriting standards, with the expectation of high returns but the downside losses to be borne by the national government and/or International Monetary Fund.

Moral hazard arises from two sources: the lack of market discipline and information asymmetry. Market discipline refers to monitoring risk taking behaviour of bank's managers by depositors, creditors, and stockholders of the bank<sup>3</sup>. If they will find excessive risk taking relative to yields they expect to earn, these creditors and investors will shift their funds to investments where they get better returns for equivalent risks.

Everything else the same, if a measure would raise the possibility of more market discipline, then, it would be a positive measure.

### **3.4 Lesser Moral Hazard: Lesser Information Asymmetry**

This criteria factor considers moral hazard arising from information asymmetry, as the bank management is expected to have superior information while depositors, other creditors and most stockholders are expected to have inferior information<sup>4</sup>.

Everything else the same, if a solution would reduce information asymmetry prevailing between bank management and shareholders, then, it would be an interesting solution.

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<sup>2</sup> It is possible that a solution may eliminate the current spillover effects of failure of a large bank but may result in more frequent financial crises in the future and thereby more frequent spillover effects in the future. The converse that there are spillover effects now but less spillover effects in the future, can also occur. In this context, a better approach will be to assess the present value of spillover effects. However, in this paper, only the current spillover effects are considered.

<sup>3</sup> Discipline by regulators is not a part of market discipline.

<sup>4</sup> It needs to be emphasized that moral hazard can arise even if there is perfect market discipline as the information set to market participants is not the same as used by the bank in its decision making. This moral hazard can be avoided only through full disclosure of all relevant public and private information.

### **3.5 Competitive Neutrality**

The TBTF policy is competitively non-neutral in favour of large banks, giving large banks unfair advantage over small banks. On the deposit side, large banks pay lower rates as their deposits are perceived to be virtually risk free due to anticipation of bailout. Berger and Hannan (1989) show that in a highly oligopolistic banking market structure, the average deposit rates paid by a large bank are 0.15% to 1.5% lower. On the lending side, Hannan (1991) shows that large banks charge higher interest rates. Thus, the spread incomes to larger banks are significantly higher due to their TBTF status.

Everything else the same, if a solution would entail a more level playing field in the market place, it would be a better solution.

### **3.6 More Efficient Use of Resources**

There will be more efficient use of resources if a bank is able to achieve economies of both scale and scope with the given investments in infra-structure and information technology. Berger, Hunter and Timme (1993) show that large banks are not only able to produce each financial service at a lower average cost (economies of scale) but also they are able to sell multiple financial products using the same inputs (economies of scope).

Everything else the same, a solution leading to a more efficient utilization of resources will be a superior solution.

### **3.7 Simpler to Implement**

A measure will be more complex (not simple) if it involves issues related to definition and measurement of concepts, suggests actions which are impractical, and entails competitive disadvantage(s) to national banks.

Everything else the same, a simpler implementation of a solution is a distinct advantage.

## 4. SOLUTIONS ANALYSIS

### 4.1 Evaluation of Solutions Individually

In this section, each of the five solutions covered in some detail in section 2 is individually evaluated in accordance with the seven criteria factors listed in the previous section. Each of the seven factors is positively postulated as a question and an answer to which can be either yes or no, or no effect, or unsure about the direction of the effect of the solution. It may be noted that the analysis in this paper cannot assess the extent of the effect; it simply gives the direction of the effect.

#### 4.1.1 A limit on size

*a) Will there be a reduction in the probability of failure?*

The answer is no. A smaller bank is more likely to fail due to the lack of product and locational diversification, lower spread margins, and weaker risk management. The history of bank failures in the USA shows a substantially high frequency of bank failures among small banks relative to large banks.

*b) If failure, will there be lower spillover effects?*

The spillover effects of failure of a small bank will be economically less threatening due to lesser degree of interconnectedness, lesser role in clearing and payments systems, and smaller sizes of deposits and losses.

*c) Will there be more market discipline?*

Since the expectations of bailout in the case of financial distress of a small bank do not exist, the uninsured creditors and stockholders will be concerned about the risk taking behaviour of the bank. Therefore, more market discipline is expected from this solution. Due to increased market discipline, moral hazard will decline.

*d) Will there be lesser information asymmetry?*

Moral hazard arising from information asymmetry cannot decline due to a limit on size, as it can be reduced only if additional regulations enhancing information disclosure and transparency are implemented.

*e) Will there be more competitive neutrality?*

As mentioned in section 3 above, the TBTF policy has given unfair competitive advantages to larger banks. If large banks would not be permitted, there would be no expectations of bailouts, eliminating the competitive non-neutrality in favour of large banks.

*f) Will there be more efficient use of resources?*

Cutting the size of large banks is likely to reduce economies of both scale and scope in most situations. Thus, the answer to this question is no.

*g) Is this solution simple to implement?*

Though the title of this solution appears simple, yet in practice, this solution is complex to implement due to following several issues related to its implementation: (i) how to define size? (ii) What should be a cut-off size for a bank? (iii) How to hold other factors relevant for systemic risk (e.g., leverage, liquidity, degree of interconnectedness) constant in determining the constrained size of a bank?

**4.1.2 Improve bank governance: enhanced responsibilities of directors.** *(In the previous subsection, criteria factors were posted as positive questions and numbered from (a) to (g). Below only number is indicated, not the question)*

*a)* With directors' direct role in risk management and the fact that they can be personally responsible, excessive risk taking activities are likely to be reduced or eliminated. As a consequence, there is expected to be a reduction in the probability of bankruptcy.

*b)* Even with good corporate governance, economic and interest rate conditions can still cause the bank to fail. If the failure of a bank of a given size were to take place, good corporate governance cannot affect the degree of spillover effects positively or negatively.

*c)* Directors' active and accountable role in bank's decision-making activities is expected to raise market discipline by shareholders.

*d)* An improvement in corporate governance requires more transparency and more disclosure of relevant information to market participants. Therefore, moral hazard arising from information asymmetry is expected to decline.

*e)* Good corporate governance would not eliminate the expectations of rescue, using taxpayers funds, if a large bank were to fail. This means that the prevailing un-level playing field in favour of large banks will continue.

*f)* Elimination or reduction in excessive risk taking activities is expected to improve resource allocation to good projects. Also, with good corporate governance the size-related economies of scale and scope will continue.

*g)* This solution is simple to implement in practice. It does not involve definitions and measurements of concepts nor does it involve any direct costs.

#### **4.1.3 No bank is TBTF: no bailout**

*a)* This solution will break currently entrenched expectations of bailouts, requiring banks to be more prudent in their risk taking activities. As a consequence, the probability of failure is expected to decline.

*b)* The current spillover effects will for sure occur as rescue will not be available to avoid the spillover effects.

*c)* If the failure were to happen due to excessive risk taking, uninsured creditors and stockholders would also suffer corresponding losses. Thus, there is now incentive for them to increase their discipline of bank's activities.

*d)* If this measure is not accompanied with requirements of more information disclosure and transparency, moral hazard arising from information asymmetry will continue.

*e)* Expectations of no bailout will eliminate advantages associated with the TBTF status. Therefore, this solution is favourable for competitive neutrality in the market place.

*f)* Elimination or reduction of excessive risk taking due to market discipline will lead to a better allocation of resources. Secondly, the size-related economies of scale and scope will continue as large banks will stay as large.

*g)* This solution is the simplest of all solutions to implement because it simply requires an official declaration from the government stating that no bailout will be provided to any of the failing banks, irrespective of the size.

#### **4.1.4 Raising capital adequacy requirements**

*a)* The answer is obviously yes as high levels of common equity and tier I capital will provide a greater cushion. Swiss Commission of Experts (2010) proposed three components of capital: a minimum level, a buffer, and a progressive component. Such a sequential capital requirement makes insolvency of a large bank very unlikely.

*b)* Though higher capital requirements for a systemically important bank do reduce the probability of insolvency of the bank yet if insolvency were to occur, the spillover effects would occur with the same degree as before this correcting measure.

*c)* With this solution, the TBTF institutions will have to be identified and market participants will have more firm expectations that downside risks will be covered using taxpayers money. This will lower market discipline among the uninsured creditors and shareholders of the bank.

*d)* To the extent a systemically important bank has to go to the market to raise more equity capital, disclosure of information through prospectuses will be required. The market will then be more informed about bank's financial and operating situations, which should lower information asymmetry and thereby moral hazard.

*e)* This solution preserves the TBTF status of a large bank and there will be continued expectations of rescue in troubled circumstances. Therefore, competitive non-neutrality in favour of TBTF institutions will continue. However, an offset is a rise in cost of capital of a TBTF bank. On balance, the effect is indeterminate.

*f)* Lower moral hazard is expected to increase an efficient use of resources. The size-related operating cost advantages will continue.

*g)* This solution involves identification of systemically important banks, and there can be difficulties to arrive at a common agreed-upon definition of a systemically important bank. Also, this solution can raise cost of capital of a TBTF bank significantly, which can be perceived a negative factor in its implementation.

#### **4.1.5 Embedded contingent capital**

This solution acts as raising capital requirements in the situation of financial distress, so it runs parallel to the solution of raising capital adequacy requirement in terms of answering criteria factor questions. The answers are the same except (c) and (g).

c) The expectations of the TBTF policy will continue with this solution, suggesting a continued lack of market discipline. However, investors in contingent capital securities will be more vigilant about bank's risk taking activities as in a downside situation, they are expected to be one of big losers since in bailouts, creditors are generally paid but shareholders are not. The original shareholder will also be concerned with dilution of ownership and a significant decline in share price at the time of conversion. Therefore, shareholders will demand higher yields upfront or switch their portfolio to alternative investments. On average, the effect of this solution on market discipline is unsure.

g) This solution does not require the identification of a TBTF bank as in the case of raising capital adequacy requirements for TBTF banks. However, the determination of trigger point may be somewhat tricky as it will require definition of financial trouble. On average, the effect is therefore unsure.

#### **4.2 A Better Solution Is a Mixture of Solutions**

To recapitulate our analysis, the following table summarizes individual effects on criteria factors of each solution considered in this paper. As mentioned earlier, the analysis and the table do not give the extent of the effect. Moreover, there is no hierarchical importance of the criteria factors.

**TABLE 1: SOLUTIONS TO THE TBTF PROBLEM AND THEIR INDIVIDUAL EFFECTS ON CRITERIA FACTORS**

*Notation:* “+” means the positively stated criteria factor stays the same or improves  
 “-” stands for a reduction or deterioration in the positively stated criteria factor  
 “?” stands for an unsure effect

<b>Solution</b> <b>Criteria factors</b>	<i>Limit on size</i>	<i>Improve bank governance: enhanced responsibilities of directors</i>	<i>No bank is TBTF: no bailout</i>	<i>Raising capital adequacy requirements for TBTF banks</i>	<i>Embedded contingent capital</i>
<i>a) Makes failure less likely</i>	-	+	+	+	+
<i>b) Lower spillover effects</i>	+	-	-	-	-
<i>c) More market discipline</i>	+	+	+	-	?
<i>d) Lesser information asymmetry</i>	-	+	-	+	+
<i>e) More competitive neutrality</i>	+	-	+	?	?
<i>f) More efficient use of resources</i>	-	+	+	+	+
<i>g) Simpler to implement</i>	-	+	+	-	?

As can be seen from table 1 above, no single solution offers favourable results on all the criteria factors. Similar findings are expected for other solutions listed in section 2 but not analyzed in this paper. This suggests that a better solution may be a mixture of solutions to get the maximum

favourable effects. For instance, the Swiss Commission of Experts (2010) has recommended a mixed policy solution<sup>5</sup>.

In addition to the criteria factors, the regulators may take into account various other considerations. Briefly, these considerations are: firstly, the regulators may not consider all the factors equally important. For example, to regulators, the difficulties in implementation may be a critical factor. This might explain why no government except the UK ever considered cutting the size of a large bank seriously (the limit on size solution).

Secondly, regulators may consider complementarity/substitutability relationships among solutions. For example, improving corporate governance can be considered in every policy mix as it is complementary to every other solution.

Thirdly, costs of regulation which should include both cost to the private sector and cost to the public sector, may be another important consideration in determining a policy mix.

## 5. CONCLUSION

This paper has catalogued, with brief explanations, all the possible solutions, presented in the existing literature, to tackle the TBTF problem in the banking sector. It has also collected at one place various criteria factors for evaluation of each of the solutions.

The focus of the paper was to provide evaluation of individual solutions, using the criteria factors. In this context, a subset of five solutions, viz., a limit on bank's size, improved corporate governance, no bank is TBTF: no bailout, raising capital adequacy requirements for the TBTF banks, and embedded contingent capital, was selected for the analyses.

The main finding of the paper is that since no solution has all the desirable consequences, a better approach is to use a mixture of solutions which is called a policy mix. Some other considerations were identified in the determination of this policy mix for given regulators.

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<sup>5</sup> The policy mix recommended by the Swiss Commission of Experts (2010) involves embedded contingent capital, capital surcharge for TBTF banks, risk diversification aimed at reducing the degree of interconnectedness within the banking sector, and better governance in the event of solvency of a TBTF bank.

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## **AN EXAMINATION OF THE CONTINUED APPLICABILITY OF COMMITMENT MODELS IN A UNIONIZED PROFESSIONAL WORKPLACE**

Increasing professionalization of the workplace coupled with rising rates of unionization of professionals invites a reexamination of the notions of organization, union and professional commitment. A study of Canadian licensed practical nurses extends the discussion of dual commitment to relationships between profession and union and identifies a need to further examine affective commitment in the context of craft versus industrial unionism.

### **Introduction**

Commitment in various forms within organizations has been examined over the past twenty five years (Carson *et al.*, 2006; Meyer *et al.*, 1993), however the changing dynamic of current workplaces presents new circumstances for our consideration. Research has dealt extensively with commitment to the organization, the union, and the occupation. Studies include single and multiple measures of commitment and varying lengths of scales. Labour relations research has addressed dual commitment to union and organization (see Lee (2004) for review), but there is little research that addresses the union-profession dichotomy. The current workplace, with increasing credentialization, often requires employees to be members of a tripartite constellation – organization, profession and union. At the same time, employment has become more precarious over time (Nolan & Wood, 2003), undermining the notion of commitment to the employer. Professionals are finding themselves gathered together in increasingly large numbers in employment relationships, in a departure from the historical self employed model of the liberal professions while at the same time traditional work relationships and forms are changing with the advent of extensive contract and temporary project arrangements (Milton, 2003; Nolan & Wood, 2003). Traditionally unionization has been employer and worksite focused. In recent times we have seen the emergence of network forms of unionization and a decline in traditional career patterns. People's attachment to different forms of work-based affiliation, be it a union or profession, may thus be subject to change as well. It may be that union and professional commitment coexist, independent

of the notion of organization commitment. This study examines the continued applicability of commitment models to a unionized professional workplace. The rest of the paper is organized as follows: Following this introduction is a discussion of the professional and unionized workplace in the current era of union decline and a discussion of the research problem. An overview of the commitment literature is presented, with specific hypotheses. The method and results for this study are presented with a discussion of the implications for application and further research.

### **Union decline and professions**

The international decline in union density among industrialized nations is well noted (Kumar & Schenk, 2006; Murray, 2003), as is the rise in professionalization and professionalism at work (Evetts, 2003; Freidson, 1986). This declining status of unionization around the world has generated a body of research looking at union renewal (L. Haiven *et al.*, 2005; Kumar & Schenk, 2006; Lowe & Rastin, 2000). Not since Haug and Sussman's (1973) preliminary study of the compatibility of union and professional logics of action has any significant research been dedicated to a quantitative examination that draws the two together. The changing workplace raises a number of areas of potential exploration including comparability of union commitment and profession commitment. If union density is in decline, perhaps the rise in professional forms of organization might replace it and point to renewal strategies for the labour movement that have a new focus. Alternatively, perhaps professional associations represent a complementary form of collectivism to support union goals. A first step is to examine commitment in unionized workplaces that employ professionals to determine the continued applicability of commitment models. Research into multiple and dual forms of commitment (Bemmel, 1995 for review and discussion; A. Cohen, 2005) have been undertaken to examine whether organization and union commitment can coexist, or if one form tends to dominate in organizations with competing claims on employees loyalty. The models developed for commitment, its antecedents and outcomes, provide a solid foundation from which to explore the notion of profession and union commitment in a single workplace.

Why should profession commitment be of interest specifically in conjunction with union commitment? There are common elements underpinning the two forms of collective action, including closure strategies and strong socialization antecedents (Fullagar *et al.*, 1994; Milton, 2003; Parkin, 1979; Pratt *et al.*, 2006). To some extent all organizations compete for membership and loyalty. Professions are similar to employers and unions in their demand for loyalty that is in opposition to the loyalties demanded by these other two forms. Both unions and professions represent the interests of workers, though in different terms. Research indicates, however, that professionalism and

unionization are not incompatible (Hannay, 2002; Rabban, 1991) and it is reasonable to study them jointly.

Forms of union participation are also meaningful for professions; the meetings, representation events and lobby initiatives, as well as occasionally more strident militancy which meet the information and organizational needs of members are close parallels in these collectives. In addition, the right to strike for health care professionals in the public sector has come under recent scrutiny (J. Haiven & Haiven, 2007). Of the recent public sector strikes in Canada, most have been over issues fundamental to professional control and discretion. For example, the nurses strike in Saskatchewan, the teachers strike in British Columbia, Crown Prosecutors in Nova Scotia, ACTRA members nation-wide, and university professors in Atlantic Canada have taken job action over the control of discretion and autonomy in key aspects of their professional work (Campbell & Haiven, 2007). The strength of profession commitment may be an indication of strength of likelihood to take job action and may indicate a relationship between professions and unions not hitherto explored in the literature. Commitment to the profession may be manifest in the use of strike power to achieve economic as well as professional goals.

### **Research question**

The goal of the study is to observe commitment to the union and the profession in the same workplace. Given that unions and professions both exercise closure strategies (Parkin, 1979), the antecedents and outcomes of these two forms of commitment may correspond. This study looks at the construct of professional commitment in comparison with union commitment in order to determine whether the same scales, antecedents, and outcomes are relevant in a model of professional commitment as they are for union commitment.

### **Literature review**

The literature on organization and employee loyalty shows a steady evolution of the construct 'commitment' over the past twenty five years (Meyer & Allen, 1997). The construct was initially posited as organization commitment, which Meyer and Allen (1991) developed into a three component model, consisting of Affective, Normative, and Continuance commitment. Three different logics apply to individual feelings of commitment: one is intrinsically committed (affective) through belief systems; one may be normatively committed through a socialization and rules bound structure, and commitment may arise through ongoing participation and investment of time in the organization or profession. The components of organization commitment have shown to

be differentially related to antecedents and outcomes. This three component model has been extended to occupation commitment (Meyer *et al.*, 1993).

Gordon *et al.* (1980) developed a model of union commitment which has also inspired a number of studies on the construct (see Hammer & Avgar (2005) for review). The Gordon scale of union commitment is also a three component model with an affective measure, labeled loyalty, as well as willingness to work for the union and responsibility to the union components. These latter two do not correspond directly to the Meyer and Allen constructs of normative and continuance commitment, however. In more recent research, Bemmels (1995) makes the case for treating commitment as an independent variable. Union commitment as measured by Gordon *et al.* (1980) remains a standard in research for measuring affective commitment to the union. It has been shortened (Kelloway *et al.*, 1992) to thirteen items, which have been validated by further research (Bayazit *et al.*, 2004; A. Cohen, 2005).

Research has led to an examination of dual commitment to both union and organization, and the circumstances under which this may be possible. Barling *et al.* (1990) explored the difference between organization and union commitment, theorizing the role and purpose of a union, and thus its perceived value to individuals, are fundamentally different than the role, purpose, and value of the employing organization. In a sense the two are in opposition and thus different measures are warranted (Barling *et al.*, 1990). More recently professional commitment has come under similar theorizing (Dwyer *et al.* 2000, Giffords 2003, McAulay *et al.* 2006).

The antecedents of commitment, particularly socialization, are particularly relevant for professions in light of the literature on professionalization and professional identity (Evetts, 2003; Milton, 2003; Pratt *et al.*, 2006). In addition, a number of demographic variables were also identified as antecedents of commitment, and work outcomes in addition to turnover were included in the Meyer and Allen and the Barling models. In union research, participation in union activities is most often the principal outcome measured. Redman and Snape (2004) provide a review of the literature, and address the choice of anticipatory scales versus past-behaviours scales. They highlight the challenges of past behaviour measures when the opportunity for such participation may be limited for reasons of geography or numbers. Kelloway & Barling (1993) also discuss the difficulty of achieving member action and particularly the limited number of opportunities to serve on committees and hold elected office in large unions. In this instance intent may be a suitable substitute measure for activity.

Much of the research on professions and occupational commitment has addressed registered nurses, lawyers, accountants, and medial doctors (L. Cohen *et al.*, 2005; Loi & Hang-yue, 2004; Pratt *et al.*, 2006). The allied health professions, however, are highly

likely to be unionized public servants (L. Haiven, 1999) and represent a growing realm of professionalization of the workplace. They are a notable exception to the global trend of declining unionization. In addition, the education requirement for these professions is often less than the four-plus year university degree and apprenticeship model. The length of professional training can be a factor in occupation commitment (Meyer *et al.*, 1993). Given the increase in professionalization among the allied health professionals (L. Haiven, 1999) the Licensed Practical Nurse (LPN) represents a well established profession with a clear identity and position in the hierarchy of the medical profession, and a suitable subject for study.

### **Hypotheses**

The following research hypotheses guide the study's examination of the coexistence of profession and union commitment.

1. Profession commitment in a unionized setting will be comprised of three components, affective, continuance and normative commitment, which will be differentially related to demographic and job antecedents
2. Profession commitment in a unionized setting will be comprised of three components which will be differentially related to job outcomes
  - a) Profession commitment will be positively related to casting a ballot in various votes and intention to cast a ballot in a strike vote.
  - b) Profession commitment will be negatively related to intention to quit profession.
3. The Profession activity scale will group into two factors, hard and easy, reflecting effort.
  - a) Profession commitment will be positively related to profession activity.

### **Research design**

#### **Sample**

The largest union representing health care workers in a major Canadian regional centre agreed to participate in this study. The bargaining unit selected for study includes a high proportion of professionalized workers. Due to the complexity in negotiating access to the union membership, and subsequent negotiation over the survey instrument, it was not viable to include more than a single profession, Licensed Practical Nurses (LPNs). However, the entire profession within the bargaining unit was surveyed. It is a

union shop where licensing is required to practice the profession. This design controls for differences of employer, union and profession.

The risk of insufficient response rates associated with this approach was mitigated by the union president's written endorsement of the study and encouragement to members to complete and return the survey. Past indications of response rates for this union were strong – in excess of thirty percent for a single contact. In addition, LPNs have not been significantly surveyed in the past and were likely to provide a good response rate. The sample had experience with ratification, union election, and strike votes in the recent past.

Following instrument pre-testing among two unions of professionals, the union executive and union research team, 405 surveys were mailed directly to current home addresses of members by the union. This represents approximately ten percent of the total number of employees in this bargaining unit. An electronic version of the survey was also made available, with directions to the website included in the survey mail package. Responses were received over a three week period. It was not possible to issue a reminder notice through the auspices of the union itself to potential respondents as originally planned (Dillman, 2000), however the provincial College of Practical Nurses agreed to post a message on their website at the midpoint of data collection to remind those in the target sample to return their surveys. 82 completed surveys were returned and 80 provided useable data for a response rate of 19.75% which was well below the anticipated level. 100% of responses came through regular mail, a result which may be related to the demographic profile of respondents. No surveys were returned as undeliverable.

## **Measures**

Known antecedents of commitment were captured in a demographic section through questions on sex, marital status, age, years experience in the profession and with the employer, job status and education level. This latter served to confirm the type of program of study followed prior to obtaining a license from the provincial College. A single overall measure of job satisfaction was asked, using a five point response scale, from very unsatisfied to very satisfied. Research by Lang and Johnson (1994) indicates this approach is appropriate and avoids issues of weighting and validation. Turnover intention was measured on a single item for each of profession and employer, using a five point response scale from very unlikely to very likely, following Cohen (2005).

Profession commitment was measured using the Meyer *et al.* (1993) 18 item profession commitment scale rated on a five point response range from strongly disagree to strongly agree. The union commitment scale was a thirteen item instrument from

Kelloway *et al.* (1992) measured again on a five point response range the same as for the profession commitment.

The union and profession participation scales were duplicates, with the term union replaced by profession. The scale was based on Redman and Snape (2004), with the exception of the item regarding strikes, as it does not have a ready counterpart in the profession, and the voting item, which was asked separately. The question asked how likely a respondent was to participate in each activity across a five point scale, from very unlikely to very likely. Scales based on past-behaviour would be unduly influenced by the small number of LPNs represented in the bargaining unit, and intention more closely indicates attitudes. The definition of union participation has varied widely in the research (A. Cohen, 1993) and for this study the physical action approach is used, as distinct from participation in decision making or attitudinal militancy (A. Cohen, 1993). Other measures of participation included a series of questions asking whether or not respondents voted in the last ratification vote, union election, and strike vote, and whether or not they intend to vote in the next strike vote. The final measures asked whether a respondent turned first to the College or the union for information regarding issues affecting LPNs, and how strongly they agreed with the statement that the union best represented the interests of LPNs.

## Results

The data were examined for normality, multivariate outliers, multicollinearity and homogeneity of variance (Meyers *et al.*, 2006). Despite the low N, these were all found to be within acceptable tolerances. Missing values did not exceed three cases for any single variable, and continuous missing values were replaced by the series mean. The union activity scales showed skewness in excess of 1.0 and were subject to a square root transformation, bringing the statistic to acceptable levels. All of the five point scales were coded so that higher scores reflected a greater degree of the construct being measured.

Table 1 shows the descriptive statistics and inter-item correlations for the key variables in the study. All respondents were women. The typical respondent was married, 47.7 years old, with no children or adults in the home requiring care. She had less than two years of college education and had 21.4 years of experience as an LPN, with 14 years of experience with this employer. The typical respondent works full time in only one job. She likely voted in the last contract ratification, union election and strike votes. The majority of respondents (87.7%) answered Yes to the item “Do you intend to cast a ballot in the next strike vote?” This item showed no correlation with any of the commitment scales and only slight correlation with past ratification and strike vote behaviour (.25 and .28 respectively,  $p < .05$ ).

Table 1  
*Pearson's correlations of antecedent and outcome variables (N=75 listwise)*

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Years worked as LPN	21.41	11.78																		
2. Years worked for employer	14.05	10.91	.68**																	
3. Age	47.73	10.34	.65**	.46**																
4. Job satisfaction	3.61	1.05	.00	.04	-.13															
5. Where do you turn for issues	1.44	0.49	.06	.36**	-.14	.12														
6. Voted in ratification	1.14	0.42	-.24*	-.25*	-.32**	.12	-.09													
7. Voted in union election	1.37	0.58	-.21	-.14	-.09	.17	-.02	.52**												
8. Voted in last strike vote	1.43	0.74	-.34**	-.41**	-.30**	.12	-.07	.41**	.46**											
9. Profession affective commitment	23.41	4.78	-.07	-.19	-.00	.37**	-.16	.04	-.06	.13										
10. Profession normative commitment	15.24	5.40	-.01	.06	.16	.12	-.11	-.15	.03	.03	.55**									
11. Profession continuance commitment	20.98	5.00	.2	.28**	.09	.02	.01	-.06	.04	-.28*	-.13	.09								
12. Union affective commitment	10.86	4.57	.22	.15	.21	.13	.00	-.05	-.09	.01	.33**	.38**	.07							
13. Union best represents LPN interests	2.47	1.40	.12	.10	.14	.28*	.03	.05	-.10	-.01	.29*	.39**	.09	.69**						
14. Profession activity easy	14.46	3.48	.21	.07	.07	.27*	-.154	-.17	-.13	-.04	.29**	.03	-.09	.33**	.13					
15. Profession activity hard	8.34	4.53	.15	-.14	.14	.16	-.18	.01	-.10	.04	.21	.01	-.20	.13	.05	.53**				
16. Union activity easy	3.70	0.53	.24*	.21	.00	.15	.15	-.36**	-.29**	-.19	.19	.00	.03	.28*	.20	.57**	.18			
17. Union activity hard	2.72	0.71	.21	-.03	.13	.05	.00	-.16	-.10	-.02	.10	-.13	-.08	.32*	.03	.52**	.54**	.52**		
18. Intend to leave job	1.86	1.40	.15	.14	.12	-.19	.00	.10	.19	.18	-.28*	-.19	-.08	-.04	-.21	.06	-.04	-.07	.02	
19. Intend to leave profession	1.53	1.15	.28*	.27*	.23*	-.22*	-.01	-.12	-.03	-.06	-.29*	-.06	.11	-.06	-.27*	.07	-.06	-.10	.02	.68**

\*  $p < .05$  \*\*  $p < .01$

These results show relationships between demographic items and voting patterns, turnover intention, but only limited relationships to commitment and activity scales. Voting items are highly correlated, with indications that if a person voted in one type of election they voted in all types and intend to cast a ballot the next strike vote.

Union and professional commitment show most correlation with activity and turnover variables, indicating the best potential for regression analysis. Continuance commitment correlates only with years worked for the employer; it may be a duplicate measure or is only appropriately measured in the setting through longitudinal analysis (Meyer *et al.*, 1993).

Logistic regression analysis of voting patterns was conducted to explore the possibility of a non-linear relationship in the data. No relationship emerged between voting patterns and demographic variables or commitment scales. In addition, logistic regression analysis of where respondents turn for information on issues affecting LPNs did not reveal any statistically significant relationship to the variables in this study.

Factor analysis of each Profession commitment scale, using principal component extraction and varimax rotation, confirmed the models upon which the measures were based, with two exceptions noted below. Factor analysis is generally not recommended on an N less than 200 (Meyers *et al.*, 2006), however the variables to cases ratio was acceptable and the test confirmed established scales, based on the Kaiser-Guttman retention criteria of eigenvalues greater than 1. The Kaiser Meyer Olkin measure of sampling adequacy was acceptable in each case (above 0.7) and Barlett's test of sphericity was also significant in each case. Low communalities for two items in the affective commitment scale resulted in a revised scale of only four items, and a single item of the continuance commitment factored into its own component and it was also dropped from a revised scale of five items. Two of the three dropped items were negatively worded in the original questionnaire (*I don't identify with the Licensed Practical Nursing profession* and *There are no pressures to keep me from changing professions*). The third item dropped was *Licensed Practical Nursing is important to my self image*. Reliability analysis of the original scales further confirmed the necessity of adjusting the scales, due to the impact on Cronbach's alpha if anomalous items were deleted. Cronbach's coefficient alpha on the revised scales ranged from .80 to .84, indicating good subscale reliability.

Factor analysis of the three Union commitment scales extracted a single factor in each case, all of which indicated high communalities and Cronbach's coefficient alpha levels between .84 and .96. The union commitment scales were left unchanged from the original model. The union willingness scale was deemed too close a duplicate of the union activity scales, given their anticipatory nature, and so was not included in subsequent analysis.

Factor analysis of the activity scales revealed two factors rather than three (Redman & Snape, 2004), however, the vote activity component of the original scale was reported elsewhere in the instrument and the strike militancy was omitted from the instrument, thus potentially explaining the difference in component structure. The factor analysis results for the activity scales are reported in Table 2 & 3. The factors are labeled 'easy' and 'hard' to distinguish between them for the balance of the analysis.

Standard multiple regression of the impact of antecedents length of service as LPN, length of service to employer, job satisfaction and age on each of the commitment scales indicates only job satisfaction contributes significantly to the prediction of Profession affective commitment. Multiple R for the regression was statistically significant  $F(4,75) = 4.76, p < .01$ .  $R^2_{adj} = .16$ . Regression results are summarized in Table 4.

Table 2  
*Factor Loadings from Principal Component Analysis with Varimax rotation (N=80)*

	Component loading		
	1 Hard	2 Easy	Communality
Union Activity			
1 Stand as elected official	.85		.73
2. Speak at union meeting	.69		.60
3. Help with union election	.81		.82
4. Stand as union delegate	.89		.81
5. Go to a union meeting		.75	.64
6. Read a union newsletter		.86	.74
7. Discuss the union		.44	.40
8. Take part in job action		.76	.61
Eigenvalues	4.03	1.32	
% of variance	37.2	29.70	
A	.87	.75	

Table 3  
*Factor Loadings from Principal Component Analysis with Varimax rotation (N=80)*

	Component loading		
	1 Hard	2 Easy	Communality
Profession Activity			
1 Stand as elected official	.90		.81
2. Speak at profession meeting	.80		.78
3. Help with profession election	.90		.82
4. Stand as profession delegate	.93		.89
5. Go to a profession meeting		.33	.49
6. Read a profession journal		.75	.58
7. Discuss profession		.74	.55
8. Take part in profession action		.69	.55
Eigenvalues	4.13	1.31	
% of variance	44.6	23.4	
A	.92	.64	

Table 4  
*Regression Model summary for work and employee characteristics predicting Profession affective commitment (N=80)*

Variable	B	SeB	$\beta$
Service as LPN	.005	.05	.02
Service to employer	-.090	.05	-.26
Job Satisfaction	1.44	.037	.402**
Age	.06	.05	.155

\*\*  $p < .01$

Standard multiple regression of the impact of commitment on activity outcomes, turnover and feelings of representation was conducted. Results of the regression are summarized in Table

5. As suspected, Profession continuance commitment does not make a statistically significant contribution to the outcomes. Profession affective commitment makes a statistically significant contribution to predicting easy profession activity, easy union activity, and likelihood of leaving the current job (negatively related). Union affective commitment makes a statistically significant contribution to predicting union activity and feeling the union best represents LPN interests. Significance levels vary across the analysis, however, and Profession normative commitment significantly negatively predicts activities other than profession hard activities, an anomalous finding which causes the researcher to advise caution in the interpretation of results.

Table 5  
Regression Model summary for commitment predicting outcomes (N=80)

Variable	$\beta$				Adj R <sup>2</sup>	F	dfs
	Prof Affective Commitment	Prof Normative Commitment	Prof Continuance Commitment	Union Affective Commitment			
Likely to leave job	-.35**	-.01	-.13	.10	.12	2.51*	4, 75
Likely to leave profession	-.38	.15	.02	-.001	.06	2.31	4, 75
Prof activity easy	2.67**	-2.16*	.18	.33**	.20	4.59**	4, 75
Prof activity hard	.24	-.15	-.11	.11	.03	1.65	4, 75
Union activity easy	.26*	-.27*	.12	2.70**	.16	3.46*	4, 75
Union activity hard	.16	-.35**	-.03	.41**	.19	4.26**	4, 75
Union best represent interests as LPN	.06	.13	.04	.58**	.42	15.4**	4, 75

\*\* p<.01, \* p<.05

## Discussion

Interpretation of these results requires caution due to the small sample size. However, these preliminary results are encouraging in terms of a relationship between profession commitment and union commitment and expected antecedents and employment outcomes. The study demonstrates that commitment models continue to hold among professionals in a unionized workplace, although normative and affective commitment are highly correlated and continuance commitment may be of limited value as a predictor. Furthermore, adjustments to the commitment scales due to negatively worded items confirms earlier research findings in this regard (Kelloway *et al.*, 1992). There is limited support for Hypothesis 1, where results show the three commitment scales are differentially related to the antecedent job satisfaction. The strength of the relationship indicated in the results may be evidence of a spurious relationship due to organization factors not taken into consideration in the study.

The prominence of the right to strike news coverage and union communications campaigns just as the study was launched likely affected the measure of intention to cast a ballot in the next strike vote. There is no support for Hypothesis 2a as a result. The lack of a relationship in the data for where respondents turn with their issues indicates that perhaps other dimensions of the issue affect individual decisions.

Profession affective commitment is negatively related to intention to quit the profession and the current job, confirming Hypothesis 2b. There is also support for Hypothesis 3, where results demonstrated the expected relationships between union affective commitment and activity scales. The negative predictive power of normative commitment supports the competition thesis between union and profession; however the relationship between Profession normative commitment and easy profession activities requires further study. Bemmels' (1995) suggestion to treat commitment as an independent variable proved to be a valuable tool in analyzing the same construct in robust model.

This study was conducted in an industrial union setting, where a variety of professions and types of work are gathered together under a single union, in a limited number of bargaining units that are tied to location rather than to craft. The identification with the union may thus be more strongly linked to the workplace than would be the case in instances where a nurses union, for example, represents members of an entire profession across a number of worksites.

The results indicate that the profession commitment scale, and particularly the affective component, demonstrates similar characteristics as union commitment. This can enhance our understanding of these dual dynamics in workplaces where both are present. In addition, there is an indication that relationship between continuance commitment in workplaces with licensing or membership limitations may warrant further study. Where the profession is regulated and licensing is a requirement of the job and to retain membership in the profession, it appears that affective commitment is the more important dimension of the construct. This speaks as well to the possibility of examining a modified form of the Meyer and Allen commitment scale in a unionized setting to determine if the union shop has the same effect on continuance commitment.

### **Limitations**

These results must also be interpreted with caution due to the small sample size.<sup>1</sup> In addition, cross sectional data may be prone to common method variance. To overcome the risk of bias in correlation and regression estimates for scales constructed from Likert-type items, factor analysis of all items, including single item scales, can be conducted (Bemmels, 1995). One seeks distinct factors for each scale, including the single item scales. A preliminary test indicates fourteen eigenvalues greater than 1 emerge from the analysis of all items used to compile the scales in this study. However, the sample size makes such a test unreliable, on a case to variables basis. Lack of variability in demographic variables of marital status, gender and in outcomes variables for voting behaviour limited the ability of this study to test the robust implications of the hypotheses. The research design was set in order to examine opinion and commitment at a point in time, and was preempted by government introducing legislation banning the right to strike before survey distribution. These limitations, though, indicate clear direction for further research.

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<sup>1</sup> Power of regression tests in excess of .84

## Recommendations for further research

A larger sample might result in a three factor solution to the union and profession activity scales, which would provide more richness to the analysis of the data. This study has potential to be expanded to either the entire profession, governed by a single licensing body, to additional professions, such as social work, or to an entire health care employer encompassing several professions. Each option would likely improve the sample size. Any confounding effects of employer and organization variation could be addressed through appropriate data design and analysis. The College of Licensed Practical Nurses was receptive to posting a reminder message on their website in the latter period of data collection, and thus may be amenable to an expansion of the study under their support.

An alternative research question raised by these results is whether a union specifically defined by the profession, such as a Nurses Union, reflects a different commitment dynamic. From an industrial relations perspective, this reflects craft versus industrial union structure. An analysis of commitment on this basis can inform the way in which unions communicate with members and organize different activities and strategies for representation in the workplace.

The distribution of responses did not permit an analysis of commitment to the profession and the potential use of strike power to achieve economic as well as professional goals. A larger sample may provide greater variation in responses that would enable an analysis of this hypothesis. Meyer *et al.* (1993) note that continuance commitment requires a longitudinal approach, which would also complement the analysis of the use of strike power. Finally, the union's request for analysis of where members turn for information may be addressed through an exploratory examination of additional dimensions of the individual issues. Likewise, a follow up to this study might enable a deeper examination of the impact of external factors, such as legislative change, on union and profession commitment.

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### **Examining bullying in Canadian workplaces: Preliminary findings from a content analysis study using arbitration case decisions.**

In the U.S., it is estimated that employees leaving the workplace due to bullying costs in the vicinity of \$64 billion a year. From a Canadian perspective, less research has been done to understand the impact of bullying in the workplace. In this study, 20 Canadian arbitration cases over a 17 year period are examined for trends and directions. The preliminary findings suggest that employees dismissed for bullying usually go through a progressive discipline process before being dismissed. In 80% of these cases, the bullying is co-worker to co-worker. Overall, arbitrators are upholding dismissals (80% of the 20 cases), stating that appropriate steps to dismiss the bullying employees were followed and integration of the dismissed back into the workplace was not possible or desirable.

#### **Introduction**

According to Query and Hanley (2010), more than 2 million managers and professionals voluntarily leave their positions because of workplace unfairness such as bullying. "This exodus of fed-up employees is estimated to cost corporate America approximately \$64 billion annually" (Query & Hanley, 2010, p. 4). Bullying has a large impact on the workplace and how employees work and relate to each other. For example, bullying can cause employees to withdraw from work and be unable to work to the best of their abilities, ultimately impacting the productivity levels of the bullied employee and potentially other employees who observe incidents. These incidents in the workplace are challenging for all parties involved, including the employee being bullied, employees observing the behavior, managers, and human resource (HR) professionals.

Employers need guidance to help them determine how they should handle employees who are accused of bullying and also employees who state they have been bullied by a fellow employee. In order to provide some guidance to practitioners, this study examines the direction from arbitration case decisions. The purpose of this study is to examine Canadian arbitration cases that involve employees a.) who have bullied (seeking to overturn a dismal) or b.) who have been bullied (seeking to obtain some form of restitution), to tabulate the trends in case occurrences, and examine the directions provided by arbitrators to deal with bullying. As a result of conducting this study, a synthesis and evaluation of the cases provides guidance to managers and HR professionals on the directions they should consider when dealing with bullying.

## **Bullying in the Workplace**

Bullying happens in many aspects of people's lives. However, more recently workplace bullying has become a major concern for HR professionals. For employers, the effects of bullying mostly impact the productivity of employees being bullied, but also the morale of the company. Employees that are being bullied, however, have to deal with both physical and emotional impacts. Bullying is not confined to a single type of workplace and incidents have been reported in many different types of workplaces from health care organizations to arts organizations (Martin & La Van, 2010). The following sections provide an overview of the definition of bullying as developed through the academic literature, a review of the literature on workplace bullying, and the role of arbitration cases in establishing trends and directions.

### **Defining Workplace Bullying**

A review of the literature reveals that there are many definitions of workplace bullying. According to Weidmer (2010), workplace bullying is “ the repeated, health-harming mistreatment of one or more person's (the targets) by one or more perpetrators that takes one or more of the following forms: verbal abuse, offensive conduct/ behaviors (including non-verbal) which are threatening, humiliating, or intimidating; and work interference/ sabotage which prevents work from getting done” (p.35). This definition is helpful as it captures the essential elements relating to the efforts of the bully. To further inform the definition, Moayed et al (2006) posited another definition that not only focused on the bully's behavior, but also highlights the impact on the employee being bullied, including the effects on outcomes such as productivity. This definition states that bullying is the “prolonged and repeated hostile behaviours conducted by at least one person toward one or more individuals when they are unable to resolve their workplace conflicts in non-hostile manners and can cause health problems for victims and affect their performance” (Moayed, Daraiseh, Shell & Salem, 2006, p. 312). Moayed et al overarching rule of thumb is that there must be a bullying incident once a week for a period of six months or longer to be classified consistent and persistent.

Although there are other definitions for bullying in the workplace in the literature, these two capture the aspects relating to the behaviours of the bully and the impacts on the bullied most succinctly. In particular for this study, workplace bullying is considered to be any unwanted and hurtful behaviors towards fellow employees that an employee demonstrates on a regular basis (i.e., it cannot be based on a one time incident, but repeated incidents – a singular incident is more appropriately categorized within the harassment or other workplace violations). These actions cause tension between employees and make it hard for the bully to work with fellow employees. For the purpose of this study, the above definition and parameters are used to examine workplace bullying.

### **Effects of Workplace Bullying**

A review of the literature reveals that bullying has different categories and has taken both direct and indirect forms. Indirect forms of bullying include isolation, control, and manipulation of information, and control and abuse of working conditions. Some direct forms of bullying fall under categories such as emotional abuse including cognitive-emotional abuse, and, professional discredit and denigration, as well as behavioral abuse including devaluation of the professional role in the workplace (Escartin, Rodriguez-Carballeira, Zapf, Porrua & Martin-Pena, 2009).

The literature to date highlights the severity of the mental and physical health risks that may develop for employees in environments with incidents of workplace bullying. Continuous bullying can cause a person to eventually break down and find it difficult to perform work tasks. The possible affects found from bullying include higher levels of stress, lower job satisfaction, impact on psychological stress and increased tiredness compared to non-bullied employees (Hauge, Skogstad & Einarsen, 2010). Martin and La Van (2010) also found that bullying causes psychological and physiological effects at different levels and they used the following analogy to describe the impact of bullying - "... at the highest level, bullying is likened to a 'third-degree burn' resulting in ...deep scarring and permanent damage" (p.179). Some of the psychological effects may include burnout, post-traumatic stress disorder or possibly even alcohol abuse. Further, bullying in the workplace may cause other problems for an employee such as interpersonal and familial consequences (Martin & La Van, 2010). In addition to the above consequences, other medical problems including depression, anxiety, aggression, and musculoskeletal health issues may develop (Vartia, 2001). Query and Hanley (2010) highlight the physical consequences of workplace bullying such as high blood pressure, digestive problems, and loss of sleep. They also state that bullying can cause decreases in productivity and morale, and increases in absenteeism.

All of these issues affect impact the employee's health directly and the employer's operational and financial outcomes eventually. Yamada (2000) states that bullying may decrease production in the overall day-to-day business operations, increase direct costs such as increased medical, and increase workers compensation claims due to health problems caused from a stressful work environment. Indirect costs are also realized such as a decrease in an employee's interest in their jobs, a decrease in the employees quality of work or products and, a decrease in the workers overall happiness. As employees continue to work in situations where they are bullied, their effort towards the business and their work falls from a maximum to lower levels of

performance. In addition, it has been found that employees who are being bullied at the workplace have a decreased loyalty towards their employers (Yamada, 2000). Workplace bullying can cause employees to even think about leaving the workplace or actually leaving their current employer to avoid the person doing the bullying.

Employers may not only see a decrease of productivity and loyalty and an increased amount of medical and workers compensation claims, they may also have to deal with law suits from employees. Employees may feel that the working environment was unhealthy and caused them mental or physical health problems. Although employees may not always win these lawsuits, employers face the possibility of fairly large legal bills even if they win the lawsuit (Yamada, 2008).

### **Understanding Why Bullies Bully**

Bullies may become bullies for a few different reasons, especially if that bully is a boss. Glendinning (2001) says that a bullying boss is looking for not only good results from employees, but control and power as well. Bullies like to not only have power, but to also display the power they have over other employees. If a bully is a boss, they also have influence and perceived control over their employee's livelihood, ultimately wielding some form of power. A boss could try to weaken the employees mentally, so that they can make themselves look good. This is also the way that employees could bully other employees, especially when it comes to job competition.

De Cuyper, Baillien and Witte (2009) found that job insecurity and workplace bullying are linked. They state that sometimes job insecurity can be based on rumors that are put in place to get employees to try to work harder or create rivalry between employees for positions. Also because this rivalry is created, at times employees may take it too far and begin to bully other employees. Job insecurity opens up the ability for bullies to take advantage of other employees who have a lower job status or employees who do not have much power over their jobs compared to their bosses or co-workers. These thoughts of job insecurity cause bullies to not just threaten the employees in lower level positions, but also employees who are even with them when it comes to job levels. They may feel threatened and have the need to feel superior to other employees to feel like they are safe (Rosigno, Lopez & Hodson, 2009). This bullying may go unnoticed, especially if anti-bullying policy are not set in place or followed within the organization. When there is no anti-bullying policy in place and enforced, then employees may not understand what constitutes bullying in the workplace (De Cuyper, Baillien and Witte, 2009).

With bullying in the workplace slowly becoming a more recognized issue by employers, there are more studies being done to find out the ways in which bullying begins and the possible reasons as to why an employee would become a bully within the workplace. If an organization is in a constantly changing market and has to continuously change, this may cause issues for the organization which in turn results in increased incidents of bullying. When a market is continuously changing and employees are expected to follow with these changes, employees may have a hard time to work together as a team or leaders may resort to less effective leadership

behaviours, causing many problems within the organization such as lack of communication or conflicts. These factors could be the underlining causes for bullying within a workplace, especially when proper training and instructions are not given (Moayed, Daraiseh, Shell & Salem, 2006).

There are many different reasons why a person becomes a bully. Some motives include exercising their ability to control others, dominating another person by showing their power, exacting retribution for perceived injustices, and keeping up with a self-image they may think they have. There have also been some organizational leaders who develop cultures that are very competitive, and these leaders think that encouraging bullying is a good way to manage their employees and to increase methods of performance management (Vickers, 2010). Other reasons for bullying have been identified in the literature and include reasons such as a person may have been bullied as a child themselves and the use of bullying is a defense mechanism. They think that if they bully someone then they will not be bullied back. It could also be because some people lack the social skills to know that bullying is unacceptable.

It is generally agreed by researchers and practitioners that bullying is an unacceptable and unethical act that should be discouraged in the workplace. Although workplace bullying is not solely a product of the workplace environment (i.e., individuals may have issues unrelated to the workplace that manifest there), the organizational climate and culture may play a significant role in fostering incidents of bullying. Factors relating to the type of work an employee does is related to bullying and poor working conditions have also be linked with bullying (Stouten, Baillien, Broeck, Camps, Witte & Euwema, 2010). Baillien, Neyens, Witte and De Cuyper (2009) have found a “three way model of workplace bullying”. This model identifies three possible pathways as to what may lead a person to bully. The first pathway is, “the intrapersonal level: workplace bullying as a result of frustrations” (p.8). The second pathway is, “the interpersonal level: Workplace bullying as a result of interpersonal conflict” (p.8). The third and last pathway is, “the intragroup level: Workplace bullying as a consequence of aspects within the team or the organization which directly stimulate bullying” (p.8). These are all possible ways that a person could possibly be lead to bullying other people.

Wheeler et al (2010) suggest that workplace bullying may be a product of lack of instruction from management. For example, some of the environmental aspects of a workplace that may cause bullying include a social environment that is unsupportive and competitive, task-oriented managers, and the chain of command and changing organizations. Incidents of workplace bullying may become exasperated when organizations do not provide proper employee behavior policies such as anti-bullying. Other factors in the workplace such as the conflicting job structures, rewarding or giving support to bullies, creating situations where employees feel a lack of control, restructuring or downsizing and implementing organizational change ineffectively, is all known factors to cause bullying. These are things that employers should be aware of and watch to ensure bullying does not happen in their organization (Wheeler, Halbesleben & Shanine, 2010).

Bullying in the workplace can cause many problems for everyone involved, though it might affect some more than others. Namie and Namie (2004) stated that “bullied targets have a 70 percent chance that they will lose their jobs, either voluntarily (33 percent) or through constructive discharge (37 percent), after being targeted”. This suggests that bullying really does cause not only mental and physical anguish for the targets of bullying, but also operational and financial consequences for the organization (Namie & Namie, 2004).

### **The Role of Arbitration Cases**

Bullying causes many problems within the workplace for employees, managers, and HR professionals. There are many difficult tasks that need to be tackled to decrease or eliminate bullying within the workplace. For example, normally a target of bullying waits up to 22 months before they talk to a superior about being bullied. This suggests that bullying can go relatively unnoticed and, to reduce risks to employees and the employer, this situation needs to change so bullying can be stopped (Namie, 2007).

Query and Hanley (2010) say that one of the problems that employers have is finding out that workplace bullying is even happening within the workplace. Employers may have a hard time to distinguish between someone getting bullied and someone who is just being bossy. Namie states that usually a person will come to HR personnel or their employer once they have been bullied on numerous occasions. Employers may have a hard time to differentiate whether or not there is just a clash of personalities or something more serious. Once the employee being bullied comes to the employer or HR professional it is hard to find out what had really happened because as time goes on other fellow employees take sides and it is hard to get an objective opinion (Namie, 2007).

Arbitration cases can be useful way of examining and determining trends in the number of cases and directions provided to employers about dealing workplace-bullying. An arbitration case is a matter of dispute between an employer and employee represented by a union. In this context, arbitration cases that provide the best guidance are those specifically relating to employees who bullied or employees who have been bullied. A third party representative, namely an arbitrator, hears both sides of the case and then makes a decision based on the evidence. These decisions are legally binding to both sides. These arbitration cases can then be used in the future to decide what actions should be taken for other like cases in the future.

This study aims to provide managers and HR professional with an overview of the trends in workplace bullying arbitration cases, the direction provided by arbitrators to resolve different types of bullying situations and highlight the principles that may inform anti-bullying policy development for employers.

## **Method**

This study was conducted using a content analysis methodology following Weber (1990).

### **Document Sampling and Selection**

Canadian arbitration cases involving bullying in the workplace were extracted by searching a database called Quick Law. The cases that have been used in this study to determine the direction and trends that arbitrators are going in when handling bullying in the workplace cases. To find the arbitration cases to be used first a search of the Quick Law database was started by using the words: “Bullying” & “Workplace” as the search words to find the cases that would meet the guidelines.

The certain guidelines that are imposed for the inclusion of a case into the study are:

1. The arbitration case must have a final decision rendered by an arbitrator.
2. The cases must involve an employee who was accused of bullying causing them to be terminated or an employee who had been dismissed for being bullied.

### **Text Analysis and Coding**

A framework was designed to identify the factors for analysis of the cases. The data collection framework included the following pieces of information about the grievance: year; employer name, size, and age; union name, type, and age; arbitrators name and sex; grievor’s name, age, and sex; grievance nature, disposition, remedy, and jurisprudence. All arbitration cases meeting the content analysis inclusion criteria were thoroughly reviewed to collect the data fields identified above.

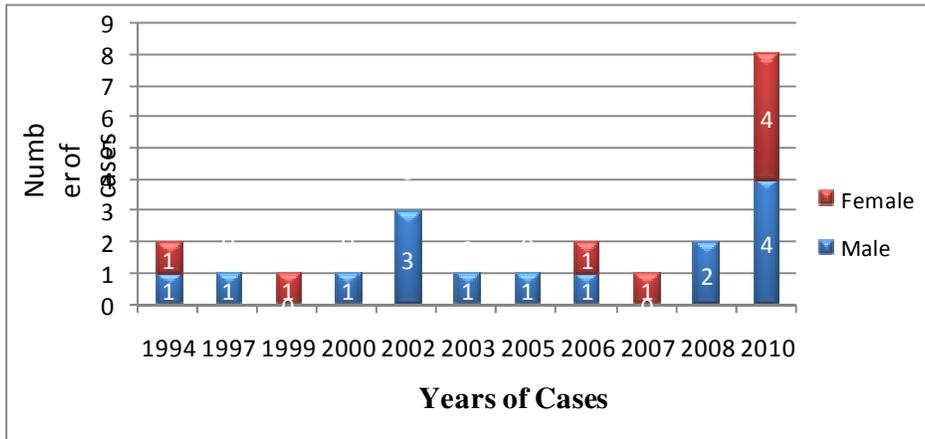
## **Findings**

An in-depth review of the cases was conducted. The following sections provide the descriptive statistics from the cases included in the study and the analysis based on the arbitration outcomes.

### **Descriptive Findings and Trends**

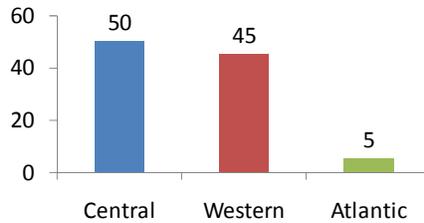
Using the inclusion criteria specified above, there were 20 cases identified for inclusion in this study (dating from 1994 and 2010). Out these 20 cases reviewed, it can be noted that there is an increase in the number of cases going to arbitration year-over-year (See Figure 1). Although there are not cases in every year, it can be noted that the volume of cases increases over time. There were instances of multiple grievors in one arbitration case. Out of the 23 grievors from the 20 cases, 15 were males and 8 were females.

Figure 1: Number of cases by year and sex



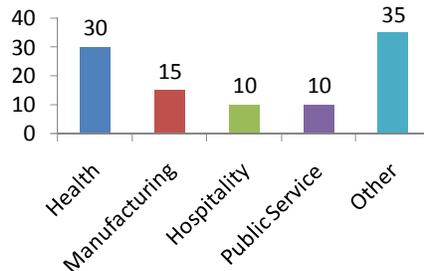
Of the 20 cases included in the study, 10 of the cases were from the Ontario region, 4 cases came from Alberta and 4 cases came from British Columbia. There were only two cases that came from Manitoba and Nova Scotia. Regionally, the highest percentage of cases is in Central and Western Canada (See Figure 2).

Figure 2: Percentage of cases by region



A variety of industries are represented in the case study as shown in the Figure 3 below. The highest number came from the health care industry with six cases, followed by manufacturing industry with 3 cases, and then hospitality with 2 cases.

Figure 3: Percentage Cases by Industry Sector by Province



Of the grievances, 55% were of an employee who bullied co-workers, 25% an employee who bullied a co-worker, 15% an employee (the boss) bullying subordinates, and 5% an employee bullying a boss. Seventy percent of the cases were heard by male arbitrators. The employer was successful in 17 of the cases in the study, indicating that bullying or acts of bullying are not to be tolerated. Of the 20 cases, only 3 cases were successful for the grievor. In none of these cases did success for the grievor equate to getting awarded fully what they requested through the grievance and arbitration process.

### **Arbitration Case Directions**

The outcomes of the 20 cases can be grouped into three categories – 1.) the employer won and the employee remains terminated, 2.) the employee partially won and they remained employed, 3.) the employee won compensation, but remains terminated and the employer won against the employee accusing the employer of bullying.

There were 16 cases where the employer was successful and the employee remained terminated due to their actions. One of the main reasons why they were not reinstated was the inability of the employee to return to the work environment and maintain a good work relationship with fellow employees and the employer. Also another reason why the employee was not reinstated was their lack of apology or acknowledgement of any wrong-doing. Most of the employees who had lost their grievances were only terminated after they were first suspended from work for a number of days and then were given a second and even a third opportunity to show that they could change their behavior. Once they had returned to work and their old behaviors re-occurred they were then terminated. Most of the arbitrators stated that the evidence presented by the union did not support the grievor's claim that they did not bully another employee (s).

There were four cases where the grievor had partially won their grievance. In these cases, two came from an employee who was accused of bullying. In the first case of the University Health Network v. Ontario Public Service Employees Union (Abraham Grievance) where the grievor remained terminated, he was awarded 20 weeks salary and final compensation for loss of employment. In the second case of Agawa Forest Products v. Industrial Wood and Allied Workers of Canada, the employee was not terminated for their bullying actions, but was suspended. The arbitrator did, however, instruct the employer to keep the suspension noted on the employee's record. The employee had only a few incidences of bullying and as a result the arbitrator found it reasonable to give the employee a second chance to change their behavior. The arbitrator further instructed the employee to attend counseling.

In the third area, there had been 3 employees accused by the employer of bullying. In one case, the grievor did not win the grievance as a result of being bullied, but rather because the employer did not follow formal investigation procedures. In another case (Metro Stores Inc. v. United Food and Commercial Workers International Union), there was a claim that the managers were bullying the employee. The employee did not win this grievance. The arbitrator suggested that the employer move the employee to another store where there would be no more tension

between the employee and management.

As a result of analyzing the 20 cases, a number of precedences for future cases were determined by arbitrators. In almost all cases, the test of the relationship between the bullied and the bully were central to the arbitrator's decision to return an employee to a workplace. In the case of *Metro Stores Inc. v. United Food and Commercial Workers International Union (Livingston Grievance)*, the arbitrator Susan Tacon ordered the parties to discuss a better placement for the grievor at a different store - somewhere she would be better suited to work. Lastly in the case of *Burnaby Villa Hotel v. Hotel, Restaurant & Culinary Employees & Bartenders Union*, the arbitrator, Joan I. McEwen, set a few directions for the employer to take for future precautions. She suggested that employees should receive training on workplace harassment and bullying, as well as the employer should take more seriously workers complaints of harassment or bullying and offer a progressive form of discipline for offenders.

Out of the 20 cases included in the study, nine used previous arbitration case decisions to guide the outcome of the decision rendered. In the case of *Metro Stores Inc. v. United Food and Commercial Workers International Union (Livingston Grievance)*, the arbitrator referred to the Nunavut case where they had quoted a part in the case stating that any matter of harassment is a serious matter and should not be something to be taken lightly. Despite the fact the grievor really thought she had been harassed, the evidence must be available to support such claims. The arbitrator for the Livingston Grievance used this direction to show that there had not been enough evidence in the grievor's case and, therefore, could not award anything in their favor. Another example is the *Extencicare (Canada) Inc. - St. Paul v. Canadian Union of Public Employees (Yettaw Grievance)*, where the arbitrator used this case to show that just because someone has used verbal abuse on a fellow employee does not mean they should be terminated. The arbitrator used this case to show that when the abuse is on a regular basis then it is not acceptable and termination is an acceptable punishment.

## **Discussion**

After studying 20 Canadian Arbitration cases, the findings show that there has been a gradual increase in workplace bullying cases, with the most significant increase in 2010. These arbitration cases reveal that there is a need for education for employees to inform them of not just what is acceptable behavior, but also what is unacceptable behaviour. Education is an important direction that emerges from decisions rendered by arbitrators in these cases. Employers need to be in contact with employees and talk to them about how they are doing and ask them if they have any questions or would like to say anything about work. This communication and education process would give the employer and the employee one on one time to speak about issues the employee might not otherwise bring up.

The cases included in this study show a pattern of progressive disciplinary action taken by employers with employees accused of bullying in the workplace. The cases reveal a common disciplinary approach involving first letters and warnings, then a suspension for unacceptable behavior, followed by an employee return to work. If the behavior continued and had not improved after a suspension, employees were terminated. This approach was a common method because it gives the employee a chance to improve their actions and behaviors. However, in the arbitration cases included in the study this process did not seem to work and termination of the employee was the outcome. In the cases, it was revealed that this was often because the employee did not feel that they had done anything wrong and that, therefore, there was nothing to improve.

These arbitration cases show that employers need to take more of a hands-on approach when dealing with bullying and the employees involved. Letters and warnings do not always allow the employee to see what they have been doing wrong. In some cases, the employee needs to be shown what it is like to be on the other side of bullying, as in the one who is being bullied. This would be hard to do, so HR professionals need to come up with other methods to inform employees of what is and is not acceptable behavior. A possible approach for HR professionals is to develop training sessions that include using simulations conducted in other controlled environments about bullying behavior. These tools can be used to open up dialogue and discussion. Alternatively, in some instances one-on-one counseling may be best to assist employees who are bullying.

This content analysis of Canadian arbitration cases shows evidence that, when bullying in the workplace is addressed by employers, a zero tolerance approach seems to be enforced. As the cases reveal, when the employer terminates an employee for bullying, arbitrators have upheld the decisions as just cause dismissals. However, the cases show that there is a need for more education for employees to understand how to correct their bullying behaviors or for employees who are being bullied. By increasing education and communication, employers may more proactively stop bullying in the workplace.

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## **THE ROLE OF SENIOR LEADERS IN THE DEVELOPMENT OF HEALTHY WORKPLACE PROGRAMS: A CASE STUDY IN CALL CENTRES.**

Although there has been extensive research about managing costs of employer health and benefit plans, there has been less attention on preventative approaches such as healthy workplace programs (HWP), and more specifically, the role of senior leaders in HWP effectiveness. A qualitative exploratory study was conducted in two call centres with similar HWPs. The findings suggest that, despite similar HWP design features, the role of senior leaders is central to employee perceptions about the overall HWP effectiveness. The five themes relating to what senior leaders do in effective HWP environments are discussed in this paper.

### **Introduction**

Studies are showing an upward trend in employee illness from the workplace, with cost estimates of upwards to \$7.4 billion annually (Stewart, 2010). For employers, this trend is most obvious in the direct costs of health care plans, absenteeism, and lost productivity (Blake & Lloyd, 2008). To date, employers have pursued many strategies such as subsidies and incentive rewards in an attempt to control these escalating costs. Over the past 40 years, employers have predominantly relied on contributions to employee health benefit plans to respond to issues in this area. However, in recent years it has become evident that these reactive strategies are less effective, and that employers need to engage in more proactive approaches to healthy workplace strategies.

In an effort to address this issue of employee health and wellness, some employers have begun to adopt healthy workplace programs (HWPs). Although there are numerous proactive approaches being adopted in the workplace, it remains that results from such approaches are mixed. Perhaps contributing to these mixed results is the confusion and debate among practitioners about the definition of a healthy workplace and the aspects of such a program. O'Reilly (2008) suggested that many employers lack a clear description of what workplace wellness is, how to involve employees in such programs, and whether they have or need a business case for promoting wellness to staff. To that end, the effectiveness of such programs with employees is often compromised if they perceive that cost-savings is the fundamental goal and that there is not an underlying interest in employee health and well-being. As a result, there is emerging interest in understanding the role of senior leaders in shaping employee perceptions about the effectiveness of HWPs.

In this paper, the findings from a study of two call centres with HWPs are presented. The purpose of this study is to understand senior leaders' role in the development and adoption of a HWP. The aims of this study are to explore employee perceptions about the effectiveness of a healthy workplace program, examine employee perceptions about the role of senior leaders in implementing, developing, and sustaining HWPs, and provide some insights to human resource practitioners about the successes and challenges in developing and implementing a HWP. In this paper, we provide an overview of the literature about HWPs, present the findings from 26 interviews with employees, managers, and senior leaders in two call centre sites, and discuss the implications of this study.

## **The Role of Senior Leaders in Healthy Workplace Programs**

Interest by both academics and practitioners about HWPs has contributed to the growing literature in this area over the past decade. In this section, we will review the definition that guides this study, the main focus of HWP literature to date, and the emerging focus on the relationship between the role of senior leaders and the employees' perception about the effectiveness of the HWP.

### **Healthy Workplaces**

A Healthy Workplace has been defined by PwC (2008) as, "Promoting wellness as a combination of health and safety (abiding by statutory regulations and government requirements); managing ill health (through best practice use of occupational health absence management and disability management), and prevention and promotion (health promotion, work life balance and stress management, career and social development and primary care)" (PwC, 2008, p.10). This definition highlights the areas of focus, which notably extend beyond the traditional view of Occupational Health and Safety to include other aspects of an employee's health, reaching outside the boundaries of the workplace. The emergence of such a broader definition and scope signals that employers' are interested in engaging in health and wellness in other ways.

To date, there have been three key areas of discussion and research about healthy workplaces in the literature, focusing primarily on financial impacts, practical approaches, and prevention and best practices.

#### *Financial Impacts*

Over the past decade, benefit costs have increased by more than 10% annually (Dixon & Courtney, 2004). For example, in a survey by Watson Wyatt (2007), it was found that on average the cost of casual absences in Canada was 1.2% of annual payroll, which translates to \$7.4 billion in losses to the Canadian economy each year. It has been estimated that reducing this absence by just 0.1% could save employers over \$610 million annually (Stewart, 2010). Some employer-based health funded programs are approaching the breaking point and putting pressure on organizational competitiveness. These upward trends in absences in the workplace have prompted many employers to rethink their approach to health and wellness and an interest in HWP is being strongly considered as an important prevention strategy to improve employee health and wellbeing (Blake & Lloyd, 2008).

### *Reactive versus Preventative Approaches*

Employee health needs have been predominantly addressed using a reactive system of care (treating versus preventing) (Patten, 2007). In reactive health and wellness programs, the focus is on making available to employees interventions at a point in time when the illness or problem has already manifested. This contrasts with preventative approaches that include both behavioral and clinical measures aimed at prevention. For example, behavioral prevention services encourage employees to adopt healthy lifestyle choices by introducing programs such as smoking cessation, exercise, healthy diets, and stress management, whereas clinical prevention helps to avoid painful and costly illnesses by detecting diseases in their early stages, when treatment is often more effective and less costly.

To date, there have been a handful of studies showing evidence supporting preventative approaches resulting in cost reductions for employers. For example, a study by Dixon and Courtney (2004) has shown that employers implementing prevention programs have resulted in an average 28% reduction in sick leave, 26% reduction in direct health care costs, and 30% reduction in workers' compensation and disability costs. Similarly, a report from the Conference Board of Canada (2010) provided a case study of an organization that realized significant returns from a small investment in a HWP. This organization created a program with four themes which included factors related to organizational health, obesity, fitness, and smoking. They invested \$2,000 and saved \$6,000 on their health premiums. In addition, employees at this organization achieved a combined weight loss of 261 pounds. These results show promise for preventative approaches. However, understanding the conditions and factors that make preventative approaches successful beyond simply adopting "best practices" is an important precursor to implementing a HWP.

### **The Relationship between Leadership and HWP**

In a PwC (2008) report, it was suggested that it is critical for senior leaders to lead by example and develop the culture and communication strategy supportive to the implementation of a HWP. A Conference Board of Canada report (2008) provides some further preliminary evidence that senior leaders who make healthy workplaces a priority can provide positive results for all stakeholders (Conference Board of Canada, 2008). There are positive impacts to investing in HWP initiatives such as retaining valued employees and creating a reputation in the labor market as an employer of choice. These outcomes tend to be of interest to senior leaders. Organizations embracing HWPs are doing so by making changes to the physical work environment, such as creating "chill-out" zones or quiet rooms to modifying vending machines and cafeteria menus.

A PwC Report in 2008 provided one of the first set of guiding principles and framework for implementing health workplaces. These principles are known as the 3C's to leadership effectiveness in the development of healthy workplaces and suggests practical approaches, considered critical, to the implementation. The PwC report provided evidence that successful wellness programs were those designed to meet the employees' needs. The framework was tested in different business sectors and found to be robust. It focuses on the importance of leaders to be in place to effect change and the importance of leaders enabling employees' through responding to their needs and values to encourage employee participation in the implementation of a healthy workplace (See Table 1).

Table 1: 3C's to Implementing Healthy Workplace Programs

<i>Guiding Principles</i>
<i>Coaching is a leadership style that goes beyond program support and requires leaders to actively participate in the program offering with the employees.</i>
<i>Creating a culture that supports wellness aligns with the business objectives and is perceived by employees as important to senior leaders.</i>
<i>Communicating through methods that involve employees from the start and they are continuously involved in the developing of the programs.</i>

The PwC report provides evidence that leadership can shape the culture of a company and transform the ideas into systems. The framework was used to identify themes from the interviews and guide the research to better understand the role of senior leaders.

### Method

A qualitative approach was used to examine the phenomenon of the role of the leader in developing, implementing, and sustaining a HWP. A case study research design following Yin (2003) involving two call centre in Atlantic Canada was conducted using a semi-structure interview approach (McCracken, 1988). The purpose of the interviews was to understand what a leader does to contribute to a healthy workplace environment and how employees perceive the leaders role in facilitating change to healthy workplace environments.

### Research Context

Call centres provide an ideal research context to examine the role of senior leaders in the development and implementation of HWPs. Research has shown that call centres have highly-structured environments and often lead to higher levels of stress and turnover (e.g., Bain, Bunzel, Mulvey, Hyman, & Taylor, 2000; Batt, 1999, 2002; Batt & Moynihan, 2002; Chalykoff & Kochan, 1989; Deery, Iverson, & Walsh, 2002; Holman, 2002a, 2002b, 2003; Moorman & Wells, 2003; Stanton, 2000; Stanton & Farrell, 1996). The nature of these environments makes them an ideal site to examine the effects of health and wellness workplace programs. Comparing two call centres in Atlantic Canada that have implemented a HWP provides an interesting research site to examine what it is that senior leaders do in these environments and how employees perceive the senior leaders influence on developing and supporting a HWP.

### Data Collection

A semi-structured questionnaire was used to conduct the interviews. The purpose was to identify key themes relating to employee perceptions about the senior leaders role in designing and implementing a HWP. These interviews were held individually with senior leaders and managers. In addition, employees were interviewed using a focus group technique (Hair et al, 2003).

### Analysis

The transcribed interviews were analyzed to develop descriptive themes. The reoccurring phrases and words from the interviews at each company were identified, coded, and compared against the transcripts. Nvivo was used to analyze the data, develop the major concepts from the

interviews, and to draw similarities from these concepts (Hair et al, 2003). The first step of the analysis involved a search of the frequency of the number of times a word was recorded and a percentage of coverage the word had to the total word frequency of each company. These words were reviewed based on the individual company participant responses and connected to more specific categories based on the nature and use of the words used by participants from each company. Descriptive themes were developed based on the analysis.

## Findings

These two companies were each assigned a pseudonym. Company 1 implemented a HWP 18 months prior to this study. Company 2 implemented a HWP in the past 5 years. In the following sections the findings relating to the HWP design and features are discussed, followed by the themes relating to the role of senior leaders in developing, implementing, and sustaining a HWP.

### Descriptive Characteristics of HWPs

The interviews and focus groups were analyzed to develop a list of the features in each of the two companies HWP (See Table 2). The programs in each company contained very similar features on the surface and the specific program features can be found in Appendix A. Each company had aspects of traditional and preventative features of health and wellness. However, each company implemented the programs using different approaches.

Table 2: Summary Examples of Features of Company 1 and 2 HWP

	<b>Behavioral Interventions</b>	<b>Clinical Interventions</b>	<b>Community Outreach</b>
<b>Traditional Features</b> (tend to be more reactive or static)	EAP or EFAP Smoking Cessation Ergonomics	Dental & Medical Coverage	Fundraising.  - Donations by the employer and employees
<b>Preventative Features</b>	Engaging employees in <b>physical fitness in/out work.</b>  At the workplace: - Walking club - Basic & advanced yoga  Outside the workplace: - Subsidies for memberships Education about <b>nutrition.</b>  - Sessions - Weight Loss Programs Fostering <b>healthy workplace behaviours.</b>  - Respectful workplace policy and sessions. - Mental Health (stress management techniques)	<b>Clinics at the workplace aimed at increasing education and awareness.</b>  General: - Wellness or Individual Health clinic  Targeted: - Diabetes - Heart and Stroke - Back pain - Blood pressure and hyper tension - Breast health - Flu	<b>Events involving physical fitness.</b>  - Walks or runs - Challenges such as golf or hockey - Building homes

Company 1 has invested a lot of time and money during the past twenty years in safety education and programming. The broader scope of the HWP was lead by a representative from the Executive Office. Single program health initiatives were led by individuals from HR and other departments depending on the nature of the feature being introduced. These programs are summarized in Appendix A. Company 1's main interest in developing and implementing a HWP was to reduce costs of health benefits. Senior leaders' said that they did not see themselves as role models in coaching the change of a healthy lifestyle, but rather felt that their role was to provide the channels for a healthy lifestyle transformation. They were committed to the financial investment to develop a healthy workplace and to contribute to community initiatives and events. The HWP features are delivered via a local pharmacy partnership and include specific education on preventative health items. The HWP is covered entirely by Company 1 with no charge to the employees, including time on the job to attend sessions.

The call centre in Company 2 is part of a large multinational firm. The HWP started in the US departments and was eventually implemented across the organization in Canada and Europe. Each facility has its own employee program group and international liaison. The HWP focuses on employee needs of health and wellbeing, community outreach events, and return to work programs after illness or life events summarized in Appendix A. The senior leaders at Company 2 have an HR representative on the HWP committee to guide and develop the program. Company 2 contributes to the HWP mainly via community events, some physical activities, benefit coverage, leadership pledges, and improvements in the healthy food choices offered at their cafeteria. In addition, Company 2 focuses on removing barriers and issues preventing employees from coming to work. When Company 2 started a HWP, they partnered with a local pharmacy to run monthly information sessions. The local pharmacy provided a list of ideas that the employees' could choose from for sessions. The healthy workplace committee discusses the programs with the employees and as a group decides on the features. There is no charge for this service. The only requirement is the company promotes the employees to shop at their store. If a maximum amount of sales is reached, \$1,500's is provided as an incentive to Company 2 (bi-annually) to invest in the HWP. This money is used for subsidizing health and wellness clinics, a healthy workplace library accessible to all employees, and other educational materials or sessions for employees.

### **Senior Leaders Role in HWPs**

Research has linked the level of employee commitment to a HWP to the leader's recognition of the employee's need for a healthy lifestyle (PwC, 2008). The research also suggests that the senior leaders in a workplace should provide the resources, support and encouragement to engage employees through implementing and championing of a HWP (PwC, 2008; Morris et al, 2008). The analysis from the 26 interviews and focus groups with employees, managers, and senior leaders revealed five themes relating to what leaders do in healthy workplaces. Table 3 summarizes these themes, which include raising awareness, creating a culture, removing barriers, coaching for engagement, and encouraging communication. Although both companies appear to provide similar HWPs on the surface, their employees' perceived major differences in the approaches the HWP is lead by leaders. While employees in Company 1 emphasized that financial resources were plentiful to the program, Company 2 emphasized that money was an issue. However, employees in Company 2 felt a stronger commitment to the healthy workplace environment than employees in Company 1. The role of senior leadership relating to the five themes helps to explain these differences to some degree. These themes are discussed in more detail below. All interview participants were assigned a pseudonym.

Table 3: Summary of Themes

	Theme	Description
1	Raising Awareness	<ul style="list-style-type: none"> <li>• Champion programs</li> <li>• Leaders image</li> <li>• Partnership intervention</li> </ul>
2	Creating a Culture	<ul style="list-style-type: none"> <li>• Engagement by all employees, including senior leaders</li> <li>• Long-term impacts of turnover and retention</li> </ul>
3	Removing Barriers	<ul style="list-style-type: none"> <li>• Understanding the ways in which attitudes and behaviors impede change</li> <li>• Creating flexibility and variety in the descriptions of a HWP</li> <li>• Innovative ways to manage the cost to implementing HWP</li> </ul>
4	Encouraging Communication	<ul style="list-style-type: none"> <li>• Leaders active participation provides a message</li> <li>• Methods of communication impact feedback and success</li> <li>• Reaching the audience</li> </ul>
5	Coaching for Engagement	<ul style="list-style-type: none"> <li>• Motivating lifestyle changes</li> <li>• Critical to have individuals in place to affect change</li> <li>• Approach and participation of senior leaders</li> </ul>

*Raising Awareness:* Developing a healthy workplace requires creative thinking by senior leaders in order to raise employee awareness about making healthy lifestyle choices. This case study revealed three different approaches by senior leaders to raise awareness for employees about the HWP.

Raising awareness through Community Involvement: At Company 1, the senior leaders communicated that they did not envision themselves as championing the HWP. The senior leaders believed if the program was to be legitimate that employees need their own reason and motivation to participate. One senior leader talked about his commitment to the health of the employees and the challenges of providing programs that meet the needs of all employees. He specifically spoke of the cost to provide the programs, their commitment to contribute to the development of a healthy workplace, and the flexibility for employees to recognize what programs are important to them. He felt that employees' need to make decisions about health and wellness for themselves. Raising awareness for the senior leaders in Company 1 was more about making programs available versus being engaged in the programs themselves. Employees in this organization viewed senior leaders to be involved in the program from health and wellness activities, but more from a community outreach perspective. This view can be noted from Simon's comments about his perception of the HWP at Company 1.

“They obviously do support financially a number of activities whether our employees are involved directly or not. They do support charity golf and it does involve our employees - a hockey tournament, a couple of runs and relays supported financially and through time. In addition, through our donation program, we support lots of activities outside the Company and hopefully employees know about it.” (Simon)

Simon clearly sees the senior leadership team providing financial support to engage employees in community outreach activities. Employees in Company 1 saw raising awareness of health and wellness more directly linked to these outreach initiatives, although many other program features were offered at the company.

Raising awareness through a specific initiative: Company 2 took a different approach to raising awareness. They were focused on developing and implementing programs that would motivate employees to come to work and get involved in community events. A manager from Company 2 reflected on the implementation of their walking club and how this initiative raised the awareness about health and wellness. Each participant interviewed at Company 2 connected the walking club to what their company was doing about their health and wellness. One senior leader shared examples of how they support their employees to take responsibility for their health such as going for a walk on their break. Marlene, an HR manager, made the connection to why raising awareness about health was so important in the call centre environment and the role that the walking program provided for all.

“They are on the phones every day, so when they get that break they just go and if some people didn’t have that they would just walk to Tim Horton’s and would come back and sit at their desk. But because they have those little incremental goals for themselves, they will push themselves to get out for those little walks which in turn can only help them. A lot of things are to help them manage stress - really and truly it is - and we would never title any of our communications to manage stress because it is really there for everyone and as a business it is very beneficial” (Marlene)

This manager believed when these employees were on the phones all day that this activity provided the employee with some exercise and helped reduce their stress level. The senior leadership team is very involved in the program and is often members of various teams. The walking club is designed as a competition among various teams in the centre. They develop a board to track progress that is displayed in the call centre site main cafeteria, a place where all employees can watch the progress of individuals and team members. A celebration is held at the end of the year, honouring members who meet certain milestones.

Raising awareness through partnerships: Partnerships are another form of raising awareness of a HWP that both companies used. In both organizations, partnerships were developed with third party suppliers such as pharmacies. These partnerships provided a more clinical view of health and wellness that neither of the companies had an expertise in. By partnering with the pharmacies, sessions and clinics can be hosted on site for each of the companies in order to provide a level of awareness about health and wellness.

*Creating a Culture:* The PwC report states that “creating a culture of wellness is integral” to the success of a HWP. The culture part of the 3C framework suggests that leading companies are incorporating wellness into their mission statement, implementing intervention strategies into a HWP, and monitoring the progress from a board level. Research findings suggest if senior leaders send the message of a healthy workplace and support it, they effect change in the culture (Patten, 2007). Otherwise, a lack of senior level sponsorship and championship may discourage employees not to participate.

There was evidence in this case study that the level of involvement from senior leaders was central to creating a culture of health and wellness. The focus group employees at Company 1 expressed concerns that the senior leaders did not champion the culture of health and wellness. To that end, one employee from the focus group did not see the value in the creation of a HWP. Employees at Company 1 clearly felt that the organization was prepared to financially support HWP. However, they were less convinced about the genuine interest by senior leaders in the

holistic transformation to a culture of health and wellness. This sentiment was captured by one employee who referred to the HWP as “hog-wash” and suggested that other employees may be negative about the company’s intention.

“There can be some negativity towards some people’s feelings that this is a bunch of hog-wash and things aren’t going to change. People have their own mindset and I am going to eat what I am going to eat and do what I am going to do. Some people have a negative mindset on wellness and what the company is trying to do.” (Focus Group #2)

Company 2 created a culture of health and wellness through a strategy focused on enabling employees to participate in program options while on the work site. Managers constantly monitored feedback from employees about the effectiveness of the HWP initiatives and were flexible to incorporate changes as quickly as possible. There was an underlying theme that making the employee happy was a top priority. This sentiment was echoed by front line employees in the focus group. Arlene discussed how the approach by the company was consistent with her own personal values. She also stated that there was consistency throughout the company.

“To me, it fits very well with their values and integrity and they are very much like me and what I value. And all the way from the top, I mentioned the [Company 2 committee name], that they are committed to the community, diversity, and environment. So it really filters all the way down and it is the same and consistent message all the way.” (Arlene)

Senior leaders were seen as being very committed to the development of a HWP and supportive of the suggestions put forward by employees in the company.

*Removing Barriers:* Senior leaders’ and managers’ perceptions varied in terms of whether there were barriers to successfully implementing a HWP. When participants from this study were asked if they felt there were any barriers to participating in a HWP at their company, they identified time constraints and money as top barriers.

Although the financial support by Company 1 was perceived to be sufficient, employees identified more barriers to participation in the program than employees in Company 2 (with less financial support). The emphasis seemed to be on lost productivity and working towards deadlines. Marty, a manager at Company 1, in the quote below highlighted how allowing people to go jeopardizes production.

“I think everyone understands the importance. There may be barriers that people feel they have to get a certain job done or a deadline met and they can’t take the time to go to one of these sessions. Everyone can’t go to everything or otherwise no work will get done but it’s not too severe.” (Marty)

At Company 2, there were very modest funds available to invest in a HWP, but they were able to use it in an effective way. At Company 2, employees stated their appreciation for having the HWP at work. A manager said they focused on program features that interest employees and that they could attend during their lunches and breaks. For example, the weight watchers program was a 60 minute session and was reworked to fit into a 30 minute lunch break. Similarly the

walking club only counts kilometers walked at work. The view at Company 2 was that a healthy and happy employee was a more productive employee. So – by finding ways to allow them to participate in HWP initiatives, they were actually enhancing productivity. One employee in the focus group commented on how things have changed over the past nine years. The company has shifted from a more “rules” intensive environment to focusing more on flexibility and creativity.

“There seems to be a lot of changes and it’s a lot more open than when I first started. It was a lot stricter and a lot more rules and things seemed to have relaxed. When I first started 9 years ago, if you used a sick day you had to be sick and if you said your car broke down you wouldn’t get paid for that day. Now there are more personal days and they have relaxed the rules a lot and everyone has different reasons for not coming and you know if you are making your employees unhappy and they have to lie to get paid for a day that they deserve, it is not a good thing. Management has realized that and it is a lot happier place than it was originally. I think everyone is always trying to keep making it better, and easy, as Company 2 like to say.” (Focus Group #2)

This shift in philosophy about removing barriers is echoed by a manager, Stephen.

“I think the message we hopefully try to get across, or hopefully we do get across, is a healthy lifestyle is very important. And for the management team, it is important for our employees to be healthy, and if they are healthy they are coming to work and in better moods, and impacting our customers positively - and if unhealthy and miserable and down in the dumps, definitely it impacts our customers. And at the same time, we also have those things because we want to make sure our employees feel appreciated.” (Stephen)

This focus on happy, healthy employees had been translated into working together to create solutions to remove barriers. In essence, Company 2 views creating a “happier place to work” as a way of achieving both individual and organizational goals.

*Encouraging Communication:* Communication is critical to changing employee attitudes toward increased responsibility for benefit decisions and health and wellbeing (Patten, 2007). The PwC report identified that there should be continuous communication about the HWP and the progress of the program features. The 3C’s framework from the PwC report (2008) findings provided a model of effective leadership that was described as an enabler in order for a HWP to be successfully implemented. The PwC report also recognized many forms of communication. These forms of communication can be from informal conversations and meetings to on-line information, flyers, posters, and personalized messages.

The two companies from this case study were using various forms of communication channels to inform their employees about programs features and events. One of the significant differences in communication methods between the two companies was employee perceptions about being involved in the process. For example, at Company 1 managers felt that they were attempting to seek input from employees on a regular basis. One manager stated the following:

“Whether they have thought of what has been offered, I don’t know. Why there is no accountability from the employees or feedback. I don’t know. Every trick in the book has been tried to even receive negative feedback, just tell us, any new topics, any we missed, any to revisit, what about the pedometer and we didn’t get one response.” (Charlotte)

Although managers feel that they are doing ample to solicit feedback, employees view communication to take on other forms. For example, an employee from the focus group felt that there were not genuine attempts to collaborate with them about the developments in the program.

“No, I think they could be better at communicating... Topics were just posted and given and there wasn’t any collaboration. A sheet may have been filled out in the beginning but not sure.” (Focus Group #1)

At Company 2, there was a consistent message from managers and employees that they are actively involved and they listen. Their committees included employees and management and all interview participants discussed how they were listened to and provided feedback. The objective was to support committee members in educating employees on the programs and involve employees in managing their own health. Employees perceived that the committees did a very good job of communicating updates via email as can be noted by Stephen’s comment below. In addition, managers emphasized that they listened to employees (see Arlene’s comment) and that the process of coming together was not as “us” versus “them” but rather a “we” (see comment from Focus Group 2).

“We have the Employee [Committee Name] and the Great Place to Work Committee. The Employee Committee will send out quite a few communications and generally its emails”. (Stephen)

“The biggest thing and the greatest thing with Company 2 is we listen to our employees.” (Arlene)

“We don’t go and get involved where the management sits on one side and we sit on the other side, we do it together.” (Focus Group #2)

Company 2 employees felt that they were engaged in the communication and part of developing the approach moving forward. This happened in informal communications with managers and other employees as well as in formal channels, such as committees and email correspondence.

*Coaching for Engagement:* The PwC (2008) report identified that senior leaders must go beyond endorsement, and coach other employees in the organization by being visibly active through support such as nominating a wellness champion, demonstrating a healthy lifestyle, and creating a diverse team of stakeholders for program buy-in.

In this area, there were again clear differences in approach by senior leaders in Company 1 and 2. For example, in Company 1 employees perceived that the senior leaders were willing to invest financially in the program and would re-enforce messaging about participating in initiatives. However, employees viewed them as being more “hands-off” and less participatory. As one manager, Bob, described it, senior leaders “push” the events but they do not go and do the “rah-rah”. In other words, they want the potential promised results but are not interested in engaging themselves with employees.

“I know they set the tone but they don’t physically go out and do the “rah-rah” at the staff level. They push the message and say don’t forget this or that. They tell people to go to the OH&S breakfast. They push the flu shot and send out reminders. I don’t think the senior leaders know about individual department initiatives such as the fruit or other things that we do within our department.” (Bob)

This contrasts to the perceptions of employees at Company 2. One employee from Company 2 said that people get involved because others are doing it. This employee felt she was motivated by other employees. For example, when she was sitting next to someone who signed up for an activity, such as the walking club, it encouraged her (and others) to want to do it as well. This peer encouragement has been seen as a form of leadership at Company 2. Coaching for engagement in the program was also evidence at the manager level. Managers spoke about the ways in which they engaged with employees to understand their needs. Through attendance management process they work with employees one-on-one to ask questions and find solutions for employees who want to come to work. In these coaching sessions, managers provide suggestions to employees about options and tools available to help them. In one case, a manager said that she often shared with employees her own health and wellness challenges and shared how she dealt with them.

“One of the things we do here is called attendance management. It is not a disciplinary process at all. It is getting people to come to work and what are their barriers and a lot of it is their health. They are not taking care of themselves and going to clinics oppose to seeing their own physician and taking care of that. Showing them that there are tools and we have a wonderful EFAP Program. I will share with them myself and I’ll go on and there is self assessment you can do.” (Sandra)

Coaching in Company 2 was found to be both from a peer-to-peer and immediate supervisor level. A very active discussion takes place in this organization about health and wellness, accompanied by involvement by managers and senior leaders in the events and activities. All interview participants spoke about a “lead by example” engagement – but not just with senior leaders, with all employees in the organization.

## **Discussion**

The findings from this study suggest that senior leaders play an important role in the development, implementation, and perceived effectiveness of HWP. Despite mimic isomorphism of companies to adopt program features at a surface level, perceptions of senior leaders’ genuine commitment to the program undermine employees’ views about the effectiveness of the HWP. This finding is consistent with Benjamin’s (2006) study that points to the central role of senior leaders in the development, implementation, and sustainment of a HWP. The findings from this study show evidence that employees’ perceptions about senior leaders’ role affects their perceptions of the program’s effectiveness. For example, in Company 1 employees felt that senior leaders provided financial support but the program did not have traction in the organization. This contrasts sharply

with Company 2 where senior leaders and managers, were perceived to be engaged at all levels, including participation in the program.

Further, the findings from this study also provide supporting evidence to O'Reilly's (2008) claim that senior leaders had different leadership approaches to creating, developing, and implementing a HWP and is consistent with findings from O'Reilly (2008). The senior leaders' differences in approaches to endorsing programs to create a healthy workplace provided different outcomes. Again, this was evidence when comparing the two call centres in this study. Both call centres had similar HWP features, yet employees viewed the outcomes very differently. While Company 1 employees felt that the senior leadership financially contributed to the program and were concerned for their health, they were less convinced of the sincerity of management to have them participate fully in all initiatives. This contrasts with Company 2 where limited funds were available, but managers were encouraged to find creative ways to help employees accomplish health and wellness goals at work. Whereas Company 1 seemed to have an underlying commitment to productivity as a guiding outcome, Company 2 seemed to define as an outcome of employee "happiness".

Finally, Morris (2008) found that if employees observed senior leaders participating in healthy lifestyles, including through the involvement in a HWP, it creates an image in the employees mind and encourages the employees to get involved. The lifestyle choices and level of participation of senior leaders in the programs at the companies in this case study revealed varied opinions and outcomes. Again, Company 1 senior leaders did not see themselves as role models to create change towards healthy lifestyle choices for employees. The senior leaders believed their role was to provide the channels for the transformation in terms of support. They identified their strategy as one of financial investments to develop a HWP. The majority of managers and employees saw senior leaders demonstrating concern for the health and wellbeing of employees and their families, but not engaging with them in the program initiatives. There was little money to invest in the programs at Company 2. The senior leaders believed that a lot could be done in their environment for very little money and that some of their most successful activities have been of little or no cost. Company 2 leaders communicated their need to retain employees and to demonstrate a genuine concern for their employees' wellbeing. The senior leaders had developed internal and external partnerships to support this effort. Their focus was to respond to employee requests while still meeting the overall business objectives of healthy, happy employees. The culture of Company 2, when it came to the leadership for employee health and wellbeing, was one of "active participation".

From a practical perspective, this study offers insights for organizations contemplating implementing a HWP or analyzing the effectiveness of an existing one. The findings support the guiding principles of the 3C leadership model for implementing HWP and further provide guidance about what specifically senior leaders do in organizations where employees perceive the HWP to be effective. Although the findings from this study should be interpreted with caution due to its exploratory nature, there are insights that add support to previous case studies in this area and provide direction as to specific leadership behaviours to be examined in future research. In addition, future research about senior leaders' role in effective HWP implementation from a qualitative research design could help to understand the specific associations among HR practices, culture, leadership, and firm performance outcomes, both employee and financial.

## Appendix A: Feature Comparisons of Company 1 and 2 HWP

	Behavioral Interventions	Clinical Interventions	Community Outreach
<b>Traditional Features</b> (tend to be more reactive or static)	<b>Company 1</b>		
	EAP	Dental & Medical Coverage	<ul style="list-style-type: none"> <li>- Fundraising such as:</li> <li>- Hockey Challenge</li> <li>- Charity golf tournament</li> <li>- Donations by the employer and employees</li> </ul>
	Smoking Cessation		
	Ergonomics		
<b>Company 2</b>			
EFAP	Dental & Medical Coverage	<ul style="list-style-type: none"> <li>Fundraising such as:</li> <li>- IWK Telethon</li> <li>- Tim Horton's Camp</li> <li>- Back to School Program</li> <li>- Habitat for the Community</li> <li>- Dreams Take Flight</li> <li>- The relay for life &amp; more</li> </ul>	
Smoking Cessation			
Ergonomics			
	Behavioral Interventions	Clinical Interventions	Community Outreach
<b>Preventative Features</b>	<b>Company 1</b>		
	<p>Engaging employees in <b>physical fitness in/out work.</b></p> <p>At the workplace:</p> <ul style="list-style-type: none"> <li>- Pedometers for walking provided at no cost</li> <li>- Subsidies for in-house programs</li> </ul> <p>Outside the workplace:</p> <ul style="list-style-type: none"> <li>- Subsidies for memberships</li> </ul>	<p><b>Clinics at the workplace aimed at increasing education and awareness.</b></p> <p>General:</p> <ul style="list-style-type: none"> <li>- Individual Health clinic</li> </ul> <p>Targeted:</p> <ul style="list-style-type: none"> <li>- Diabetes</li> <li>- Heart and Stroke</li> <li>- Blood pressure and hypertension</li> <li>- Breast health</li> <li>- Back Pain</li> <li>- Body Mass Index (BMI)</li> <li>- Flu &amp; Blood Pressure</li> </ul>	<p><b>Events involving physical fitness.</b></p> <ul style="list-style-type: none"> <li>- Walks or runs</li> <li>- Challenges such as golf or hockey</li> </ul>
	<p>Education about <b>nutrition.</b></p> <ul style="list-style-type: none"> <li>- Sessions</li> <li>- Weight Loss Programs</li> <li>- Healthy eating habits, healthy carbs and menu planning</li> </ul>		
	<p>Fostering <b>healthy workplace behaviours.</b></p> <ul style="list-style-type: none"> <li>- Respectful workplace policy sessions</li> <li>- Mental Health (stress mngm. techniques)</li> </ul>		
	<b>Company 2</b>		
	<p>Engaging employees in <b>physical fitness at work.</b></p> <p>At the workplace:</p> <ul style="list-style-type: none"> <li>- Organized Walking Club</li> <li>- Basic &amp; advanced yoga</li> <li>- Subsidies for some in-house programs</li> </ul>	<p><b>Clinics at the workplace aimed at increasing education and awareness.</b></p> <p>General:</p> <ul style="list-style-type: none"> <li>- Wellness Fair</li> <li>- Individual Health clinics</li> </ul> <p>Targeted:</p> <ul style="list-style-type: none"> <li>- Diabetes</li> <li>- Heart Health</li> <li>- Breast health</li> <li>- Flu</li> </ul>	<p><b>Events involving physical fitness.</b></p> <ul style="list-style-type: none"> <li>- Walks or runs</li> <li>- Building homes</li> </ul>
	<p>Education about <b>nutrition.</b></p> <ul style="list-style-type: none"> <li>- Sessions</li> <li>- Weight Loss Programs</li> </ul>		
	<p>Fostering <b>healthy workplace behaviours.</b></p> <ul style="list-style-type: none"> <li>- Mental Health (stress mngm. techniques)</li> </ul>		

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La gestion des ressources humaines (GRH) joue aujourd'hui un rôle stratégique dans le positionnement concurrentiel des entreprises. Ce rôle stratégique se matérialise par un ensemble d'activités qui doivent être complémentaires et cohérentes. Parmi ces activités, la rémunération est de plus en plus questionnée à l'égard de son rôle dans l'attraction et la mobilisation des talents pour l'atteinte des objectifs organisationnels. La rémunération est considérée comme la source d'un avantage stratégique en raison de ses incidences sur la performance des organisations. C'est en raison de ses effets potentiels directs et indirects sur la performance des individus, des groupes et des organisations que la rémunération est désormais considérée comme une activité de gestion des ressources humaines d'importance stratégique (Chênevert, 2009).

Toutefois, malgré le rôle important de la rémunération pour attirer les meilleurs candidats, l'impact sur les employés et sur l'attractivité perçue de ses composantes reste peu exploré. Plusieurs auteurs expriment le besoin de mieux comprendre les conséquences sur les employés des composantes de la rémunération pour aider à attirer et à retenir les employés dont la personnalité et les valeurs sont compatibles avec la culture de leurs employeurs (Thériault & St-Onge, 2006 ; Wadhvani & Wall, 1991 ; Sire & Tremblay, 2000 ; Saba & al. 2008).

Les composantes de la rémunération peuvent jouer un rôle déterminant dans la satisfaction des employés, ce qui entraîne un taux de roulement et d'absentéisme beaucoup plus faible (Lawler, 1983). L'individu qui perçoit que sa rémunération est adéquate et répond à ses besoins est susceptible d'être satisfait et d'avoir des attitudes positives à l'égard des objectifs de son organisation.

Plusieurs recherches soulignent le taux élevé d'insatisfaction chez les employés face aux composantes de la rémunération. Selon une enquête de Statistique Canada, citée par Bourgault-Côté (2006), 15 % des hommes qui gagnent moins de 20 000\$ sont insatisfaits de leur travail, contre 5 % de ceux dont le salaire avoisine les 60 000\$. Une autre enquête effectuée par Mercer, Consultation en ressources humaines (2002) auprès de 2600 employés montre que seulement 50% d'entre eux estiment que leur salaire est équitable (Newslines, 2003). Une autre étude menée par le groupe Discovery, auprès de 50,000 employés du secteur manufacturier des États-Unis et du Canada, a démontré que près de 60% des travailleurs sont insatisfaits de leur rémunération. Également, une enquête menée par Watson Wyatt Work, auprès de 13000 employés, a trouvé que seulement 41 % d'entre eux croient qu'ils sont aussi bien payés que leurs confrères occupant des postes similaires dans d'autres organisations (Newslines, 2002).

Ces constats montrent que lorsqu'un système de rémunération engendre de l'injustice ou est perçu ainsi, les employés peuvent devenir insatisfaits. Partant de ces résultats et en raison des caractéristiques propres des centres d'appel, nous avons choisi d'aborder la question de la rémunération dans le cadre d'un centre d'appel basé au Nouveau-Brunswick. Les centres d'appel constituent un terrain intéressant étant donné la fréquence du suivi des objectifs auxquels est rattachée une partie de la rémunération (Bourdil, 2010). Également, le niveau de contrôle y est élevé. L'objectif de cette recherche sera de comprendre comment les composantes de la rémunération peuvent influencer sur la satisfaction et le comportement des employés. Elle permettra de catégoriser les sources de satisfaction ou d'insatisfaction chez les employés pour permettre aux dirigeants de cette industrie de revoir leur politique salariale. Les résultats de cette recherche doivent servir pour questionner les composantes actuelles du système de rémunération et mettre sur pied une rémunération mieux appréciée par les employés (congruence entre les pratiques et les préférences selon Wu et al., 2011). Dans un premier temps, une revue de littérature sera présentée et par la suite la méthodologie utilisée et finalement nous présenterons et discuterons les résultats de cette recherche.

## **1- Revue de littérature**

Dans le passé, la rémunération se limitait en général au salaire. Aujourd'hui, la rémunération englobe l'ensemble des avantages offerts à l'employé : le salaire (Salaire de base, rémunération incitative à court terme et à long terme), les avantages sociaux, qui prennent une part de plus en plus importante

dans la rémunération (régimes de soins de santé et de retraite et programme d'équilibre travail-vie personnelle), et le cheminement professionnel. La rémunération constitue l'un des éléments les plus importants de la relation entreprise-salarié. Elle peut également être considérée comme un levier stratégique et un outil de mobilisation (Tremblay & al, 1998).

Depuis le début du 20<sup>ème</sup> siècle, l'Amérique du Nord a connu trois grandes tendances en rémunération. Avec la période de l'organisation scientifique du travail, la rémunération reposait plutôt sur l'emploi que sur l'individu qui l'occupe. Ainsi, la gestion de la rémunération reposait sur le concept d'emploi auquel on attribue une valeur précise (Thériault & St-Onge, 2006). Par la suite, avec l'arrivée du mouvement des sciences humaines, on donnait de l'importance à la motivation et la coopération. Le but était d'inciter les travailleurs à accroître leurs efforts. La gestion de la rémunération se préoccupait alors de l'influence que l'aspect monétaire peut avoir sur la satisfaction et la motivation des travailleurs. Typiques de ce courant, la rémunération au mérite et les régimes d'intéressement font leur apparition. Aujourd'hui, la littérature scientifique abonde en termes de gestion stratégique de la rémunération. Le mot stratégique veut dire qu'on concentre désormais l'attention sur la relation entre l'organisation, ses objectifs, ses stratégies, sa culture, ses valeurs et la gestion de la rémunération (Thériault, 1991). Thériault & St-Onge (2006) abordent la rémunération de façon synergique qui tient compte de la multitude de variables liées aux personnes, aux emplois, aux organisations et à leur environnement. Wright & McMahan, (1999) utilisent l'approche configurationnelle pour suggérer des solutions optimales et contextuelles. Ces solutions dépendraient de la catégorie d'emplois, de la situation financière de l'organisation, de l'importance relative des objectifs de rémunération, du cycle de vie de l'entreprise, de la stratégie d'affaires, des lois, de l'industrie, etc.

Principalement, l'entreprise devrait se préoccuper de la rémunération pour des raisons économiques puisque la masse salariale d'une organisation peut représenter jusqu'à 80% des charges d'exploitation (Milkovich & Newman, 1999). En raison de ces coûts élevés, la formulation d'une stratégie de rémunération devient essentielle à sa survie. Toutefois, contrairement aux autres facteurs de production, l'entreprise ne peut calculer avec précision la rentabilité d'un investissement dans son personnel (Thériault, 1991). Ce défi économique de rentabilité fait référence au premier principe, rappelé par Sire & Tremblay (2000), à l'effet que la rémunération est un acte économique avant tout. Cependant, cette approche se fait souvent reprocher d'oublier l'individu et de se concentrer sur l'organisation

En effet, La rémunération permet d'influencer les attitudes et les comportements des employés et ceci agit sur leur productivité et la rentabilité des firmes (Thériault & St-Onge, 2000). L'approche fondée sur les ressources suggère que ce soit l'étendue de la congruence entre le système de rémunération et d'autres facteurs organisationnels qui crée de la valeur en attirant, motivant et retenant les individus appropriés (Henninger, 2000). Il est donc fondamental de rechercher une congruence entre les pratiques de l'entreprise et les préférences des employés en dotant l'entreprise d'un modèle de rémunération qui commence par la compréhension des besoins des employés (Wu et al., 2011)

Avec le vieillissement de la population le mode de rémunération qui semble succéder à la rémunération systématique à l'ancienneté est l'individualisation des salaires. Cette substitution n'est pas justifiée uniquement par la recherche d'une maîtrise accrue de l'évolution de la masse salariale, mais aussi par un besoin d'adaptation issu d'évolutions technologiques et organisationnelles (Bourdil, 2010 ; Hatchuel & Sardas, 1994).

La rémunération globale comprend l'ensemble des rétributions reçues par les employés pour leurs services ou leur travail. (St-Onge & al, 2004). La détermination de cette rémunération est l'activité consistant à évaluer la contribution des employés à l'organisation afin d'établir leur rétribution, pécuniaire et non pécuniaire, directe et indirecte, conformément à la législation existante et à la capacité financière de l'organisation (Saba & al, 2008). On peut subdiviser la rémunération globale en deux grandes composantes : la rémunération directe (salaire de base et la rémunération fondée sur le

rendement, dite rémunération variable) et la rémunération indirecte (avantages sociaux et le temps chômé et, d'autre part, les avantages complémentaires et les conditions de travail).

En plus, la rémunération comprend les autres formes de reconnaissances intrinsèques, intangibles ou psychologiques que les employés peuvent prendre en considération lorsqu'ils cherchent un emploi. Par exemple, la sécurité d'emploi, les symboles de réussite, les marques de reconnaissance sociale, la satisfaction personnelle au travail, etc. (Suutari & Tornikoski, 2010 ; St-Onge & al. 2009).

### **1.1. Choix stratégiques en rémunération**

Selon Gomez-Meija & Balkin (1992), les choix stratégiques en termes de politiques salariales peuvent être groupés en 2 catégories : rémunérer l'emploi (job-based pay) ou les caractéristiques individuelles reliées à l'emploi (skill-based pay). Lorsque le niveau d'analyse est l'emploi, le salaire dépend du poste occupé dans la structure organisationnelle tandis que dans le deuxième cas, le salaire correspond aux habiletés du travailleur. Cette dernière façon de faire se concentre sur l'individu et non sur le poste. Ainsi, on choisirait de récompenser la performance des individus ou encore l'ancienneté accumulée au sein de l'organisation. Le rendement ou les comportements peuvent être appréciés de façon individuelle ou collective. Certains choix touchent à l'aspect temporel dans la mesure de la performance et la distribution des récompenses puisque certains systèmes de bonification sont orientés vers le court terme alors que d'autres visent le long terme. À titre d'exemple, un régime d'actionnariat vise l'engagement des employés affectés à long terme dans la compagnie. D'autres points importants concernent justement la décision de transférer ou non une certaine part de risque aux employés en imposant une partie variable à leur salaire, la préoccupation pour l'équité interne et externe et l'option d'adopter une seule structure salariale ou plusieurs.

Le regroupement proposé par Gomez-Meija & Balkin (1992), a été repris par Chênevert (2009) pour élaborer une grille d'analyse des choix en matière de rémunération. Il précise que si les pratiques de rémunération sont cohérentes avec les caractéristiques externes et internes de l'organisation, la performance de l'entreprise sera grande. Ainsi, il présente une classification de différentes formes d'alignement en rémunération et met l'accent sur l'articulation entre le système de rémunération, la stratégie d'affaires et les valeurs de l'organisation d'un côté, et sur l'adéquation entre le système de rémunération et les aspects de l'environnement de l'organisation de l'autre côté. Cette même articulation a été soulignée par Tremblay (2009).

La gestion de la rémunération a de multiples incidences, tant sur les organisations que sur les employés (tableau 1). En ce qui a trait aux employeurs, elle a un effet sur les coûts et la compétitivité de l'entreprise, de même que sur sa capacité à attirer et à retenir son personnel. La gestion de la rémunération influe aussi sur le profil des candidats (par exemple, les besoins et les attentes) qu'elle tente d'attirer et de retenir. La rémunération a aussi une incidence sur les attitudes, les comportements et la performance des employés (Wu et al., 2011 ; St-Onge & Thériault, 2006).

**Tableau 1:** Quelques incidences de la gestion de la rémunération sur les organisations et les employés (adapté de St-Onge & Thériault 2006).

<p><b>Incidences sur les organisations</b></p>	<ul style="list-style-type: none"> <li>- Compétitivité, productivité et rendement</li> <li>- Changement et développement organisationnels</li> <li>- Taux de roulement et absentéisme</li> <li>- Présence syndicale</li> <li>- Respect des lois, de l'éthique et des normes professionnelles</li> </ul>
<p><b>Incidences sur les employés</b></p>	<ul style="list-style-type: none"> <li>- <u>Attitudes</u> : Satisfaction au travail, motivation au travail, engagement dans le travail et dans l'organisation, etc.</li> <li>- <u>Sentiments</u> : D'équité, de justice, de contrôle sur sa vie, d'autonomie, de pouvoir, de prestige, de statut social, de réalisation de soi, de succès, d'accomplissement, d'estime de soi, de compétence, de reconnaissance, etc.</li> <li>- <u>Comportements</u> : Joindre une organisation, rester au service d'une organisation, accepter une promotion ou une mutation, adopter des comportements de « Bon citoyens organisationnels », respecter les règles professionnelles et éthiques, etc.</li> </ul>

## 1.2. Satisfaction au travail

Le concept de satisfaction au travail est un phénomène très complexe qui a longtemps préoccupé les chercheurs. Cet intérêt remonte aux expériences de Hawthorne pendant les années 30. Locke (1976), Friesen et al. (1984) et Young (1984), signalent près de 3500 publications diverses consacrées à la satisfaction entre 1958 et 1976. A travers ces travaux, la satisfaction résulterait de l'ensemble des sentiments que l'employé éprouve vis-à-vis des différents aspects de son travail. Cette réalité transparait avec plus ou moins de force dans la plupart des définitions formulées. Herzberg (1959), stipule que la satisfaction au travail et l'insatisfaction au travail agissaient de manière indépendante. Ainsi, le contraire de la satisfaction n'est pas l'insatisfaction mais l'absence de satisfaction. Vroom (1964) souligne que cette théorie ne tient pas compte des attentes de l'individu au moment où il accepte le poste. Gruneberg (1976) souligne que de nombreuses études ont montré que les mêmes facteurs peuvent à la fois être source de satisfaction et d'insatisfaction. De même la distinction entre facteurs de contexte et facteurs de contenu de la tâche qui a conduit les gens à systématiquement jeter le blâme sur les premiers et à faire des seconds la seule source positive de satisfaction au travail a été sévèrement critiquée.

Les recherches ont établi que la satisfaction est une variable multidimensionnelle. Louche (2001) décrit les travaux de plusieurs chercheurs et met en évidence des différences dans les sources de satisfaction. Pour plusieurs auteurs (Greenberg & Baron, 2008 ; Weiss, 2002 ; Wollack & al. 1971) la satisfaction au travail décrit l'attitude positive ou négative d'une personne à l'égard de son emploi et de son milieu de travail. Chez les employés satisfaits, cette évaluation fondée sur leurs observations et leurs expériences affectives est plutôt favorable. En fait, la satisfaction au travail est un ensemble d'attitudes à l'égard de certains aspects précis du travail (Suutari, & Tornikoski, 2001 ; Robbin & Judge, 2007). Elle se différencie ainsi de l'engagement envers l'entreprise (organizational commitment) et des intentions de rester en emploi spécifiques et complètement différentes (Lynn McFarlane Shore & Harry J. Martin, 1989).

Bref, la satisfaction au travail représente l'ensemble des sentiments qu'un travailleur éprouve à l'égard des différents aspects de son emploi, de son entreprise et de l'accomplissement de ses attentes et désirs. Cette conception a l'avantage de prendre en considération aussi bien les émotions qui touchent la relation de l'individu avec son cadre de travail que de celles qui sont liées à ses aspirations

personnelles. On peut donc comprendre que la satisfaction au travail est très liée à la nature du travail lui-même et au contexte de son exécution. C'est pourquoi, il sera utile de présenter les spécificités des centres d'appel.

### 1.3. Secteur des centres d'appels au Canada

L'émergence des centres d'appels constitue un phénomène relativement récent. Qu'on les retrouve dans l'industrie hôtelière, dans les institutions financières ou d'assurances, dans les organisations de services publics ou dans les entreprises de télécommunication (McPhail, 2002), les centres d'appels représentent un secteur important de l'économie canadienne. Ils sont l'une des zones à croissance plus rapide de l'emploi au Canada, avec une croissance estimée de l'ordre de 20 à 25% (Buchanan & Koch-S., 2000). Il est utile d'établir une définition d'un centre d'appel. Ce n'est pas une tâche facile car il existe une variété typologique de centres d'appels qui sont répartis dans plusieurs secteurs de l'économie et qui remplissent des fonctions différentes selon les organisations. La définition la plus large est celle fournie par Norling (2001) selon laquelle un centre d'appel est une plate-forme de communication où les entreprises fournissent des services aux clients par l'intermédiaire d'un contact à distance et en temps réel. Callaghan & Thompson (2001) ont proposé une définition semblable en indiquant que les centres d'appels peuvent être au sens large comme les lieux de travail qui intègrent téléphone et technologies informatiques. D'autres auteurs associent leur définition aux technologies intégrées. Par exemple, Richardson et Belt (2006), soulignent que les centres d'appels téléphoniques sont spécialisés dans les secteurs utilisant de façon intense les technologies afin de fournir des services à la clientèle.

Dans une étude portant sur l'analyse des centres d'appels au Canada, Marcoux (2007) souligne qu'il existe trois principaux courants d'étude. Premièrement, *le courant de la domination sociale* qui considère que les structures organisationnelles des centres d'appels représentent une version néo-tayloriste de l'organisation du travail (Arkin, 1997). Selon Taylor & Bain (1999) les technologies de l'information appliquées dans les centres d'appels permettent de répartir le travail entre les salariés, de l'automatiser pour une grande part et de le contrôler à posteriori ou en temps réel. Deuxièmement, *le courant de l'habilitation* qui considère que les salariés en centre d'appel doivent disposer d'une bonne marge d'autonomie pour effectuer adéquatement leur travail. L'application de certaines pratiques de GRH, telles que le coaching ou des politiques de rémunération basées sur les performances, peut développer chez ces salariés une perception de confiance envers leur employeur (Kinnie et al., 2000). Troisièmement, *le courant de la dualité* représente une tentative de rapprocher les modèles de l'habilitation et de la domination sociale (Marcoux, 2007). Cette approche tente de réconcilier les deux principes contradictoires retrouvés dans le processus de production d'un centre d'appel : la standardisation de ce processus et l'orientation-client (Frenkel & al. 1998 ; 1999, Dans Marcoux, 2007). Pour le premier principe, les gestionnaires établissent des normes quantitatives d'efficacité afin de diminuer la durée du temps d'appel. Tandis que l'orientation-client vise à offrir un service personnalisé aux clients. Le défi pour les gestionnaires est de réconcilier ces deux principes (Marcoux, 2007).

## 2- Méthodologie de recherche

Pour mesurer la structure de la rémunération, nous avons utilisé les items soustraits grâce à une revue de la littérature (Kinneer & Sutherland, 2000; Meyer & Smith, 2000; Trabelsi, 2002; Horwitz & al. 2003, dans Trabelsi & Le Berre, 2009). Le choix de cet instrument est justifié par sa capacité à refléter l'ensemble des composantes de la rémunération telles que décrites dans la littérature.

La mesure de la satisfaction en matière de rémunération a été faite par des items identifiés dans la littérature (Lawler, 1983; Judge, 1993; St-Onge & al, 2006; Potin, 2009; Ethier, 2002). Le choix de ces items est justifié par leur capacité à questionner la satisfaction des employés par rapport aux chacune des composantes de la rémunération.

Dans la mesure de la satisfaction au travail, nous avons utilisé l'instrument développé par Weiss et al. (1967) dans le cadre du Minnesota studies in vocational rehabilitation<sup>1</sup>. Nous avons choisi le Minnesota Satisfaction Questionnaire (M.S.Q.) en raison de ses qualités psychométriques indéniables. Il est largement utilisé dans les recherches internationales, ce qui en fait un outil fiable (Rioux 2005). De plus, il permet de mesurer aussi bien la satisfaction selon différents aspects du travail, que la satisfaction selon l'environnement de travail qui est fondamental dans notre recherche. Cette version courte du MSQ n'est constituée que de 20 items, ce qui permet une administration relativement rapide du questionnaire. Les réponses sont évaluées sur une échelle de cinq modalités (très insatisfaite à très satisfaite).

L'administration du questionnaire a été réalisée auprès de 107 employés d'un centre d'appel de l'est canadien (que nous avons nommé Alpha). Les employés occupant des postes de responsabilité n'ont pas été sollicités pour répondre au questionnaire.

### **Analyse et interprétation des résultats**

Dans notre échantillon, le sexe féminin représente 41,7% de l'ensemble des employés, contre 58,3% pour les hommes. En revanche, l'âge moyen des employés est d'environ 25 ans.

Pour examiner la pertinence et la validité des variables clés de notre modèle, nous avons tenu compte de trois parties principales (structure de la rémunération, satisfaction en matière de rémunération, satisfaction au travail). Celles-ci sont divisées en différents facteurs ou composantes que les analyses statistiques nous ont permis de déterminer. Compte tenu de la taille de notre échantillon, les analyses statistiques ont été effectuées distinctement pour chaque facteur. Même si cette analyse ne couvre pas l'ensemble de la structure du questionnaire, elle permet tout de même de vérifier l'importance ou la pertinence de chaque facteur considéré dans notre modèle. Le test de sphéricité de Bartlett et le test d'adéquation de l'échantillon de Kaiser-Meyer-Olkin (KMO) ont tout d'abord été effectués sur les données, conditions indispensables pour l'application de l'analyse en composantes principales (Tabachnick & Fidell, 2001).

En matière de structure de la rémunération, l'analyse factorielle avec rotation *varimax* a ressorti deux principaux facteurs représentant 63,590% de la variance expliquée, avec un très bon indice KMO de l'ordre de 0,797. Le facteur 1 est constitué de quatre variables. En raison de la nature de ces variables, nous l'avons nommé '**récompense à l'effort et participation au capital**' (REPC). Il représente 36,587% de la variance totale expliquée. Le facteur 2 nommé '**évolution de carrière**' (EVOLC) est formé de trois items et représente 27.003% de la variance totale expliquée.

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<sup>1</sup> Le **Minnesota Satisfaction Questionnaire** (MSQ) a été développé par : Weiss DJ, Dawis RV, England GW, Lofquist LH. Minnesota studies in vocational rehabilitation: 22, manual for Minnesota Satisfaction Questionnaire (MSQ). Vocational Psychology Research, University of Minnesota, 1967.

### Matrice des composantes après rotation<sup>a</sup>

	Composante	
	1	2
J'ai l'opportunité d'avoir des actions de participation au capital de l'entreprise	,807	
Chaque fin d'année, j'ai l'opportunité de recevoir des participations financières aux bénéfices.	,792	
J'estime que je suis bien rémunéré(e) par rapports aux efforts que je fournis dans mon travail.	,675	
Les avantages matériels sont suffisants par rapport aux difficultés de mon travail.	,634	
Le système d'avancement de l'entreprise est long.		-,689
ALPHA dispose d'un système d'avancement au mérite (selon les compétences et performances)		,654
J'ai l'impression que je suis bloqué(e) dans l'évolution de ma carrière.		-,621
Méthode d'extraction : Analyse en composantes principales. Méthode de rotation : Varimax avec normalisation de Kaiser.		
a. La rotation a convergé en 3 itérations.		

Selon les résultats des analyses statistiques descriptives, la récompense à l'effort et la participation dans le capital, donnent en moyenne 2,4144 (tableau 2). On peut conclure que les employés ne sont pas satisfaits de leur rémunération par rapports aux efforts qu'ils fournissent dans leur travail, ainsi ces derniers trouvent que les avantages accordés par l'entreprise ne sont pas suffisants en regard des difficultés rencontrées dans l'exécution des tâches. Ils perçoivent également qu'on ne favorise pas leur participation au capital de l'entreprise. Enfin, ils ne s'attendent pas à recevoir des participations financières aux bénéfices chaque année.

En ce qui concerne l'évolution de carrière, nous avons obtenu une moyenne de 3,0864 (voir tableau 3). Ce qui signifie que les employés ont l'impression d'être contraints dans le processus d'évolution de carrière de l'entreprise. Nous pouvons croire que le système d'avancement adopté par ALPHA est considéré long.

**Tableau 2** : Statistiques descriptives pour la récompense à l'effort et participation dans le capital

	N	Intervalle	Minimum	Maximum	Moyenne	Ecart type	Variance
REPC	107	4,00	1,00	5,00	<b>2,4144</b>	,94545	,894
N valide (listwise)	107						

**Tableau 3**: Statistiques descriptives pour l'évolution de carrière

	N	Intervalle	Minimum	Maximum	Moyenne	Ecart type	Variance
EVOLC	107	3,00	2,00	5,00	<b>3,0864</b>	,55135	,304
N valide (listwise)	107						

D'autre part, en matière de satisfaction vis-à-vis les composantes de la rémunération, l'analyse factorielle a ressorti deux facteurs expliquant 58,110% de la variance totale. L'indice (KMO=0,832) est excellent.

Le premier facteur est composé principalement de huit variables qui reflètent la **satisfaction de la rémunération directe (SMRD)**. Il représente 38,262% de la variance totale expliquée. Le deuxième facteur comporte cinq items qui représentent la **satisfaction de la rémunération indirecte (SMRI)**. Il explique 19,848 % de la variance totale.

**Matrice des composantes après rotation<sup>a</sup>**

	Composante	
	1	2
De l'augmentation de salaire selon l'ancienneté.	,817	
De l'augmentation générale de salaire.	,799	
De la rémunération fixe (salaires de base).	,798	
De l'augmentation de salaire au mérite individuel.	,797	
De la rémunération variable (primes, commissions).	,735	
Des primes ou bonis individuelles.	,730	
Des primes ou bonis d'équipe.	,674	
Des récompenses non-matérielles selon la performance (voyage, produits...).	,650	
Des conditions de travail (nombre d'heures de travail par semaine, congés sans solde).		,810
Du temps chômé (congés de : maladie, maternité, paternité, décès ou mariage).		,807
Des avantages complémentaires (Automobile, stationnement, repas, frais de scolarités).		,714
Des avantages sociaux (ex : programme d'assurance vie et d'assurance santé).		,620
De la rémunération selon les compétences maîtrisées.		,498

Méthode d'extraction : Analyse en composantes principales.

Méthode de rotation : Varimax avec normalisation de Kaiser.

a. La rotation a convergé en 3 itérations.

Selon les résultats des analyses statistiques descriptives, la satisfaction des employés en matière de rémunération directe (SMRD), offre une moyenne de 2,4372 (tableau 4) ; cela explique que les employés de cette entreprise sont très peu satisfaits des composantes du système de rémunération directe à savoir la rémunération fixe (salaire de base), la rémunération variable (primes, commissions), l'augmentation selon l'ancienneté et l'augmentation liée au mérite individuel. Ainsi ils sont également moins satisfaits des caractéristiques des primes ou bonus offerts par l'entreprise. Par conséquent, selon la perception de nos répondants, nous pouvons croire que l'entreprise ne leur attribue pas des récompenses liées à la performance ou à leurs suggestions visant l'amélioration des activités de l'entreprise.

Pour la satisfaction en matière de rémunération indirecte (SMRI), nous avons obtenu une moyenne de 3,1667 (voir tableau 5). Dans ce cas, on peut également penser que les employés sont très peu satisfaits des composantes du système de rémunération indirecte. Dans la perception des répondants,

la compagnie n'offre pas des avantages sociaux suffisants (programme d'assurance vie et d'assurance santé), et aussi il y a un manque de système de planification de période nécessitant de congés (maladie, maternité, paternité, de décès ou de mariage). Par rapport à la politique de rémunération, les employés jugent que certains avantages complémentaires ne leurs sont pas accordés ainsi que d'autres opportunités liées aux conditions de travail.

**Table 4:** Statistiques descriptives pour la satisfaction en matière de rémunération directe

	N	Intervalle	Minimum	Maximum	Moyenne	Ecart type	Variance
SMRD	107	4,00	1,00	5,00	<b>2,4372</b>	,89986	,810
N valide (listwise)	107						

**Tableau 5:** Statistiques descriptives pour la satisfaction en matière de rémunération indirecte

	N	Intervalle	Minimum	Maximum	Moyenne	Ecart type	Variance
SMRI	107	4,00	1,00	5,00	<b>3,1667</b>	,83498	,697
N valide (listwise)	107						

D'autre part, la mesure de la satisfaction globale a donné lieu à quatre facteurs qui expliquent 68,841% de la variance totale et ont une mesure excellente du degré de cohérence (KMO=0,886). Le facteur 1 reflète '**l'ambiance au travail**' et est composé de huit items qui expliquent 24,949 de la variance totale. Le facteur 2 que nous avons nommé '**valorisation des employés**' est composé de cinq items et représente 18,466% de la variance globale. Le troisième facteur, appelé '**relation avec superviseur**', contribue à 15,238% de la variance totale expliquée et comporte quatre items. Finalement, le facteur 4 comporte deux variables et explique 10,188% de la variance, il est désigné '**implication au travail**'.

Les statistiques descriptives pour ces quatre facteurs affichent des moyennes entre 2,86 et 3,18 (sur une échelle Likert de 1 à 5). Ce qui dénote d'une faible satisfaction quant à l'ambiance du travail et à l'implication au travail, à la relation avec le superviseur et à la valorisation des employés. Cette situation rapproche l'entreprise à l'étude du courant de la domination sociale (Taylor & Bain, 1999 ; Arkin, 1997)

### **Analyse de régression linéaire multiple**

Nous avons pu identifier chaque facteur qui a permis de déterminer une nouvelle variable à travers le calcul d'un indice des moyennes des variables qui le composent. Cette méthode a permis de dégager les variables dépendantes et indépendantes qui ont été utilisées par la suite dans nos modèles de régression linéaire multiple.

**Tableau 6:** Relation structure de la rémunération versus satisfaction globale

Tests des effets inter-sujets						
Source	Variables dépendantes	Somme des carrés de type III	Ddl	Moyenne des carrés	D	Sig.
Récompense à l'effort et participation dans le capital dimension	Satisfaction en matière de rémunération directe	36,995	14	2,642	6,979	<b>,000</b>
	Satisfaction en matière de rémunération indirecte	15,194	14	1,085	1,541	<b>,135</b>
	Ambiance de travail	40,617	14	2,901	6,007	<b>,000</b>
	Valorisation des employés	23,597	14	1,686	3,341	<b>,001</b>
	Relation avec superviseur	32,301	14	2,307	3,855	<b>,000</b>
	Implication au travail	20,073	14	1,434	1,204	,306
Évolution de carrière Dimension	Satisfaction en matière de rémunération directe	1,381	7	,197	,521	,814
	Satisfaction en matière de rémunération indirecte	3,066	7	,438	,622	,735
	Ambiance de travail	1,814	7	,259	,537	,802
	Valorisation des employés	1,860	7	,266	,527	,810
	Relation avec superviseur	7,151	7	1,022	1,707	,132
	Implication au travail	7,470	7	1,067	,896	,518
Récompense à l'effort et participation dans le capital dimension *	Satisfaction en matière de rémunération directe	11,782	35	,337	,889	,638
	Satisfaction en matière de rémunération indirecte	16,021	35	,458	,650	,905
	Ambiance de travail	15,159	35	,433	,897	,628
	Valorisation des employés	20,533	35	,587	1,163	,314
Évolution de carrière dimension	Relation avec superviseur	24,340	35	,695	1,162	,315
	Implication au travail	25,505	35	,729	,612	,933

- a. R deux = ,787 (R deux ajusté = ,518)  
b. R deux = ,531 (R deux ajusté = -,062)  
c. R deux = ,757 (R deux ajusté = ,448)  
d. R deux = ,699 (R deux ajusté = ,319)  
e. R deux = ,727 (R deux ajusté = ,381)  
f. R deux = ,529 (R deux ajusté = -,068)

Selon cette analyse en composantes principales, on a 2 variables indépendantes à savoir la récompense à l'effort et la participation dans le capital (REPC) et l'évolution de carrière (EVOLC). Ainsi, les 6 variables dépendantes notamment satisfaction en matière de la rémunération directe (SMRD), satisfaction en matière de la rémunération indirecte (SMRI), ambiance de travail (AMBT), valorisation des employés (VALEMP), superviseur (SUPERV) et implication dans le travail (IMPT).

Le premier modèle va expliquer la variable REPC en utilisant les variables dépendantes correspondant aux éléments déterminants de la satisfaction en matière de rémunération et de la satisfaction au travail.

On remarque que la variable REPC a un impact significatif sur la variable SMRD (tableau 5.3.a) car le  $P = 0,000 < 0,05$ . Le même modèle nous indique que REPC n'a pas un impact significatif sur SMRI avec un  $P = 0,135 > 0,05$ . Pour la troisième variable AMBT, On constate que REPC a un impact significatif sur cette variable, car celle-ci nous donne un  $P = 0,000 < 0,05$ . Ensuite on

remarque que REPC influe de façon significative sur la VALEMP en donnant un  $P= 0,001 < 0,05$ . De façon subséquente, on retrouve, que la variable REPC a encore un impact significatif sur SUPERV avec un P-value de  $0,000 < 0,05$ . Cependant, à la fin de l'analyse de notre premier modèle, on voit que la variable REPC n'influe pas significativement sur la variable IMPT puisque le  $P= 0,306 > 0,05$ .

En conclusion, on peut dire que les variables SMRD, AMBT, VALEMP et SUPERV ont des corrélations significatives avec la variable REPC. Comparativement aux deux autres variables SMRI et IMPT, la variable REPC n'a pas un impact significatif sur celles-ci.

Selon le deuxième modèle, on tente d'expliquer l'impact de la variable EVOLC sur les variables dépendantes basés sur la satisfaction globale. Comme on peut le remarquer dans le tableau 5.3.a, les tests de corrélation ne montrent pas une corrélation significative entre la variable EVOLC et les autres variables définies d'où le P-Value est partout supérieur à 0,05.

Après une analyse relative à la détermination des tests de corrélation entre les 2 variables indépendantes et les 6 variables dépendantes, on a constaté que REPC a un impact significatif sur les variables liées à la satisfaction globale. Tandis que la variable EVOLC ne détermine pas une relation significative sur les mêmes variables.

Donc on peut dire sans risque de se tromper, que notre première hypothèse (*les composantes de la rémunération ont un impact significatif sur la satisfaction des employés*) a été vérifiée :

### **Interprétation des résultats de recherche**

Le lien entre la structure de la rémunération et la satisfaction en matière de rémunération est testé à travers l'influence des deux facteurs de la structure de la rémunération (récompense à l'effort et participation dans le capital, et évolution de carrière) sur les deux facteurs de la satisfaction en matière de rémunération (directe et indirecte). Les résultats de cette recherche ont montré que :

- La récompense à l'effort et la participation dans le capital influence positivement la satisfaction en matière de rémunération directe. Ce résultat était prévisible puisque plusieurs auteurs comme (St-Onge & al. 2008; Potin, 2009) ont souligné l'existence d'un lien entre la structure de la rémunération et la satisfaction en matière de rémunération.
- La récompense à l'effort et la participation dans le capital n'a pas d'effet sur la satisfaction en matière de rémunération indirecte. Ce résultat imprévisible peut être expliqué par différentes raisons notamment la nature de la rémunération indirecte (ex : avantages sociaux, temps chômé, avantages complémentaires..) et la récompense à l'effort et la participation dans le capital qui est une structure directe de la rémunération.

L'évolution de carrière n'a pas d'impact majeur sur les deux composantes de la satisfaction en matière de rémunération. Ce résultat peut être expliqué par la nature des emplois au sein de l'entreprise à l'étude (forte rotation des employés et absence de permanence au travail). Pour ses employés, l'évolution de carrière n'est pas un facteur déterminant pour leur satisfaction.

### **Lien entre la structure de la rémunération et la satisfaction au travail**

Le lien entre la structure de la rémunération et la satisfaction au travail est testé à travers l'influence des deux facteurs de la structure de la rémunération (récompense à l'effort et participation dans le capital, et l'évolution de carrière) sur les quatre facteurs de la satisfaction au travail (ambiance de travail, valorisation des employés, superviseur et implication au travail).

Les résultats de cette recherche ont montré que :

- La récompense à l'effort et la participation dans le capital influence positivement l'ambiance au travail, la valorisation des employés, la relation avec le superviseur. Ce résultat était prévisible puisque plusieurs auteurs comme St-Onge & Thériault, 2006; Saba & al. 2008) ont souligné l'existence d'un lien entre la structure de la rémunération et la satisfaction au travail.
- La récompense à l'effort et la participation dans le capital n'a pas d'effet sur l'implication au travail. Ce résultat imprévisible peut être expliqué par différentes raisons, notamment les employés ont des possibilités de travailler seuls dans leur emploi, ainsi ces employés sont capable de se tenir occupé tout le temps.
- L'évolution de carrière n'a pas d'impact sur les quatre facteurs de la satisfaction au travail.

### **Discussion des résultats de recherche**

L'analyse factorielle a identifié une structure de rémunération à deux facteurs (récompense à l'effort et participation au capital; évolution de carrière). Pour le premier facteur, les employés semblent peu satisfaits du système de récompense de l'entreprise. En effet, ils peuvent penser que l'entreprise n'octroie pas des occasions d'encouragement et des possibilités d'actionnariat ou de participation au capital de l'entreprise. Dans une telle situation, l'entreprise pourrait mettre plus d'accent sur la volonté et l'implication des employés pour apporter le maximum d'effort et pour mettre leurs compétences au service des objectifs organisationnels. Il sera également utile d'influencer la participation au capital en lien avec la performance et les efforts fournis par les employés dans le cadre de leur travail.

Par rapport à l'évolution de carrière, les employés perçoivent qu'il y a des contraintes dans le processus d'avancement au sein de l'entreprise. Une réorganisation des postes au sein de l'entreprise peut s'avérer utile pour favoriser l'implication à travers des opportunités d'avancement bien structurées et visibles à tous les employés. C'est un effort considérable et très long que de s'engager dans cette restructuration, mais la pérennité de l'entreprise à plus long terme pourrait être mieux préparée en prenant un tel virage. Cette réalité est réponde dans l'industrie des centres d'appel et une réforme profonde s'impose pour assurer une véritable paix sociale au sein de cette industrie. La mise sur pied de certaines pratiques GRH telles la rotation d'emploi, l'avancement au mérite et selon les compétences et les performances deviennent une urgence.

D'autre part, les composantes de la rémunération directe sont une faible source de satisfaction pour les employés. Ils jugent que ce leur salaire de base est moins avantageux comparativement à des entreprises comparables (équité externe). Un tel problème d'équité externe peut engendrer des répercussions négatives sur la performance des employés. La rémunération indirecte pose également un frein à la satisfaction des employés puisqu'il n'offre pas d'avantages sociaux suffisants pour l'épanouissement des employés. De façon spécifique, nous avons remarqué l'absence de programmes favorisant des congés de différente nature (maladie, maternité, de décès ou de mariage). L'ultime participation des employés pour le bon fonctionnement d'une organisation nécessite une considération favorable et équitable en matière de rémunération directe et indirecte.

Concernant les quatre facteurs qui forment la satisfaction au travail (l'ambiance de travail, la valorisation des employés, la relation de superviseur et l'implication dans le travail), les employés de la société ALPHA trouvent que leur milieu de travail ne permet pas de créer une ambiance conviviale pour bien mener leur travail. Ainsi les conditions de travail ne fournissent pas des possibilités mettant en pratique leur créativité pour mieux réaliser leurs tâches. Au sein de l'entreprise, les employés trouvent qu'ils n'ont pas suffisamment d'opportunités pour exprimer leur savoir faire. En plus, les employés perçoivent comme insuffisantes les relations établies avec leurs superviseurs. Nous pouvons aussi constaté que la structure de gestion de l'entreprise ne laisse pas beaucoup de place à l'autonomie

au travail et à l'épanouissement des employés. Ces éléments se trouvent à la base de la satisfaction des employés et des solutions doivent être recherchées afin d'améliorer ces éléments. C'est toute la performance de l'entreprise qui en dépend comme l'ont soulignée plusieurs écrits en la matière. Les superviseurs peuvent jouer un rôle crucial dans cet effort en vue d'établir des relations professionnelles saines tout en tenant compte des besoins des employés.

Sur le plan théorique, cette recherche met en exergue le lien entre des éléments du système de rémunération et le contexte de travail. Ce lien se matérialise par les effets positifs d'un climat adéquat de travail (valorisation des employés, relations harmonieuses avec les supérieurs, autonomie,...) sur la satisfaction des employés et le possible impact de ce climat sur la satisfaction en matière de rémunération. Souvent, les recherches portent une attention particulière à la rémunération en vue de questionner ses effets sur les employés, ce qui est certainement extrêmement fondamental. Toutefois, la prise en compte des conditions du travail peut modérer la relation entre la satisfaction et la rémunération.

Cette recherche a également des implications pour les gestionnaires. D'abord, la structure de rémunération élaborée par les dirigeants n'est pas nécessairement perçue de la même manière par les employés comme l'ont souligné Wu et al. (2011). Les centres d'appel doivent adopter une politique salariale qui va au-delà des principes de justice et d'équité que les décideurs mettent de l'avant au moment de l'élaboration de leur système de rémunération. Les résultats de cette recherche montrent que les priorités des employés évoluent, ce qui pourrait remettre en question le caractère équitable du système de rémunération. Il est donc clair que le système de rémunération ne doit pas être figé, mais plutôt évolutif pour suivre l'évolution des besoins des employés. Bien entendu, cette perception d'injustice qui est reliée à la satisfaction, comme on l'a vu, peut être une cause directe d'autres problèmes de gestion comme l'absentéisme ou un taux de roulement élevé.

Une autre implication pour les managers concerne certains éléments contextuels qui sont indirectement reliés à la rémunération. Les conditions d'emploi peuvent favoriser la satisfaction à l'égard du système de rémunération. Un employé peut percevoir son salaire comme étant satisfaisant, mais lorsque les conditions d'emploi ne sont pas assez satisfaisantes, il sera plus exigeant en matière de rémunération. Nous savons que les centres d'appels n'offrent pas les meilleurs salaires et une bonne partie des employés choisissent tout de même de travailler chez eux. Une amélioration des conditions de travail (milieu de travail convivial, des superviseurs attentionnés, des tâches mieux conçues,...) peut être favorable à une appréciation positive de la structure salariale par les employés.

Cette recherche a mis de l'avant une réalité du vécu des employés des centres d'appel qui a longuement été discuté par les auteurs (courant de la domination sociale). Cependant, sa principale limite consiste à ce qu'elle ne peut prétendre refléter toute la réalité des centres d'appel puisqu'elle n'a étudié qu'un seul situé à l'est canadien. Des recherches futures doivent être menées pour questionner les différentes facettes de la relation d'emploi dans cette industrie. Le statut d'emploi et le profil des employés peuvent être autant de variables qu'il faudra explorer pour éclairer davantage la relation entre la structure de la rémunération et la satisfaction des employés.

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## **INTEGRATING ICT INTO HIGHER EDUCATION AT THE UNIVERSITY OF MONCTON: WHAT ONSITE AND ONLINE STUDENTS ARE THINKING ABOUT IT<sup>1</sup>**

*For the past two decades, information and communication technologies (ICT) have transformed the ways professors teach and students learn. This study aims to investigate the perceptions of onsite students (blended mode) and of those taking the same courses on the Internet (online mode). To guide the study, a moderator-type theoretical research model was developed, out of which eight hypotheses were formulated. The model was tested in a field experiment. To collect data, we used a multimethod approach, that is, a Web survey involving open- and closed-ended questions. The sample was formed of 192 onsite and online students from the three campuses of the University of Moncton (Moncton, Edmundston, and Shippagan). The quantitative data analysis was performed using a structural equation modeling software, that is, Partial Least Squares (PLS); the qualitative data were analyzed following a thematic structure using QSR NVivo software. In this paper we present a summary of the quantitative results (closed-ended questions) supported and enriched by the qualitative results of the students (open-ended questions).*

### **Introduction**

For the past two decades information and communication technologies (ICT) have transformed the ways professors teach and students learn. Some professors have actively shifted the information flow from a face-to-face mode (student listening, onsite presence) to an entirely online mode (student reading, onsite non presence); that is, they have designed courses and curricula offered completely online using the Internet and the Web. Others have developed the hybrid or blended mode (a combination of face-to-face and online activities; less student onsite presence, ongoing use of ICT both inside and outside the classroom). Hence, knowledge acquisition and dissemination have been re-conceptualized, and new methods developed in order to satisfy the rapidly evolving needs of a population of individuals in search of more knowledge, heterogeneous, and geographically distributed.

In today's global economy, organizations (including universities) who want to survive and strive to stay highly competitive must continually innovate at the human, material, and technological levels. Alavi and Leidner (2001) pointed out that, during the past decade, universities and corporate training facilities have at an increasing rate invested into ICT to

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improve education and training. Marshall (2002) added that actual classrooms are more and more enriched by technology. Recent studies by the National Center for Education Statistics (Waits & Lewis, 2003), the Sloan Consortium (Allen & Seaman, 2004, 2005, 2006, 2007, 2008, 2009, 2010), Aggarwal and Legon (2006), Borstorff and Lowe (2007), Martz and Shepherd (2007), Kinuthia and Dagada (2008), as well as Washburn (2011) showed a growing appeal and acceptance of online learning. Other recent studies by Kim and Bonk (2006), Gomez et al. (2007), Eynon (2008), Young and Ku (2008), Steele (2008), Moskal and Dziuban (2011), and the Garrison and Vaughan's (2008) book showed the growth of blended learning. Further, it is argued by Giddens (1999) that one of the more important functions of the university is to allow people to play a significant role in the today's new economy. Thus, universities, faculties, and professors are currently looking for ways to improve teaching and curricula, as well as develop new modes capable of satisfying the actual and future needs of organizations and societies. Out of their recursive attempts, the four fundamental questions often revisited are the following: (1) What are we teaching? (2) What should we be teaching? (3) What is the best way to teach it (pedagogy)? and (4) What are the impacts on students?

The study described in this paper aims at helping universities to stay highly competitive in the current global shift in higher education, an approach that is innovative in its exploration of new directions as regards the last two above-mentioned questions. We examine the relation between students' learning outcomes (undergraduate and graduate students) and learning environments integrating ICT. Specific relations between student onsite presence and student online presence are examined as to identify their effect on the basic relation between learning environments and students' learning outcomes. In particular, this study compares onsite technology-rich hybrid or blended learning environments and online learning environments. Moreover, this study brings to the foreground several moderator variables related to students' characteristics (psychology) and professors' pedagogy in order to better understand the relation between learning environments and students' learning outcomes.

Building on questions 3 and 4 raised previously (professor's pedagogy and impacts on students), this study focuses on the following three research questions: (1) Are there differences between learning outcomes of onsite students and of those taking the same courses online? If so, which ones? (2) Do students' characteristics influence the relation between learning environments and students' learning outcomes, and are there differences in this influence between onsite and online students? If so, which ones? and (3) Does professors' pedagogy influence the relation between learning environments and students' learning outcomes, and are there differences in this influence between onsite and online students? If so, which ones?

This paper describing the study builds on a framework suggested by Fillion (2004) in the conduct of hypothetico-deductive scientific research in organizational sciences, and it is structured as follows. First, the theoretical background supporting the study is examined; second, the methodology followed to conduct the study is presented; and finally, the results of the study are reported and interpreted.

### **Theoretical Background**

This study is theoretically-based on Leidner and Jarvenpaa's, and Phipps and Merisotis' key research works. On the basis of three case studies, Leidner and Jarvenpaa (1993) developed a theoretical research model for other researchers to test in future studies. And, in a literature review, Leidner and Jarvenpaa (1995) inventoried numerous educational variables to be examined in future studies according to different scenarios using ICT. Several of the variables suggested by these authors are used in this study.

In their literature review on distance learning effectiveness in the 1990's, Phipps and Merisotis (1999) pointed out that the studies comparing the distance ICT-based learning environments with conventional learning environments (face-to-face without ICT use) fall into three categories: (1) students' results (performance); (2) students' attitude toward learning in these two types of environments; and (3) students' general satisfaction. We use the last two categories (learning effectiveness and satisfaction) as dependent variables in this study.

Of the 8,110 papers published over a period of 15 years in the journals and reviews examined, Chin et al. (2003) found only 74 that contained moderator variables. Moreover, several IS dominant theories (e.g., Davis' 1989 Technology Acceptance Model (TAM) and Doll and Torkzadeh's 1991 user participation/involvement model; quoted in Chin et al., 2003, p. 192) as well as the streams of research that have extended these models (e.g., Barki et al., 2007; Bhattacharjee & Sanford, 2006; Brown et al., 2010; Carswell & Venkatesh, 2002; Chin et al., 2008; Davis & Venkatesh, 2004; Devaraj et al., 2008; Hartwick & Barki, 1994; Karahanna et al., 2006; Limayem et al., 2007; Morris & Venkatesh, 2010; Venkatesh & Davis, 2000; Venkatesh & Speier, 1999; Venkatesh & Speier, 2000; Venkatesh & Johnson, 2002; Venkatesh et al., 2003; Venkatesh et al., 2008) suggest that moderator variables are an important avenue of future development. Furthermore, numerous researchers within the IS field have suggested that models using moderator variables be tested (Anderson, 1985, Doll & Torkzadeh, 1989, Ives & Olson, 1984, McKeen et al., 1994, Sambamurthy & Zmud, 1999, Tait & Vessey, 1988; quoted in Chin et al., 2003, p. 192; Barki et al., 2007; Brown et al., 2010) as have researchers in other fields (Chin et al., 2003). Hence, most of the variables identified by Leidner and Jarvenpaa (1993, 1995) are used as moderator variables in this study. The resulting theoretical research model is shown in Figure 1.

**Figure 1. Theoretical Research Model**

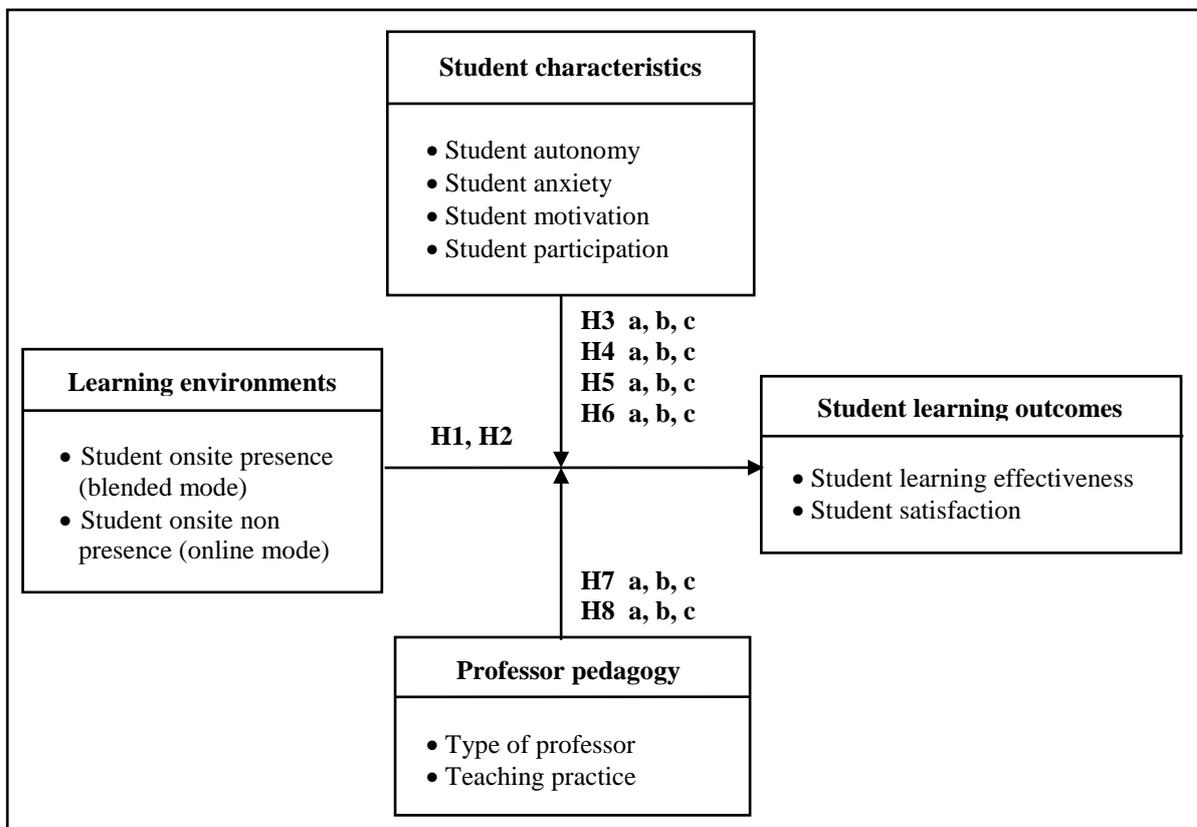


Figure 1 shows that the theoretical research model which guides the study is articulated around an independent construct, learning environments, a dependent construct, student learning outcomes, as well as two moderator constructs, student characteristics and professor pedagogy. On the basis of this theoretical research model, eight research hypotheses are formulated.

*H1: Students whose onsite presence is required to take courses (blended mode) find learning more effective than those whose onsite presence is not required (online mode).*

*H2: Students whose onsite presence is required to take courses (blended mode) are more satisfied than those whose onsite presence is not required (online mode).*

*H3: Students' autonomy has an influence on the relation between learning environments (students' onsite presence and non presence) and their learning outcomes ((a) learning effectiveness; and (b) satisfaction), and (c) this influence is more pronounced for students whose onsite presence is not required.*

*H4: Students' anxiety has an influence on the relation between learning environments (students' onsite presence and non presence) and their learning outcomes ((a) learning effectiveness; and (b) satisfaction), and (c) this influence is more pronounced for students whose onsite presence is not required.*

*H5: Students' motivation has an influence on the relation between learning environments (students' onsite presence and non presence) and their learning outcomes ((a) learning effectiveness; and (b) satisfaction), and (c) this influence is more pronounced for students whose onsite presence is not required.*

*H6: Students' participation has an influence on the relation between learning environments (students' onsite presence and non presence) and their learning outcomes ((a) learning effectiveness; and (b) satisfaction), and (c) this influence is more pronounced for students whose onsite presence is not required.*

*H7: Type of professor has an influence on the relation between learning environments (students' onsite presence and non presence) and students' learning outcomes ((a) learning effectiveness; and (b) satisfaction), and (c) this influence is more pronounced for students whose onsite presence is required.*

*H8: Teaching practice has an influence on the relation between learning environments (students' onsite presence and non presence) and students' learning outcomes ((a) learning effectiveness; and (b) satisfaction), and (c) this influence is more pronounced for students whose onsite presence is required.*

In the next section of the paper, we describe the methodology followed to conduct the study.

## **Methodology**

### **Sample and Data Collection**

The theoretical research model depicted in Figure 1 was tested in a field experiment at a small Canadian university, the University of Moncton. The sample was formed of students of eight undergraduate and seven graduate courses, which were offered at the three campuses of the university (Moncton, Edmundston, and Shippagan) in the two modes taken into account in this study: blended mode and online mode. Students were not randomly assigned, that is, for each course selected, the students were asked to participate in the study. The study was spread over

two semesters, winter and fall. Each course had to meet the four following criteria: (1) to use a similar set of ICT in the two modes (computer, e-mail, chat, discussion forum, Web browser, Internet-based software, videoconferencing system, etc.); (2) to be taught by a different professor in the two modes; (3) to have the same course content in the two modes; and (4) to have, as much as possible, a similar group size in the two modes. In addition, each course was selected so that groups of students in the two modes were the most homogeneous possible in terms of age and ICT experience. Finally, the course selection was made in order to cover a large area of administration disciplines. Thus, the sample of the study consisted of 192 students, 105 (42 in winter and 63 in fall) in blended mode courses and 87 (34 in winter and 53 in fall) in online mode courses.

Three weeks before the end of each semester of the data collection, students were asked to fill out an electronic survey on a Web site. To that end, an e-mail, including a URL and a password allowing access to the electronic survey, was sent to students. As follow up, ten days after the students had been asked to fill out the survey on the Web site, an e-mail was sent to students relating the importance of filling out the electronic survey for the advancement of scientific knowledge on integration of ICT into higher education. Finally, a few days later, all professors were asked to relay the importance of the study to students during class or in the discussion forums of the online courses.

In the winter semester, 76 students (42, blended mode; 34, online mode) out of 392 completed the electronic survey for a response rate of 19.5%; in the fall semester, 116 students (63, blended mode; 53, online mode) out of 508 completed the electronic survey for a response rate of 22.9%. Overall, 192 students (105, blended mode; 87, online mode) out of 900 completed the electronic survey on the Web site for a global response rate of 21.3%. And, of these 192 students, 174 (98, blended mode; 76, online mode) completed the qualitative section (open-ended questions) of the Web survey for a response rate of 90.6%.

## **Data Analysis**

The quantitative data analysis was performed using a structural equation modeling software, that is, Partial Least Squares (PLS-Graph 3.0). And the PLS bootstrap resampling procedure was used with an iteration of 100 sub-sample extracted from the initial sample (192 students) to ensure the stability of each model developed in order to test the research hypotheses (the interested reader is referred to a more detailed exposition of bootstrapping (see Chin, 1998; Efron & Tibshirani, 1993)). Some analyses were also performed using the latest version of Statistical Package for the Social Sciences software (SPSS; PASW Statistics 18.0). As for the qualitative data analysis, it was made using the Qualitative Solutions & Research NVivo software (QSR NVivo 8). We performed thematic analyses on the qualitative data provided by students; the results are presented on the form of within-case/cross-case matrix as suggested by Miles and Huberman (1994). They follow.

## **Results**

### **Test of Hypotheses**

To test hypotheses involving independent and dependent variables (H1-H2), we developed a PLS model similar to those of Fillion (2005), Fillion et al. (2010), and Yoo and Alavi (2001). And to test hypotheses involving moderator variables (H3-H8), we developed several PLS models according to the Chin et al.'s (2003) and Carte and Russell's (2003) procedures. Table 1 presents a summary of the test of hypotheses.

**Table 1. Summary of the Test of Hypotheses**

<i>Hypotheses</i>	<i>Results</i>	<i>Software (Sig.)</i>
H1 Learning effectiveness	Not supported <sup>c</sup>	PASW <sup>a</sup> (0.000****) PLS (0.180*)
H2 Satisfaction	Not supported <sup>c</sup>	PASW <sup>a</sup> (0.000****) PLS (0.362*)
H3 Autonomy	(a) Supported (b) Supported (c) Supported	PLS (0.521*) PLS (0.841*) PASW <sup>b</sup> (0.000****)
H4 Anxiety	(a) Supported (b) Supported (c) Not supported	PLS (0.759**) PLS (0.920*) PASW <sup>b</sup> (0.957)
H5 Motivation	(a) Not supported (b) Supported (c) Supported	PLS (-0.130) PLS (0.867*) PASW <sup>b</sup> (0.000****)
H6 Participation	(a) Not supported (b) Supported (c) Supported	PLS (-0.077) PLS (-0.351*) PASW <sup>b</sup> (0.000****)
H7 Type of professor	(a) Not supported <sup>d</sup> (b) Not supported <sup>d</sup> (c) Not supported	PLS (-0.527†) PLS (-0.320†) PASW <sup>b</sup> (0.283)
H8 Teaching practice	(a) Not supported <sup>d</sup> (b) Not supported <sup>d</sup> (c) Not supported	PLS (-0.469†) PLS (-0.276†) PASW <sup>b</sup> (0.482)

<sup>a</sup>Bonferroni's One-Way Anova multiple comparisons test at a level of significance  $p \leq 0.05$  was used to verify the difference in group means. Bonferroni's test takes into account inequality in group sizes in adjusting the selected alpha level before each separate test to control the overall Type I error rate.

<sup>b</sup>Box's M test of equality of covariance matrix was used to verify whether there is a difference in the interaction effect of the moderator variable between onsite and online students (blended mode vs. online mode).

<sup>c</sup>The test is significant, but the result is in opposition with which is formulated in the hypothesis.

<sup>d</sup>The hypothesis is not supported given the level of significance of the test is too low ( $p < 0.10$ ).

† $p < 0.10$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\*\* $p < 0.001$ .

Table 1 shows that online students found learning more effective and they were more satisfied than those onsite ( $p < 0.05$ , PLS;  $p < 0.001$ , PASW). As for the moderator variables, autonomy had an influence on the relation between learning environments and student learning effectiveness ( $p < 0.05$ ) and satisfaction ( $p < 0.05$ ), and this influence was more pronounced for online students than for those onsite ( $p < 0.001$ ). Anxiety also had an influence on the relation between learning environments and student learning effectiveness ( $p < 0.01$ ) and satisfaction ( $p < 0.05$ ), but this influence was not more pronounced for online students than for those onsite. Motivation and participation had an influence on the relation between learning environments and student satisfaction ( $p < 0.05$ ), and this influence was more pronounced for online students than for onsite students ( $p < 0.001$ ). And type of professor and teaching practice had a significant influence on the relation between learning environments and student learning effectiveness and satisfaction, but the related hypotheses were not supported because the level of significance is too low ( $p < 0.10$ ). In fact, in the whole, the quantitative results observed in the present study involving a small Canadian university are consistent with those observed in a one year previous study involving a very large Canadian university (see Fillion, 2005; Fillion et al., 2007; Fillion et al., 2008; Fillion et al., 2009; Fillion et al., 2010). So these results allow us to say, 'cautiously' of course, that ICT use at the university (onsite vs. online) has relatively similar impacts on students and that students have relatively similar behaviors when using ICT, whether in a small or in a very large university. Future similar studies are needed to reinforce these findings. The quantitative results got in this study are also relatively consistent with the body of research that compares these two learning modes: blended learning vs. online learning.

## Open-Ended Questions

**Students' preferences in the course when using ICT.** In the first open-ended question of the Web survey students were asked to indicate what they appreciated the most in the course. Table 2 shows the themes extracted from the thematic analysis of the onsite and online students' responses. Boldfaced themes represent the interrelation between onsite and online students' responses.

**Table 2. The Elements Most Appreciated by Students in the Course When Using ICT**

<i>Onsite Students (n = 98)</i>		<i>Online students (n = 76)</i>	
<i>Themes</i>	<i>n</i>	<i>Themes</i>	<i>n</i>
<b>Professor</b>	<b>47</b>	<b>Professor</b>	<b>31</b>
<b>Course usefulness</b>	<b>38</b>	Course flexibility and schedule	19
<b>Access to the course material on the Web site</b>	<b>13</b>	<b>Course material</b>	<b>16</b>
<b>Course material</b>	<b>12</b>	<b>Prompt feedback</b>	<b>14</b>
<b>ICT use</b>	<b>12</b>	<b>Assignments</b>	<b>10</b>
<b>Assignments</b>	<b>10</b>	<b>Discussion forums</b>	<b>10</b>
<b>Student/student and student/professor interaction</b>	<b>8</b>	<b>Course usefulness</b>	<b>9</b>
<b>Discussion forums</b>	<b>6</b>	Distance course via the Internet	8
<b>Nothing</b>	<b>4</b>	<b>ICT use</b>	<b>8</b>
<b>Course structure</b>	<b>4</b>	<b>Access to the course material on the Web site</b>	<b>7</b>
<b>Evaluations</b>	<b>4</b>	<b>Course structure</b>	<b>4</b>
<b>Participation</b>	<b>3</b>	<b>Student/student and student/professor interaction</b>	<b>4</b>
Help	3	<b>Evaluations</b>	<b>3</b>
<b>Prompt feedback</b>	<b>2</b>	<b>Collaboration</b>	<b>1</b>
Learning	2	<b>Participation</b>	<b>1</b>
<b>Collaboration</b>	<b>1</b>	Fulfillment	1
Freedom of expression	1	<b>Nothing</b>	<b>1</b>

We can see in Table 2 that the elements most appreciated by both onsite and online students (in order of priority) are professor, course usefulness, course material, ICT use, assignments, access to the course material on the Web site, discussion forums, prompt feedback, student/student and student/professor interaction, course structure, evaluations, nothing, participation, and collaboration. We can then conclude that whether or not students come to class to take courses, when the same set of ICT is used, they appreciate the same elements related to these courses. And, among the elements they appreciate most, professor and course usefulness in every day life and for their career are by far at the lead. Clearly, professors still take a predominant place in the formation of students at the beginning of the 21st century.

**Students' suggestions for improving the course when using ICT.** In the second question, it was asked of students to suggest ways of improving the course. The themes derived from the thematic analysis of the onsite and online students' responses are presented in Table 3. Boldfaced themes represent the interrelation between onsite and online students' responses. The results show that the elements the students want improved in the course (in order of priority) are professor, presentation of the material, course material, assignments, amount of work, course content, nothing, evaluations, student/student and student/professor interaction, discussion forums, and Desire2Learn (D2L) use. Thus, we can conclude that whether or not the students come to class to take courses, when the same set of ICT is used, generally both sets of students

suggest improving the same elements related to these courses. And, of the elements proposed, professor and presentation of the material are by far at the lead. As a result, whether the students take courses onsite or online, they put crucial importance on the professors and their teaching practice, as much to appreciate them when they are satisfied (as we have seen previously in the analysis of the first question in Table 2) as to criticize them when they are dissatisfied (as we can see in Table 3).

**Table 3. The Elements that Students Suggest to Improve in the Course When Using ICT**

<i>Onsite students (n = 98)</i>		<i>Online students (n = 76)</i>	
<i>Themes</i>	<i>n</i>	<i>Themes</i>	<i>n</i>
<b>Professor</b>	<b>27</b>	<b>Course material</b>	<b>16</b>
<b>Presentation of the material</b>	<b>21</b>	<b>Professor</b>	<b>14</b>
<b>Course content</b>	<b>16</b>	<b>Nothing</b>	<b>10</b>
ICT use	14	<b>Presentation of the material</b>	<b>9</b>
<b>Amount of work</b>	<b>13</b>	<b>Assignments</b>	<b>8</b>
<b>Assignments</b>	<b>11</b>	Course structure	8
<b>Student/student and student/professor interaction</b>	<b>7</b>	<b>Evaluations</b>	<b>7</b>
<b>Evaluations</b>	<b>6</b>	Web site	5
<b>Course material</b>	<b>6</b>	<b>Amount of work</b>	<b>4</b>
Course organization	6	<b>Discussion forums</b>	<b>4</b>
Classroom	5	Feedback	3
<b>Discussion forums</b>	<b>4</b>	<b>Student/student and student/professor interaction</b>	<b>3</b>
<b>Nothing</b>	<b>3</b>	Technical aspects	2
Group size	1	<b>Course content</b>	<b>1</b>
Attribution of the courses to professors	1	Correction of assignments and exams (corrector)	1
Discipline	1	<b>D2L use</b>	<b>1</b>
<b>D2L use</b>	<b>1</b>		

**Table 4. To What Extent Students' Onsite Presence Is Advantageous When Using ICT**

<i>Onsite students (n = 98)</i>		<i>Online students (n = 76)</i>	
<i>Themes</i>	<i>n</i>	<i>Themes</i>	<i>n</i>
<b>Advantageous</b>	<b>3</b>	<b>Advantageous</b>	<b>2</b>
<b>Allows a better understanding of the material</b>	<b>41</b>	<b>Allows a better understanding of the material</b>	<b>20</b>
<b>Promotes student/student and student/professor interaction</b>	<b>18</b>	<b>Promotes student/student and student/professor interaction</b>	<b>10</b>
<b>Allows social contact</b>	<b>10</b>	<b>It depends for which course and type of student</b>	<b>6</b>
<b>It depends for which course and type of student</b>	<b>6</b>	<b>Allows social contact</b>	<b>6</b>
No interest without onsite presence	4	Allows having more informations	5
<b>Some students need onsite presence to succeed</b>	<b>3</b>	<b>Some students need onsite presence to succeed</b>	<b>4</b>
ICT complement the conventional classroom	2	Promotes student motivation	2
<b>Non-advantageous</b>	<b>1</b>	<b>Non-advantageous</b>	<b>4</b>
<b>We can learn as well at home with a book</b>	<b>12</b>	<b>ICT allow taking courses at a distance</b>	<b>11</b>
Many students are playing with their computer without listening to the professor	5	<b>We can learn as well at home with a book</b>	<b>8</b>
<b>ICT allow taking courses at a distance</b>	<b>4</b>	<b>Much waste of time onsite</b>	<b>3</b>
All the material is on the Web site	2		
<b>Much waste of time onsite</b>	<b>1</b>		

**Benefits of students’ onsite presence when using ICT.** The third open-ended question of the Web survey asked students if the onsite presence provided benefits to them with the integration of ICT into higher education, and why? The themes extracted from the thematic analysis of the onsite and online students’ responses are regrouped in Table 4. Boldfaced themes represent the interrelation between onsite and online students’ responses. As shown in Table 4, students’ responses to this question are regrouped in two categories: advantageous and non-advantageous. In the first category, the two themes that are by far at the lead is that onsite presence allows a better understanding of the material and promotes student/student and student/professor interaction. As for the second category, the two themes which are most evident are that the students can learn as well at home with a book and that ICT allow students to take courses at a distance without onsite presence.

**Impacts of using ICT on students’ characteristics.** In the fourth question, students were asked to indicate the impacts of using ICT on students’ characteristics (autonomy, anxiety, motivation, and participation). Table 5 shows the themes extracted from the thematic analysis of the onsite and online students’ responses. Boldfaced themes represent the interrelation between onsite and online students’ responses.

**Table 5. The Impacts of Using ICT on Students’ Characteristics**

<i>Onsite students (n = 98)</i>		<i>Online students (n = 76)</i>	
<i>Themes</i>	<i>n</i>	<i>Themes</i>	<i>n</i>
<b><i>Autonomy</i></b>			
<b>ICT increase autonomy</b>	<b>29</b>	<b>ICT increase autonomy</b>	<b>23</b>
Autonomous students appreciate more distance courses	3		
<b><i>Anxiety</i></b>			
<b>ICT increase anxiety</b>	<b>11</b>	<b>ICT increase anxiety</b>	<b>10</b>
<b>ICT decrease anxiety</b>	<b>5</b>	<b>ICT decrease anxiety</b>	<b>4</b>
<b><i>Motivation</i></b>			
<b>ICT increase motivation</b>	<b>22</b>	<b>ICT increase motivation</b>	<b>17</b>
<b>ICT decrease motivation</b>	<b>2</b>	<b>ICT decrease motivation</b>	<b>3</b>
<b><i>Participation</i></b>			
<b>ICT increase participation</b>	<b>14</b>	<b>ICT increase participation</b>	<b>10</b>
<b>ICT decrease participation</b>	<b>4</b>	<b>ICT decrease participation</b>	<b>2</b>
<b><i>Others</i></b>			
<b>These characteristics have an influence on student learning outcomes</b>	<b>17</b>	<b>These characteristics have an influence on student learning outcomes</b>	<b>13</b>
<b>ICT use at the university is excellent for the workplace</b>	<b>3</b>	<b>ICT use at the university is excellent for the workplace</b>	<b>2</b>
<b>It depends on students</b>	<b>2</b>	<b>It depends on students</b>	<b>1</b>

As shown in Table 5, the three impacts that have been by far the most important for students are that ICT use at the university increases the level of autonomy and motivation, and that the students’ characteristics (autonomy, anxiety, motivation, and participation) taken into account in this study have an influence on their learning outcomes. And the two next most important impacts for students of the two modes are that ICT use at the university increases their level of participation and anxiety.

**Impacts of using ICT on professors’ pedagogy.** Finally, in the fifth and last question of the Web survey, students were asked to indicate the impacts of using ICT on professors’ pedagogy

(type of professor and teaching practice) into higher education integrating ICT. The themes derived from the thematic analysis of the onsite and online students' responses are regrouped in Table 6. Boldfaced themes represent the interrelation between onsite and online students' responses.

**Table 6. The Impacts of Using ICT on Professors' Pedagogy**

<i>Onsite students (n = 98)</i>		<i>Online students (n = 76)</i>	
<i>Themes</i>	<i>n</i>	<i>Themes</i>	<i>n</i>
<i>Type of professor (professor must:)</i>			
<b>Be dynamic to keep students' interest</b>	<b>21</b>	<b>Make good use of ICT to bring motivation to students</b>	<b>18</b>
<b>Make good use of ICT to bring motivation to students</b>	<b>17</b>	<b>Be dynamic to keep students' interest</b>	<b>14</b>
<b>Get more familiarized with ICT</b>	<b>12</b>	<b>Be there for students</b>	<b>9</b>
<b>Be there for students</b>	<b>8</b>	<b>Have a well-organized course</b>	<b>7</b>
<b>Be very engaged</b>	<b>5</b>	<b>Get more familiarized with ICT</b>	<b>7</b>
<b>Have a well-organized course</b>	<b>4</b>	<b>Be very engaged</b>	<b>2</b>
<b>Promote ICT use</b>	<b>3</b>	<b>Promote ICT use</b>	<b>2</b>
<i>Teaching practice (professor must:)</i>			
<b>Use active learning techniques</b>	<b>19</b>	<b>Use active learning techniques</b>	<b>15</b>
<b>Motivate students</b>	<b>7</b>	<b>Provide prompt feedback</b>	<b>8</b>
<b>Establish links between theory and real life</b>	<b>3</b>	<b>Establish links between theory and real life</b>	<b>3</b>
<b>Provide prompt feedback</b>	<b>3</b>	<b>Motivate students</b>	<b>3</b>
<b>Promote student/student and student/professor interaction</b>	<b>3</b>	<b>Promote student/student and student/professor interaction</b>	<b>2</b>
<i>Others</i>			
<b>Very important impacts</b>	<b>4</b>	Few impacts	3
ICT use provides students with a good experience	4	<b>Very important impacts</b>	<b>2</b>
Professors' pedagogy has an influence on student learning outcomes	2	I do not know	1
<b>No impact</b>	<b>1</b>	<b>No impact</b>	<b>1</b>

Table 6 shows that the four impacts that have been by far the most important for students are: when we use ICT at the university, professors must be dynamic to keep students' interest, they must make good use of ICT to bring motivation to students, use active learning techniques, and be more familiar with ICT. We can see here that these impacts related to professors and their teaching practices (the two variables taken into account in this study to assess the quality of professors' pedagogy) are of crucial importance to students. And the next most important impacts for students of the two modes are that, when professors are using ICT at the university, they must be there for students and have a well-organized course.

The qualitative results got in this study involving a small Canadian university are consistent with those observed in a one year previous study involving a very large Canadian university (see Fillion, 2005; Fillion et al., 2007; Fillion et al., 2008; Fillion et al., 2009; Fillion et al., 2010). As mentioned in the interpretation of the quantitative results, these qualitative results allow us to say, 'cautiously' of course, that ICT use at the university (onsite vs. online) has relatively similar impacts on students and that students have relatively similar behaviors when using ICT, whether in a small or in a very large university. Future similar studies are also needed to reinforce these findings.

## Conclusion

To conclude, much more research will be needed as technology-rich environments unfold. Better understanding of their impacts on students, professors, and educational institutions will be required in order to improve them or design new ones still better adapted to higher education students. So we will continue to inquire into this exciting field.

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## IMPROVING MUNICIPAL INFORMATION AND KNOWLEDGE MANAGEMENT CAPABILITIES: CASE STUDY

*This study aims to better understand the process of knowledge management capabilities (KMC) development at the municipal context to assess its impact on organizational performance. This process is a part of organisational learning school that promotes organizational learning processes and knowledge accumulation that could be spread in time and in different levels of maturity. Thus, using the KMC maturity model (KMCMM) which has five levels of maturity, this study helps to better understand the phenomenon of KMC in the municipal context.*

**Keywords:** Case study, knowledge management, organizational capabilities, maturity model.

### Introduction

Most of managers and decision makers have recognized the crucial role that could play a good knowledge management within their organization. Because they are repeatedly confronted daily with the information in the form of emails, voicemails, faxes, reports, memos, etc. They are overwhelmed and are in knowledge management solution to their bottleneck (Sharma et al., 2005). Indeed, professionals spend most of their time looking for information they need by organizing meetings, going to search in the web, sending emails, calling on the phone, and searching through reports in paper or computer (Sharma et al., 2005). This is even evident at the level of public organizations in general and in municipal context in particular. Indeed, these organizations are concerned on the good management of information and knowledge to organize and facilitate the capture, the conservation, the dissemination, and the effective use of data, information, and knowledge for acting or making wisdom decisions.

The capture, the storage, the dissemination, and the effective use of information and knowledge in public organizations are the main tasks. Indeed, information and knowledge are stored in different formats that are not easy to manipulate. Thus, those organization need to define and adopt specific strategies of information and knowledge management policy and to develop specific capabilities. Thus it is increasingly evident that the development of organizational capabilities for capturing, storing, transferring, and disseminating data, information, and knowledge across the organization is a critical factor in almost all areas of business (Earl, 2001). However, according to the literature, the development of knowledge management capabilities (KMC) go with the use of specific maturity models (Siemens, 2001; Klimko, 2001, Kaner and Karni, 2004; Harigopal and Satyadas, 2001; Dayan and Stephen, 2006; Berztiss, 2002, Johnson and Brodman, 2002).

Indeed, during this study, the KMC in municipal context are evaluated by using the integrated KMC Maturity Model (KMCMM) that have five levels and comprising three capability dimensions: KM infrastructures, KM processes, and KM skills (Booto Ekiona, 2008; Booto Ekiona & Abou-Zeid, 2005). The application of this model in the municipal context in this study will help to diagnose the KMC within the City. This evaluation allows us to identify the level of maturity for each dimension and characteristic of the City or entities studied in order to consider the KMC improvement or development. Indeed, organizations need secure channels that can support them in the capture,

storage, processing, sharing and applying knowledge about past experiences and lessons learned in order to meet current and future (Rubenstein and Geisler, 2005).

Thus, besides the introduction that presents the problems and the summary of literature review, this study is divided into four sections: 1 - the presentation of the research model, 2 - research objectives, and 3 - the methodology, results, and comments received in response from case study questionnaires and interviews on KMC; 4 - Recommendations (challenges) and prospects for the City, and finally the conclusion where are presented the main findings of the present study.

### **Literature Revue**

Information of raw data is subject to interpretation by computers or human mental functions (Spiegler, 2000). Consequently, knowledge is a combination of information or observation, their inherent interpretation by people who summon their personal or collective experience, along with models, theories, or beliefs that together give meaning to the information (Prax, 2003). The concept of knowledge therefore relies on the range of senses, notably notions such as language, semantics, beliefs, and conscience. In effect, we acknowledge that information, which is factual, can be easily accumulated and transferred to documents or databases in explicit form, while knowledge, *stricto sensu*, is an element more humane, subjective, and often tacit. Hence, Nonaka (1994) distinguishes two types of knowledge: tacit and explicit.

Tacit knowledge belongs to the knowledge group of mental objects or representations. It encompasses innate or acquired knowledge, expertise and experience. They are generally difficult to « formalize » as opposed to explicit knowledge (Nonaka, 1994). Explicit knowledge, contrary to tacit knowledge, is knowledge that is clearly articulated in written documents or found in IT or computer data systems. This knowledge is physically transferable since it appears in tangible form (paper or electronic data) (Nonaka, 1994). Thus, within organizations, knowledge corresponds to the capital expertise that persons possess in different fields or disciplines that constitutes the heart of the organization. Certain other knowledge based information is dissimilated throughout the company in form of paper and electronic data forms. This kind of knowledge must be managed in order to improve the global effectiveness and competitiveness of companies (Wernerfelt, 1984; Barney, 1991).

Therefore, knowledge management in this paper is understood to be the sum of all methods and techniques that allow us to perceive, identify, analyse, organize, memorize, and share knowledge between members of organizations, particularly knowledge created by the company itself or acquired from outside. Besides, the Gartner Group (1998) defines knowledge management as an integrated approach to identify, capture, share, and evaluate key information within a company.

However, knowledge management differs from one organization to another, from one industry to another, and from one contextual reality to another, hence the need to *contextualize* the approaches to knowledge management. In effect, the *contextualising* of knowledge in philosophy is the theory according to which the attributions of knowledge can change the value of truth in one the specific context to another. In order to *contextualize*, one compares the word “knowledge” with other words *similar in context*, for example, those that change value from one contextual conversation to another (Lewis, 1995).

Thus, in the public sector in general, municipal in particular, the knowledge management is very important because of important flows of data, information, and knowledge which circulates there. Because, a public organization is a whole of professionals, managers, and decision makers who contribute to offer the services to the citizens. For this reason this type of organization should develop the capabilities to create, diffuse, or share knowledge through the organization in order to improve the services to its customers (citizens) (Beveren, 2003). Because, the organizations which manage and share their knowledge could indeed obtain the reduction of the processing times, the reduction of the costs, the return to the investment, an high level of satisfaction, and a good staff training (Sharma et al., 2005 and Antrobus, 1997). Indeed, in the same way that knowledge must be shared, the responsibilities and the decisions on the services to be offered to the population should be facilitated and shared within a public organization (Eisenberg, 2002). With this intention, it is necessary which these organizations develop the means of gathering the knowledge and know-how, the protocols, the guides of good practice, the bibliographical references of the various disciples on easily accessible supports, to facilitate their transmission in real-time inside the organization, etc. Thus, information and knowledge can be regarded as being a whole of personal information versus non-personal to administrative information, operational information, recording of all the events having milked with the various services with the population, making it possible to control the operations, etc.

Indeed, with regard to the municipal organizations, those need to capture and analyze data coming from the operations and on ground like those of the market in order to visualize them and to organize them in useful information for decision making (Pavia, 2001). Because, the municipal organizations should place relevant information and knowledge at the disposal of the population, professionals, managers, and decision makers (Beveren, 2003). This way of doing would contribute with the survival and the competitive maintenance of the municipalities which often evolve/move in arid and complex contexts. Indeed, the knowledge management in the public sector implies data computerized on: 1 - customers; 2 - infrastructures; 3 - operations; 4 – business partners; 5 - equipment and existing technologies (Rubenstein & Geisler, 2005). In addition, the business applications of knowledge differ from one field to another like presents at table 1.

**Table 1:** Business applications of knowledge (adapted from Edge, 2005, p.40)

<b>Knowledge management applications</b>	<b>Authors</b>
♦ Various designs of organisational and personal knowledge	Brown & Dugid (2000); Hansen et al, (1999)
♦ Knowledge management strategies	Davenport & Prusak (1998); Nonaka (1991); Nonaka et al (2001)
♦ Case studies on the impacts of the knowledge management on organisational success	Kreiner (2002); Nonaka & Takeuchi (1995, 1997); Smith (2001); Weick & Roberts (1996)
♦ Studies on the business applications of knowledge in the public sector	Edge (2005); Riège et Lindsay (2006); Mercer et al (2005); Ovalle et al (2004)
♦ Studies on the business applications of knowledge in the municipal context	Goldberg, Pasher & Levin-Sagi (2006); Dvir, Schwartzberg, Avni, Webb & Lettice (2006); Ovalle, Maárquez & Salomon (2004); Ergazakis, Metaxiotis & Psarras (2004); Ratiu-Suciu & Tãrtiu (2008); Syed-Ikhsan & Rowland (2004); Ergazakis et al (2006)

In effect, knowledge management in the municipality context implies: 1 - Computerized data on patients; 2 - Telemedicine; 3 – Optimized usage and management of equipment; (Rubenstein & Geisler, 2005). As well, knowledge management applications vary from one field to another as shown in Table 2.

**Table 2:** Knowledge Management Applications (according to Edge, 2005, pg.40)

<b>Knowledge Management Applications</b>	<b>Authors</b>
♦ Different variations on organizational and personal knowledge	Brown & Dugid (2000); Hansen et al, (1999)
♦ Knowledge management strategies	Davenport & Prusak (1998); Nonaka (1991); Nonaka et al (2001)
♦ Case studies on the impact of knowledge management on organizational success	Kreiner (2002); Nonaka et al (2001); Nonaka & Takeuchi (1995, 1997); Smith (2001); Weick & Roberts (1996)
♦ Studies on knowledge management applications in the public sector	Edge (2005); Riège and Lindsay (2006); Mercer et al (2005); Ovalle et al (2004)
♦ Studies on knowledge management applications in the context of hospital and clinical settings	Kohli & Kettinges (2004); Beveren (2003)

This increasing interest in literature for knowledge management applications is an indicator of the benefits that municipal organizations can obtain, as presented in Table 3.

**Table 3:** Benefits of knowledge management applications in the public sector:

<b>Benefits</b>	<b>Authors</b>
♦ Improve organizational quality and effectiveness	McAdam & Reid (2001); Kohli & Kettinger (2004); Beveren (2003)
♦ Reduction of costs	McAdam & Reid (2001); Kohli & Kettinger (2004); Beveren (2003)
♦ Decreases the fragmentations of inter-agencies	Ardichvilli et al (2003); Beveren (2003)
♦ Sound management of organizational expertise	Edge (2005)
♦ Knowledge management in the public sector to improve performance	Edge (2005)

However, despite the benefits that one can anticipate with knowledge management applications in both sectors (public and private), certain obstacles still remain in the undertaking of initiatives for knowledge management in both these sectors, as listed, notably in Table 4.

**Table 4:** Obstacles to undertaking initiatives in knowledge management in the public sector:

<b>Obstacles</b>	<b>Authors</b>
◆ Isolation or functional and professional independence of certain public sector organizations	◆ Murray (2001) ◆ Edge (2005)
◆ Certain employees prefer to protect their individual knowledge and expertise because of personal interests and/or affiliations.	◆ Murray (2001) ◆ Beveren (2003)
◆ The continual reductions in resource allocations.	◆ McAdam & Reid (2001)
◆ Technological limits in organizations and within the system (Ex: incompatibility of computer systems)	◆ Edge (2005)
◆ A lack of time by professionals outside their normal hours and in the context of their practice.	◆ Edge (2005) ◆ Schneider (1993)
◆ Budgetary constraints.	◆ Edge (2005)

In light of the preceding literature, it is easy to understand that initiatives in knowledge management bring value. However, there are major obstacles to overcome in terms of development of specific capabilities.

### ***Organizational capabilities specific to knowledge management***

In effect, municipal organizations need to capture, retain, transform, store, and apply the knowledge gained from previous experience and learning in order to meet their present and future needs (Rubenstein & Geisler, 2005). To achieve this, organizations must develop the organizational capabilities specific to knowledge management. This would therefore justify the pertinent inclusion of the application of a specific maturity model. This model, which integrates three dimensions, will help prepare a diagnostic of the organizational capabilities specific to knowledge management which the City needs to better utilize its organizational knowledge. To achieve this, the present research is designed by considering the following: 1 - Knowledge is a strategic organizational resource likely to provide a competitive advantage and to help in reaching business performance levels; 2- Organizational knowledge management is a difficult task that requires the development of specific organizational capabilities without which the goal of providing a competitive advantage along with business performance is impossible (Peppard and Ward, 2004; St-Amant and Renard, 2004); 3 - The development of organizational capabilities specific to knowledge management is defined according to three dimensions: knowledge management infrastructures, knowledge management processes, and knowledge management competencies (Abou-Zeid, 2003; Ahn & Chang, 2005).

### ***Knowledge management infrastructure as a specific organizational capability***

The knowledge management infrastructures, in the scope of this study, include information technology (technological infrastructure) that supports knowledge management, organizational structures and organizational systems that provide incentives and rewards, and finally organizational culture in knowledge management (Booto & Abou-Zeid, 2005). Technological infrastructures include the technologies that facilitate and support knowledge management, such as business intelligence, collaborative learning, and training and its dissimulation, knowledge management for discoveries, and knowledge management for various scribing needs etc (Goh, 2005; Alavi and Leidner, 2001). In effect, « Knowledge Management Technologies include those used for creating, storing, researching, distributing, and analysing structured and non-structured information » (Herschel & Jones, 2005, pg.45). It is in this context that technologies (operational and administrative) are crucial in defining the competitiveness of municipal organizations (Sharma et al, 2005). For, as shown in Table 5, the tools and specific technologies can help a city develops its capabilities in acquisition, storing, sharing, and in the internal use of knowledge by professionals and other types of municipal workers (Oxbrow & Abell, 1998; Sharma et al, 2005).

In effect, the typical technological infrastructure of a city can be sub-divided into a group of systems that support: (Gargeya & Sorrel, 2005, pg. 50): 1 – Citizen’s services; 2 - Administrative and regulatory processes; 3 - Decision making and quality improvement; All these categories are, technologically speaking, supported by: 1- Sound network architecture; 2- Hardware components; 3- Data architecture and software connectivity. To these ends, a sound technological architecture for knowledge management should be (Gargeya & Sorrel, 2005, pg. 58): 1- Omnipresent, reliable, *scalable*, pliable, and secure; 2- Capable of supporting the transmission of data, both voice and multimedia, including applications such as remote services and teleconferencing; 3- Use protocols and topology standards of the industry;

**Table 5:** Tools and Technologies for Knowledge Management (adapted from Sharma et al, 2005)

No.	Tools/Technologies	Definitions and utilisation	Authors
1	Knowledge mapping	Create high level knowledge models in graphical form. Use of knowledge mapping allows a global vision of available and unavailable knowledge in the key competency field of business and facilitates sound decision making.	Sharma et al. (2005); Heathfield & Louw (1999)
2	Example of process based knowledge map	Essentially a map or diagram that visualizes knowledge in the context of a business process and indicates the sources. Thus, tacit and explicit knowledge of business processes as well as their different sources are represented on a map.	Sharma et al. (2005)
3	Intelligent agents	The aim of intelligent agents is to permit research even for the last user. It is a database distributed as a bibliography or a small network of mixed hypertext documents. Intelligent agents use a combination of techniques such as profiling, research tools, and recognition of algorithms in order to distribute the information to those persons who have such a need.	Sharma et al. (2005); Strawser (2000)
4	Web browsers	A Web browser is a simple means to access knowledge because of its accessibility and low cost. (Ex: <i>Microsoft Explorer</i> ). Its speed in accessing information gives it a big advantage.	Sharma et al. (2005); Strawser (2000)
5	Knowledge management applications	Knowledge management applications are a means by which employees can share their knowledge with those who need it. Certain consulting firms offer tips and simple ways to use it.	Sharma et al. (2005); Strawser (2000)
6	Workflow applications	The sending of information, with a trace, of documents to a person or a group of persons with the possibility of following the life (workflow) cycle of the document by the persons receiving them. Examples: <i>Lotus Notes</i> or <i>Outlook 2007 +</i> , <i>Office 2007 +</i> , <i>Télémedecine</i> etc.	Sharma et al. (2005); Strawser (2000)

4 - Capable of supporting diverse requirements for infrastructure networks related to municipal services, training and administration; 5- Less costly as much for implementation as for operations. Note that information technology can improve the speed of integration and knowledge applications by automatically codifying organizational routines. Therefore, automatic systems like Workflow represent examples of applications of information technology that can help in reducing the need for communication and coordination and allowing a more efficient use of organizational routines like documents, information, regulations and activities (Alavi & Leidner, 2001). As well, expert systems based on rules are other means to capture and reinforce specific organizational procedures. Also, considering the plan for physical and information security (Gargeya & Sorrel, 2005, pg. 58), a sound architectural technology for knowledge management should use: 1- Fibre optics for the wiring and cables and install all electronic equipment in secure locals; Other means of protection such as firewalls are also desirable; 2- Authentication servers, security services, remote access, and e-mail management (*e-mail Gateway*). In addition, certain security rules must be respected (Gargeya & Sorrel, 2005, pg. 59): 1- Administrative procedures; 2- Physical security; 3- Security configuration management; 4- Security technical services; 5- Security technical mechanisms; 6- Electronic signatures.

As for specific organizational structures for sound knowledge management, Beveren (2003) notes that certain organizational structures in the public sector are veritable obstacles to proper knowledge management: 1- Departmental structures within organizations are based on professional associations that are not designed for the required tasks; 2- Professionals in existing structures work essentially alone and, consequently, there is a lack of interdisciplinary fields in their ranks; 3- A dominant hierarchal structure, culturally entrenched, with many levels of management and where the distribution of information is very rigid, characterizes the majority of public sector organizations. Hence, « the theories of knowledge management are based on technological infrastructures that organize individual and collective knowledge as well as organizational structures that provide social conditions that encourage employees to share their knowledge and expertise » (Edge, 2005, pg. 45).

### ***Knowledge management process as a specific organizational capability***

The second dimension for organizational capabilities specific to knowledge management concerns the processes that change the organizational state of knowledge management and can be classified into three principle categories, notably, the generational aspect of knowledge, their spread, and their application. The process of generational knowledge includes all activities by which new knowledge is produced within the organization. The spread of knowledge signifies a better visibility of such knowledge through the sharing or transfer from the source (initial, intermediate, or final knowledge source) towards another (researcher or the target of the knowledge) in time or within a prescribed time. The other dimension associated with the application process of knowledge management is the process of evaluation of knowledge, which includes all activities that aim to justify and to measure its market value. In effect, « knowledge management is a dynamic ensemble where processes and practices continue to flow or gravitate towards individuals, groups, and physical structures » (Alavi and Leidner, 2001, pg. 123). At all times and at all places of a given organization, the authors attest, the individuals and groups must be engaged in different aspects and different processes of knowledge management. Hence, the management of the latter is not a discreet,

independent, and monolithic phenomenon. In effect, the knowledge management processes comprise (Alavi & Leidner, 2001): 1- Knowledge creation; 2- Knowledge storage; 3- Knowledge transfer; 4- Knowledge application. This is also supported by Desouza (2005), who summarizes knowledge management processes in terms of creation, dissimilation, and utilization of knowledge within an organization. Note that knowledge creation refers to the identification of the internal or external source and by the extraction procedures that serve as inputs to the knowledge management process. As well, the capture and the storage of knowledge are the sum total of the procedures and processes of their transfer to data and storage easily read by computer technology. Such codifying or transfer to data form of explicit knowledge, in itself, calls upon the transfer of explicit knowledge codified in different formats to an electronic document format (Desouza, 2005). Regarding the codification of tacit knowledge, it consists of converting them to explicit knowledge in electronic form (Desouza, 2005). Thus « The use of a centralized repository facilitates the conservation of knowledge, eliminates the duplication of effort at the departmental or organizational level, and reduces costs » (Desouza, 2005, pg. 16). The knowledge repository permits members of an organization to use it at their leisure whenever the need arises. In effect, once stored, the information and the knowledge of the organization can be made available to facilitate the access to other members of the organization (Desouza, 2005). However, only authorized persons will be allowed to manipulate the information and knowledge so stored.

Regarding the use and the application of knowledge, Alavi and Leidner (2001, pg.122) state that « the important aspect of the theory on knowledge creation within an organization is the competitive advantage inherent in knowledge application as much as the knowledge itself ». Knowledge can never favour innovation unless it is applied (Desouza, 2005). As well, sound process management requires specific organizational capabilities. In such a framework, Grant (1996) identifies three primary mechanisms for the integration of knowledge in the creation of organizational capabilities: Organizational directives, organizational routines, and the type of tasks given to teams. Organizational directives refer to the set of rules, standards, procedures, and instructions developed from converting tacit knowledge from specialists in explicit knowledge and in integrated knowledge for efficient communication (Alavi & Leidner, 2001; Demsetz, 1991). As for organizational routines, they « refer to the development of task performance and coordination models, interaction protocols and process specifications that permit individuals to apply and to integrate their specialized knowledge without the need to articulate and communicate what they know to others » (Alavi & Leidner, 2001, pg.122).

« The third mechanism of integration is the creation of the type of tasks required of teams: In a situation where uncertainty and complexity exists with regards to the tasks to be undertaken and require directives and specific organizational routines, the teams with the specialized and the prerequisite knowledge are formed for problem resolution » (Alavi & Leidner, 2001, pg.122). Hence, « the institutionalization of best practices by their storage via information technologies should facilitate good routines for manipulation and predictable situations during the changing of stable or incremental environments » (Alavi & Leidner, 2001, pg.122). For if the change is radical or discontinued, the need will persist to continually renew the basic premises by having recourse to archival material in the knowledge repositories (Malhotra, 1997). However, it remains to « know which rules and routines to apply to a specific problem: this supposes that the organization has learned and codified a number of important rules and routines thus choosing which activities to use in the resolution of a specific problem, the problematic of knowledge management » (Alavi & Leidner, 2001, pg.122). To do this, the sharing of knowledge by explanation and ensuring comprehension of the very nature and needs of a particular situation promotes the sound usage of rules and routines.

The application of knowledge therefore constitutes a challenge. Hence, information technologies can have a positive influence. They can contribute to the integration of knowledge as well as their application by facilitating their capture, updates, and accessibility to organizational directives. Organizational entities can also rapidly improve their learning by accessing knowledge from other entities that have encountered similar situations. Furthermore, by improving the size of individual internal networks and by increasing the number of organizational memories available, information technologies can permit organizational knowledge to be applied to the moment chosen or fixed (Alavi & Leidner, 2001).

### ***Knowledge management competencies as specific organizational capabilities***

The last dimension of organizational capabilities specific to knowledge management is the capabilities of knowledge management competencies. In effect, knowledge management processes occur, by their very nature, in various forms: technical, organizational, and human. This dimension refers to the nature of the competencies required to manage and execute knowledge management processes: 1 – The culture in knowledge management; 2- The motivation towards knowledge management; 3- The rewards of knowledge management; 4 – The incentives of knowledge management.

The new culture of public organizations is to counter the existing culture of resistance and of protection of individual knowledge (Svieby & Simons, 2002; Beveren, 2003). In effect, these organizations have the same obstacles to overcome as those in the public sector regarding the culture of collaboration in the sharing of individual knowledge as opposed to the private sector (Svieby & Simons, 2002): « There is a strong resistance to change both on an individual

level and on a senior management (director) level that prevents any adaptation and reactions to environmental requirements » (Beveren, 2003, pg. 92). Conversely, a municipal should be an organization where the citizen is at the forefront of service offered at the city. For this reason, the cooperation by the exchange of data, information, and knowledge between operational professionals centered on the citizen and the city administration turns out to be crucial and supposes a change in the organizational culture (Beveren, 2003). The current autonomous culture and the « bunkers of knowledge » should be replaced by a new culture that requires cooperation, communication, training, and teamwork (Beveren, 2003; Brakensiek, 2002).

The motivation is itself the ability to facilitate continual processes for sharing and renewing knowledge, the ability to develop the human resources, and the organizational culture that facilitates the sharing of knowledge, along with the ability to utilize the available technologies to create, share, and document the knowledge. Similarly, Alavi and Leidner (2001) remind us that these organizations require a profound cultural renaissance because, traditionally, they reward professionals according to their individual performance and their competency, and not according to their capability to learn and to share what they know, or have learned. As well, Alavi and Leidner (2001, pg.127) affirm that « incentives are very important to remove certain major barriers to realizing knowledge storage ». These barriers include: 1- The lack of time for employees to contribute to the creation of their own knowledge; 2- the corporate culture which historically has never rewarded employees that contribute to the creation of their own knowledge and then share with others.

The ability to facilitate the continual processes of sharing knowledge and their renewal, the ability to develop the human resources and the organizational culture that facilitates the sharing of knowledge, and the ability to utilize available technologies for the creation, sharing, and documentation of such knowledge are a few examples of the competencies required for sound knowledge management (Malhotra, 1997). For Sharma et al (2005) themselves believe that a municipal organization that plans to deploy systems for knowledge management should keep in mind the competencies held by its own members in business processes. The concept of competencies includes factual knowledge, abilities, experience, value judgment and social networks (Sharma et al, 2005). In resource theory, it is not capital investments, technology acquisitions, or technical competencies that make the difference, but the managerial competencies of a resource (for example, knowledge) that is the basis for success (Mata et al, 1995). This occurs because the investment in technologies for knowledge management can be easily copied by competitors and do not produce durable competitive advantages. Instead, it is mainly the specific managerial competencies of an organization that levels its investments to create unique knowledge and specific abilities that determines the strategic superiority of an organization. Therefore, the leadership of senior directors in their vision of business affairs, the managerial abilities to manage the processes of organizational knowledge, the coordination of activities in knowledge management, the policy of motivating personnel in the creation and sharing of knowledge in order to favour the development of the client relationship (knowledge of) are all key elements that permit an organization to considerably improve its performance and to obtain a durable competitive advantage (Bharadwaj, 2000).

Therefore, the cultural aspects of knowledge management, the competencies of employees, and a favourable attitude towards sharing knowledge on the processes for citizen services are vital for any program on knowledge management in the municipal context (Burca, 2000; Matheson, 1995; Sharma et al, 2005). Hence, from the preceding statements, it is evident that the development of specific organizational capabilities for knowledge management is crucial if the organization intends to gain the advantages that result from sound knowledge management. As well, recent studies support this mantra that the development of specific organizational capabilities for knowledge management is best assured by a maturity model of specific capabilities (Siemens, 2001; Klimko, 2001; Kaner and Karni, 2004; Harigopal and Satyadas, 2001; Dayan and Stephen, 2006; Berztiss, 2002; Johnson and Brodman, 2002; Dekleva and Drehmer, 2001). Hence, the following section discusses the concept of a maturity model for specific organizational capabilities for knowledge management.

### ***Maturity models for knowledge management***

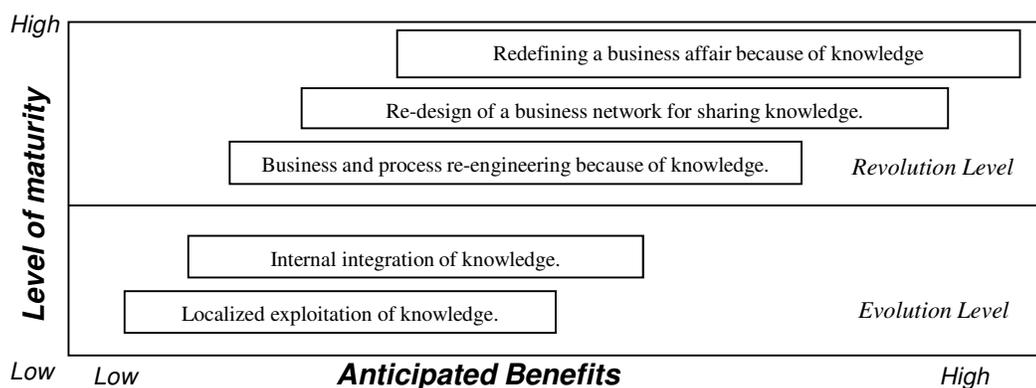
The concept of a maturity model, in this study, stems from the management learning school that promotes the development of organizational competencies by a learning process that increases over time and which has as its aim to shape the models for the development of organizational competencies (Cyert & March, 1963; Nelson & Winter, 1982; Burgelman, 1988; Cohen & Levinthal, 1990 citation by Préfontaine, 1994). In effect, organizational learning is the manner in which companies enrich and organize knowledge and the tasks around the activities and the culture, and develop effectiveness for improving the competencies of their workforce. It is in this perspective that Peppart and Ward (2004, pg. 178) propose a competency model for information technology and argue that the expression for particular competencies depends: « (1) Persons that apply their knowledge; (2) The way by which people integrate their knowledge; (3) The way in which people interact with others; (4) The way by which people coordinate their activities ». The work of Venkatraman (1994), Dekleva and Drehmer (2001), Luftman et al. (2004), Peppart and Ward (2004), and St-Amant and Renard (2004) on information technology and management supports the improvement of

performance levels that an organization may attain after developing specific organizational capabilities for knowledge management.

*Presentation of the Model*

This work uses the knowledge management capabilities maturity model (KMCMM) developed by Booto Ekiona (2008) as listed in Figure 1. This model considers five levels of maturity and is based on two assumptions adapted from Venkatraman (1994): 1 - the higher the level of KMC maturity of an organization is, the higher the expected benefits are; 2 - the lower the level of KMC maturity of an organization is, the lower the expected benefits are.

Thus, besides the introduction that presents the problems and literature, this research report is divided into four sections: 1 - the presentation of the research model, 2 – the research objectives, and 3 - the methodology, results, and comments received in response to case study questionnaires and interviews on KMC; 4 – the recommendations (challenges) and prospects for the City, and finally the conclusion where are presented the main findings of the study.



**Figure 1:** Maturity level of organizations by KM (adapted from Venkatraman, 1994)

Reading this model in Figure 1, we find that the maturity levels of KMC within an organization are divided into two broad categories: 1 - development levels (level 1: localized exploitation, and Level 2: Internal Integration), 2 - revolution levels (Level 3: re-engineering, Level 4: re-design of networks, and Level 5: redefining the business mission). Thus, to better understand each level of KMCMM, we use the three main dimensions of KMC as presented in the previous section. Also, to better understand each level of KMC maturity table 6 describes the characteristics of each maturity level of KMC.

**Table 6:** Characteristics of each maturity level of the KMCMM

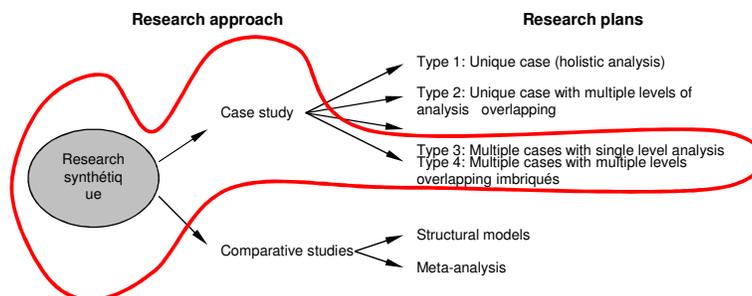
Level of Maturity	Characteristics
1	<ul style="list-style-type: none"> <li>◆ KM Infrastructures: 1- <i>at technical level</i>: exploitation localized and limited for KM (Venkatraman, 1994); KM does not become an asset for supporting business, incompatibility between KM and business (Luftman et al, 2004); 2- <i>on structural infrastructure design</i>: absence of specific structures for KM;</li> <li>◆ KM Processes: 1- <i>at the process level for generating knowledge</i>: exploitation localized (Venkatraman, 1994); 2- <i>Manipulation of knowledge</i>: initial processes, unpredictable and weakly controlled (Dekleva and Drehmer, 2001), initial processes: organizationally <i>ad hoc</i> and chaotic, expressed and put into place in processes that are not defined (St-Amant and Renard, 2004); 3- <i>process of knowledge application</i>: no formal process, reaction on a case to case basis (Luftman et al., 2004);</li> <li>◆ KM Skills: 1- <i>capacities to facilitate the continuous process of KM</i>: people apply locally their knowledge (Peppart and Ward, 2004); 2- <i>ability to develop a human resource structure</i>: little motivation or reward (Luftman et al., 2004); 3- <i>abilities to use available technologies for KM</i>: success depends on individual efforts and knowledge (St-Amant and Renard, 2004); 4- <i>knowledge management culture</i>: absence of a culture and an organizational vision aimed at encouraging the capture, conservation, and sharing of knowledge (Armbrecht et al., 2001).</li> </ul>

**Table 6:** Characteristics of each maturity level of the KMCMM (suite)

2	<ul style="list-style-type: none"> <li>◆ KM Infrastructure: 1- <i>at the technical level</i>: internal integration of KM (Venkatraman, 1994), KM becomes an asset for supporting business affairs but there still remains incompatibility between KM and business (Luftman et al, 2004); 2- <i>on structural infrastructure design</i>: specific structures exist for KM but isolated and non-integrated;</li> <li>◆ KM Processes: 1- <i>at the process level for generating knowledge</i>: internal integration for processes of KM (Venkatraman, 1994); 2- <i>manipulation of knowledge</i>: structured processes and reproducible (Dekleva and Drehmer, 2001); 3- <i>processes for knowledge application</i>: organizational knowledge expressed and put into place in defined and documented processes (St-Amant and Renard, 2004; Harigopal and Satyadas, 2001; Kaner and Kani, 2004; Siemens, 2001; Klimko, 2001);</li> <li>◆ KM Skills: 1- <i>capacity to facilitate the continuous process of KM</i>: people integrate their knowledge (Peppart and Ward, 2004); 2- <i>Ability to develop a human resource structure</i>: improvement in effort, competencies, and knowledge, both individual and organizational (St-Amant and Renard, 2004); 3- <i>Ability to use available technologies for KM</i>: Success depends on organizational effort and competencies; 4- <i>knowledge management culture</i>: KM is perceived as support for transactions and different company functions for sound decision making (Luftman and al, 2004).</li> </ul>
3	<ul style="list-style-type: none"> <li>◆ KM Infrastructure: 1- <i>at the technical level</i>: internal integration of IT for KM across the organization, IT supports KM, comprehension between IT and business affairs (Luftman et al, 2004); 2- <i>on structural infrastructure design</i>: creation of structures specific to KM across the organization.</li> <li>◆ KM Processes: 1- <i>at the process level for generating knowledge</i>: re-engineering of process affairs because of KM (Venkatraman, 1994); 2- <i>manipulation of knowledge</i>: pertinent and integrated processes for KM across the organization (Luftman et al., 2004), processes standardized, coherent, defined and mostly well understood (Dekleva and Drehmer, 2001); 3- <i>processes for knowledge application</i>: defined and repeated processes for improving organizational capabilities (St-Amant and Renard, 2004).</li> <li>◆ KM Skills: 1- <i>capabilities for facilitating continuous processes for KM</i>: people interact with others (Peppart and Ward, 2004); 2- <i>ability to develop human resource structure</i>: definition of an organizational policy to reward and motivate employees; 3- <i>Ability to utilize available technologies for KM</i>: development of technical competencies specific to KM supporting business affairs; 4- <i>knowledge management culture</i>: KM strategies are aligned with business affairs (Abou-Zeid, 2002).</li> </ul>
4	<ul style="list-style-type: none"> <li>◆ KM Infrastructure: 1- <i>at the technical level</i>: vision and technological architecture of KM are integrated with their partners (Luftman et al., 2004); 2- <i>on structural infrastructure design</i>: creation of a department and a new KM vice-president within the management committee.</li> <li>◆ KM Processes: 1- <i>at the process level for generating knowledge</i>: re-engineering of KM networks (Venkatraman, 1994); 2- <i>manipulation of knowledge</i>: processes mastered, measured, and controlled (Dekleva and Drehmer, 2001), 3- <i>processes for knowledge application</i>: processes are documented and results are quantitatively controllable and measurable (St-Amant and Renard, 2004).</li> <li>◆ KM Skills: 1- <i>capability to facilitate continuous processes for KM</i>: people coordinate their activities (Peppart and Ward, 2004); 2- <i>Abilities to develop human resource structure</i>: risks and rewards are shared (Luftman et al., 2004); 3- <i>abilities to utilize available technologies for KM</i>: the organization identifies competencies, knowledge, and best practices and integrates them with its action processes (St-Amant and Renard, 2004); <i>knowledge management culture</i>: the knowledge management systems (KMS) facilitate and drive the business strategies.</li> </ul>
5	<ul style="list-style-type: none"> <li>◆ KM Infrastructure: 1- <i>at the technical level</i>: IT infrastructure and the KMS are extended to outside partners; 2- <i>on structural infrastructure design</i>, creation of a specific structure within the organization to manage the integration of IT and KMS between the organization and its outside partners.</li> <li>◆ KM Processes: 1- <i>at the process level for generating knowledge</i>: re-engineering of the KM (Venkatraman, 1994); 2- <i>manipulation of knowledge</i>: processes mastered, measured, and controlled (Dekleva and Drehmer, 2001), 3- <i>processes for knowledge application</i>: processes are documented, and their results are quantitatively controllable and measurable (St-Amant and Renard, 2004).</li> <li>◆ KM Skills: 1- <i>capabilities to facilitate the continuous process of knowledge management</i>: redefining the mission of business affairs through KM (Venkatraman, 1994), processes in continuous improvement (Dekleva and Drehmer, 2001); 2- <i>abilities to develop human resource structure</i>: business scope or vision and processes of KM are elaborated with partners (Luftman et al., 2004); 3- <i>Abilities to utilize available technologies for KM</i>: optimization and continuous improvement (St-Amant and Renard, 2004); <i>KM culture</i>: vision for business affairs and KM infrastructure adapted between the organization and its partners (Luftman and al., 2004).</li> </ul>

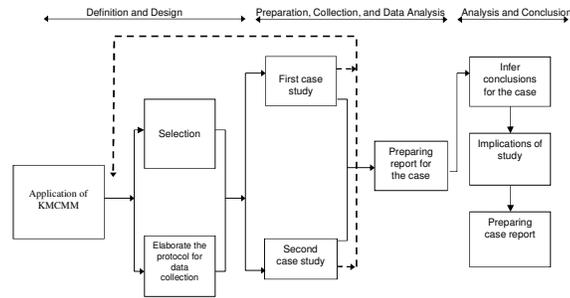
**Methodology: Design of the case Study**

According to Yin (1994), the case study is an empirical research that analyses a contemporary phenomenon in its natural state, whenever the lines between the context and the phenomenon are not clearly evident, and where multiple sources of proof are utilized. Thus, the author identifies four plans for the case study as presented in Figure 2.



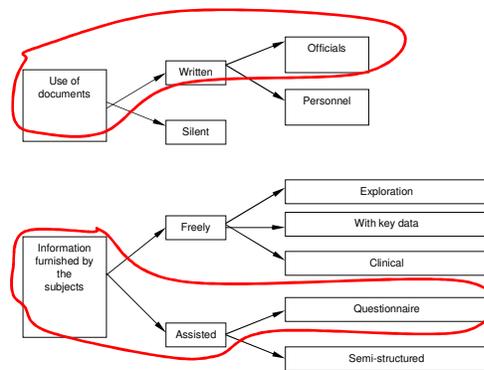
**Figure 2:** Synthetic research as research approach (Contandriopoulos et al, 1990)

In this article, we have chosen synthetic research with multiple levels of analysis overlapping (see Figure 3).



**Figure 3:** Developmental stages for case study (adapted from Yin, 1994)

Thus, to ensure a true representation of reality that the candidates have lived or are living through such a lifecycle, Yin (1994) proposed to utilize numerous sources of information: documents, archives, interviews, direct observation, participative observation, and physical objects. This study has recourse to various data sources: (documents and Web site), questionnaire and a few interviews. The paper documents and Web pages of the City allowed us to compress more thoroughly the organizational and sector-based context of the material. Thus, Contandriopoulos et al. (1990) identified three large sources of data furnished by subjects: use of documents, observations by the researcher, and use of data during interviews. For this paper and as indicated in Figure 4, shown below, two of these three sources of data will be used: (1) use of documents and (2) information supplied by subjects during interviews. The decisions of this paper lie on the techniques and sources encircled below.



**Figure 4:** Techniques retained for collecting data (as per Contandriopoulos et al, 1990)

***Sequence and results of the case study within the City***

This section will present the results of a case study of the City by means of a maturity model for specific organizational capabilities of knowledge management (KMCMM) as proposed by Booto Ekionea et al (2011). This case study thus aims to identify the maturity level reached by the City for knowledge management capabilities in order to determine, as the case may be, the challenges ahead for the City. Therefore, in addition to the consolidated results presented in Table 7, it will examine the sequence and the results of the research at the City.

**Table 7: KMCMM - Applied in the City**

No	KM Capabilities Features (characteristics)	KMCMM Level Reached by the City
1	Technology Infrastructures	3 <sup>rd</sup>
2	Specific Structures	2 <sup>nd</sup>
3	Knowledge Generation Processes	2 <sup>nd</sup>
4	Knowledge Manipulation Processes	2 <sup>nd</sup>
5	Knowledge Application Processes	2 <sup>nd</sup>
6	KM Culture	2 <sup>nd</sup>
7	KM Motivation	2 <sup>nd</sup>
8	KM Rewards	1 <sup>st</sup>
9	KM Inciting	2 <sup>nd</sup>

The questions were inspired by the definition of the concept of KMC as developed by Abou-Zeid (2003) and Anh & Chang (2005). The scale of five sub-questions to each of 9 questions has inspired the five levels of maturity that an organization can achieve (see also Appendix 1 which has the questionnaire of the case study).

Responses to the questionnaire (see tables 7 and 8) provided the mapping of the KMC within the City where are showing the different levels of maturity reached by the city for each dimension and characteristic of KMC. Following the investigation, and the format of the questionnaire case study, the following results were observed.

Table 8: Application of KMCMM within the City

Dimensions studied	Features	Maturity level reached by the City
Knowledge Management Infrastructures	Technology Infrastructures	The City is at the third level of maturity of KMCMM: there is internal integration of IT dedicated to KM throughout the organization, IT support KM, and there is understanding between the KM and businesses (Luftman, 2004).
	Specific structures	The City is at the 2nd level of maturity of KMCMM: there is emergence of specific structures of knowledge management but they are isolated and not integrated into the overall operations of the city.
Process of Knowledge Management	Process of knowledge generation	The City is at the 2nd level of maturity of KMCMM: there is emergence of the knowledge generation processes on the level of the internal entities with the exchange of the data and information.
	knowledge Manipulation process	The City is at the 2nd level of maturity of KMCMM: there is emergence of structured and reproducible knowledge manipulation processes with the existence of the collaboration tools like Oracle, ERP, Outlook, etc.
	Process of knowledge application	The City is at the 2nd level of maturity of KMCMM: there is emergence of the knowledge application processes expressed and brought in work in internal processes by the existence of the handbooks of procedures to the levels of the operations.
Knowledge management skills	Culture of knowledge management	The City is at the 2nd level of maturity of KMCMM: there is no culture of KM, however, knowledge management is seen as a support to organizational transactions and good decision making at every organizational level, and all respondents recognize the need to share information and knowledge.
	Information and knowledge facilitating skills	The City is at the 2nd level of maturity of KMCMM: people integrate their knowledge but are not sufficiently motivated by management.
	Skills to develop HR in information and knowledge management	The City is at the 1st level of maturity of KMCMM: there is very little motivation or reward.
	Skills to use information technology for knowledge management	The City is at the 2nd level of maturity of KMCMM: success of processes, operations, and organization depends on individual efforts and skills, as individuals and entities are not always encouraged to share systematically their knowledge with others.

Thus, in Table 9 are presented the comments of some participants of the study.

### Discussions and Perspectives

For case studies, Yin (1994) identifies three methods of analysis: (1) Matching a model to reality; (2) constructing an explanation; (3) chronological series. The method of analysis retained is the matching of a model to reality, which consists of comparing a theoretical model (prediction) with an empirical model (observed) to determine the conformity between the model and the empirical reality.

Concerning the present study, the municipality context was chosen, and the KMCMM was applied to the City in order to measure its capability to diagnose an organization and to confirm the considerations at the beginning of the study.

**Table 9:** Distribution of comments following the KMCMM levels at the City

No	KMC Characteristics	Comments
1	Technology Infrastructures	<p>Answer 3: The City has a number of information systems that are used extensively to support the business processes. These are typically internal with limited integration to outside entities. The City does have a website which is accessed by the public. This provides knowledge and allows for electronic services such as water bill payments and event ticket purchases.</p> <p>Answer 2: Programs are not integrated. Databases are not updated automatically for various programs.</p>
2	Specific structures	<p>Answer 2: The City has a number of applications that serve business processes but it is limited in the information and knowledge extraction tools necessary to move forward in the knowledge area. There are a number of projects on the books destined to address these limitations. We are hopeful that when these tools are in place the knowledge residing in our databases will be readily accessible.</p> <p>Answer 3: Information systems department coordinates computer programs.</p>
3	Process of knowledge generation	<p>Answer 3: I have answered 3 to this question because there are areas in the corporation and within Administration that have been re-engineered because of information and knowledge that have been gathered from our systems. These areas are limited so an answer of 2 may be appropriate on a more global basis. I chose 3 because there are some areas that have been transformed because of knowledge gained.</p> <p>Answer 4: Information is available on a network.</p>
4	knowledge Manipulation process	<p>Answer 2: There is an emergence of well defined, standardized processes and the corporation is moving in this direction. However I do not feel we could justify answering 3 to this question as a general statement.</p> <p>Answer 2: Reporting is up to individuals or departments to develop methods of retrieving information.</p>
5	Process of knowledge application	<p>Answer 2: The corporation is moving toward a more structured approach to developing processes for the distribution of knowledge and information. Some areas are better than others at this but in general I would say these techniques are emerging.</p> <p>Answer 4: Business object is used as a corporate method of extracting data and reports.</p>
6	Culture of knowledge management	<p>Answer 1: I was tempted to answer 2 to this question however I believe the organization has a long way to go culturally in the knowledge management and sharing areas. At best the knowledge is contained in silos and because of the last few words of answer 2 “on each level of the organization” I could not answer 2. I feel there are other drivers in play, which direct the priorities of the organization.</p>
7	Information and knowledge facilitating skills	<p>Answer 2: I feel this answer reflects the general state within the organization. Answer 3 would be appropriate in some instances however 2 is the dominant reality in my view.</p> <p>Answer 2: limited interdepartmental sharing of knowledge. No feedback with human resources (HR). Time keeping software.</p>
8	Skills to develop HR in information and knowledge management	<p>Answer 1: At present the corporation uses a system to evaluate positions that does not consider the knowledge required to perform the job. However this system is in the process of being replaced. Hopefully the new system will include a knowledge component.</p> <p>Answer 2: Limited information to other departments from HR.</p>
9	Skills to use information technology for knowledge management	<p>Answer 2: This answer is the most appropriate in my view. Some components of answer 3 are in play but for the most part answer 2 prevails.</p> <p>Answer 1: few are able to use the information being collected. Individual initiative is required to get information in a meaningful format.</p>

Thus, to understand the capabilities of a research strategy to produce results that can be applied more generally to other populations, contexts, and periods, which was not our objective in this study, one must ask to what extent are the results obtained influenced by the particular context in which the research was conducted. The more solid the theory on which the research is based and the more coherent are the empirical results obtained in a particular context with the theoretical hypothesis, then the more these results can be generalized in other types of contexts.

For each dimension of the KMC (see Table 7 and 8), it is possible to confirm or invalidate the observations made at the onset: « 1- the more the maturity level of organizational capabilities specific to knowledge management of an organization is low, the more the expected benefits are low, 2- the more the maturity level of organizational capabilities specific to knowledge management of an organization is higher, the more the expected benefits are higher ».

### ***Infrastructure for Knowledge Management***

As shown in Table 8, the City is located on level 3 but the non-exploitation of certain existing technologies to better manage information and knowledge, instead of KMCMM level 2. As challenges, a good IT architecture for information and knowledge management (IKM) should: 1 - strengthen and make effective the use of technological infrastructures with a view to integrate information and knowledge; 2 - promote internal integration of technologies and contents across the city divisions; 3 - promote technology integration with key partners.

Thus, for the City taking full advantage of the benefits that a good management of knowledge, they should: 1 - identify, acquire, and develop additional technological infrastructure (hardware, telecommunications devices, and software appropriate) responding to a new vision of business-oriented information and knowledge management; 2 - exclusively dedicate some of the existing infrastructures or acquire the new information and knowledge management infrastructures; 3 - to encourage the development or acquisition of software and IT infrastructures likely to support its business mission and strategic IT plan, namely improving the quality of customer services (population) and increasing the capabilities of the city to accommodate a larger number of newcomers than currently; 4 - to promote internal integration of the technological infrastructures dedicated to information and knowledge management; 5 - to promote the integration of its technology infrastructures (hardware and software) dedicated to information and knowledge management to those of its business partners; 6 - to update its information technology plan to actual use of information and knowledge so that it reflects the city orientations, the needs of its customers, its professionals, politicians, administrative matters, and those of his business partners at different levels; 7 - to update its information technology plan for aligning the existing and future technological infrastructures with organizational needs in data, information, and knowledge management by providing to each division of the city; 8 - ensure the effective use of the available technologies within the city divisions and to make them adopt with respective users.

All these recommendations are, technologically speaking, supported by 1 - a good network architecture, 2 - the physical components (hardware components), 3 - data architecture and connectivity software; the efficient and intelligent Social web (Web 2.0 and Web 3.0). Thus, good information technology architecture for knowledge management should (Gargeya & Sorrel, 2005, p.58): 1 - be omnipresent, reliable, scalable, manageable, and secure; 2 - be able to support the transmission of data as track and multimedia form, including applications like social web and teleconferencing, 3 - use standard protocols and topologies in the industry, 4 - be able to support various network infrastructure requirements associated with municipal management, the geo-location (with the use of geographic databases), training and administration, and 5 - being both less costly implementation than the operationalization.

Concerning the specific structures of knowledge management at, the City is located on the second level KMCMM by the lack of specific structures in information and knowledge management. However, good support for data, information, and knowledge management can be effectively managed if there is an organizational structure with the specific mission and specific tasks: 1 - to facilitate management of data, information, and knowledge across the organization, 2 - to adapt the knowledge management policy and strategies in the short, medium, and long terms, 3 - to develop a strategy to develop or acquire technological infrastructures devoted to knowledge management, 4 - define, in collaboration with the Human Resources Department, a policy of recruiting managers and development technicians of knowledge, municipal professionals, and computer technicians to align with the new policy-oriented organizational knowledge management; 5 - to create an organizational entity or a specific position within the organization to manage the integration of infrastructures and knowledge management systems with those of business partners.

Indeed, the KM structure would help the City to: 1 - focus on the interdependence of business processes and the interconnectivity of the knowledge management systems (internal and external IT infrastructures specific to the operations of the city, etc..) -2 - ensure that performance criteria are evaluated in light of efforts to integrate internal data, information, and knowledge; 3 - get a benchmark of performance against competitors.

For all these guidelines should be adopted by the City following the role it wants to give to the organizational structure that will manage knowledge. Indeed, Agarwal and Sambamurthy (2002) proposed three models of structures to support three different roles that an organization can play in the structure of knowledge management: 1 - the catalyst for strategic thinking, and 2 - the role of knowledge management infrastructures provider (system), or 3 - the role of strategic differentiator in business innovation through knowledge management.

Indeed, to achieve success with an organizational structure oriented knowledge management, we must organize work teams so as to: 1 - build the bridge across the sister organizations, 2 - define the nature and structure of organization for horizontal or vertical sharing of information and knowledge: horizontal, when you allow people to share the same hierarchical level of data, information, and knowledge between them, and vertical when you put in place mechanisms sharing data, information, and knowledge with the hierarchy (principal) / collaborator (agent), 3 - to develop an approach to creativity and high productivity with good knowledge management; 4 - help to build trust with the

knowledge management, 5 - encourage a sense of responsibility and commitment to the objectives of the organization's information and knowledge management.

### ***Processes for Knowledge Management***

Alavi and Leidner (2001, p.123) argued that "Knowledge management is a dynamic and continuous processes and practices with individuals, groups, and physical structures". Thus as shown in Table 8, the City is on the second level of the KMCMM. As challenges, the good information and knowledge generation processes should: 1 - Encourage support for total quality - Streamline and evaluate the operational effectiveness by the IKM; 2 - Ensure the interdependence of business processes by IKM; 3 - Create internal and inter-firm IKM processes.

Now, to address current challenges and future of continuous improvement in the quality of city services to its customers and increase organizational capabilities through a good knowledge management, the City should develop a policy of capturing , conservation , and integration of data, information ,and knowledge from various sources to: 1 - Encourage support for total quality by using data, information, and knowledge; 2 Streamline organizational processes resulting from improved efficiency and capability to deliver services to the client via a good IKM; 3 - Focus on the interdependence of business processes and inter-connectivity systems of data, information, and knowledge; 4 - Ensure that performance criteria are evaluated in light of efforts to integrate internal data, information, and knowledge; 5 – Ensure the existence of specific and standards processes for knowledge generation, while ensuring their integration with those of business partners; 6 - Seize the opportunity to use the capability of generating data, information, and existing knowledge to create business opportunities; 7 - Create business relationships inter-firm through effective integration and sharing data, information, and knowledge.

Thus, "the use of a centralized repository would facilitate the preservation of knowledge, eliminate duplication of efforts at the departmental or organizational level and reduce costs" (Desouza, 2005, 16).

For the process of knowledge manipulation, the City is still on the second level of the KMCMM, thus it can expect significant benefits and consistent with the judicious use of its corporate knowledge. As challenges, the good information and knowledge manipulation processes should: 1 - Develop new business logic based on good IKM; 2 - Adopt effective systems of knowledge manipulation; 3 - Ensure that the processes of manipulation of knowledge are relevant and integrated and that they are standard, consistent and understood by the city and its partners.

Thus, to address the previews challenges, the City should: 1 - Abandon the current practice of knowledge management for a new business logic based on IKM; 2 - Develop business opportunities and adopt effective systems for manipulating knowledge to achieve business performance; 3 - Articulate analysis of business rules for re-engineering of its object by encouraging the electronic manipulation and automatic knowledge internally and externally; 4 - Streamline the business scope internally and externally with business partners, based on the integration of data, information, and knowledge to facilitate rational manipulation of knowledge in order to respond to rapidly changing customer needs in the Internet era; 5 - Ensure that the process of knowledge manipulation are relevant and integrated, standard, consistent, and understood by local stakeholders; 6 - Ensure that the processes of knowledge manipulation, both internally and externally, are controlled, and measured.

Because "the institutionalization of best practices for their storage via information technologies should facilitate the proper manipulation of routine and predictable situations during stable or incremental environmental change" (Alavi & Leidner, 2001, p.122). When the change is radical and discontinuous, the need persists for the continual renewal of the premises by using archived practices in directories of knowledge (Malhotra, 1997).

But, as shown in Table 7, the City is on the second level of KMCMM for the process of knowledge application. So, as challenges, the good information and knowledge manipulation processes should: 1 - Increase sources of data, information and knowledge in order to make them available to those who need it at crucial or specific moments; 2 - Evaluate and realign policies and practices of knowledge management from each group of individuals, organizational entities, management of the city, customers and business partners; 3 - Identify, develop, and implement specific training programs and promoting a culture of innovation, organizational learning and scholarship.

Thus, to meet those challenges, the City should consider the: 1 - identification, development of education programs, and the implementation of integrated high-value fields of knowledge professionals, managers, and policy makers needs to implement them in various organizational contexts; 2 - ways to develop the skills to exploit the various sources of knowledge in the business network and to increase the professional, managers, and decision makers capabilities to acts; 3 - Review and design evaluation criteria to measure performance results of knowledge application by professionals, managers, and decision makers; 4 - Observation of knowledge management practices, both internally and externally, and to ensure that their documentation and their results are quantitatively measured and controlled.

It remains to "know what rules and routines applied to a specific problem, which implies that the organization has learned and codified a large number of rules and routines, so choose which enable to solve a specific problem is any the problem of application of knowledge" (Alavi & Leidner, 2001, p.122). To do so, share knowledge on the explanations and understandings about the nature and needs of a particular situation can help a good use of rules and routines. There is therefore a challenge for the application of knowledge by the City, mostly manually and using appropriate technological infrastructure. Thus, information technology can have a positive influence on the application of knowledge by professionals, managers and decision makers.

Moreover, by improving the size of the internal networks of individuals and increasing the number of organizational memory available, the information technology enable organizational knowledge to be applied in time and space (Alavi & Leidner,2001). Also, to the professionals in the field, the divisions of the Moncton City should encourage and guide the learning process and practice improvement: 1 - To study and evaluate the practices of customer service, assess and assimilate scientific evidence, and improve practices, 2 - to analyze the practices and experiences of use by using a systematic methodology; 3 - locate, evaluate, and assimilate evidence from scientific studies related to management problems municipalities; 4 - Obtain and maintain information about the population of the city, 5 - Apply knowledge of conceptual studies and statistics on population studies of the city, and any information on the effectiveness of the process business; 6 - use information technology to manage information, access online information and training of players in the organization, 7 - to facilitate the learning of professionals, managers and policy makers from the city.

"Another important aspect of learning ability for an organization's ability to learn from the mistakes of others. A good storage (recording) of incidents and accidents is very important here, as well as the culture in which incidents and accidents are being reported (Wahle & Groothuis, 2005, p.31). Thus, in both public and private, "success" incentives "to organizational learning depends very much on the culture and behavior of management (of staff) (Wahle & Groothuis, 2005, p.31).

### ***Knowledge Management Skills***

As shown in Table 8, the City is on the second level of the KMCM for the culture of knowledge management. So, should: 1 - Ensure constant monitoring of the benchmark results against other city in Canada and in North America; 2 - Articulate its strategy and vision for the redesign of business networks by IKM; 3 - Develop a vision of supporting business transactions and organizational decisions making; 4 - Integrate knowledge of the client and his participation as a stakeholder for generating, manipulation, and application of knowledge.

So the challenges facing the City are multiple judging the outcome of the case study. Indeed, the city faces several challenges to make effective the benefits of a good knowledge management. He should: 1 - Ensure that performance criteria are evaluated in light of efforts to integrate internal and external (with key) data, information, and knowledge; 2 - Ensure continuous monitoring of the benchmark results compared to other municipal organizations in the province, federal, and international levels; 3 - Recognize that organizational issues and challenges are greater than the selection of a technical architecture that would support the new management policy of information and knowledge integration of the technological infrastructures dedicated to IKM with organization partners; 4 - Articulate their strategies on the re-design of business networks in knowledge management; 5 - Articulate their business vision of IKM by integrating internal operations and external relationship with partners and customers; 6 - Develop a vision of supporting business transactions and making good decisions at each organizational level; 7 - Define and integrate knowledge management strategies that integrate customers information needs and its interaction within the city by offering the opportunity to the customers to participate in the life of his city.

Indeed, the strategic role of an organization should reflect a dynamic view of organizational capabilities (Grant, 1996, Teece et al, 1997), because the knowledge management is a managerial activity helping the organization to adapt to the market needs (Lee et al, 2001). However, one of the challenges faced by municipal organizations like any public organization is to combat the culture of resistance and the culture of protection of individual knowledge (Svieby & Simons, 2002; Beveren, 2003).

For this class of organizations, like other public organizations have more challenges in terms of collaborative culture in sharing their individual knowledge vis-à-vis the private sector (Svieby & Simons, 2002). Indeed, "there is strong resistance to change both individual as well as senior management that inhibit adaptation and response to environmental demands" (Beveren, 2003, p.92).

Changes in government policies are often confusing and can delay the implementation of knowledge management strategies if city officials change their strategic directions. However, the municipal organization should be an organization whose center consists of services to the population, and not be subject to outside influences that do not fit with the nobility of its purpose (Beveren, 2003). To this end, cooperation through exchanges of data, information,

and knowledge between professionals, managers, decision makers, partners, and customers in the City is crucial and requires a change in organizational culture.

Indeed, the current culture of autonomy and "knowledge silos" should be replaced by the new culture that requires cooperation, communication, training, and teamwork (Beveren, 2003; Brakensiek, 2002). The cultural aspects of knowledge management, the skills of employees, and the positive attitude to knowledge sharing on the supply of services to the population are vital for any knowledge management program in the public sector in general and in the City in particular (De Burca, 2000; Matheson, 1995, Sharma et al, 2005). That's what supports Chatzkel (2004, p.17) when he says this: "we seek to change people's behavior and how they share their knowledge and how they work."

Speaking of organizational culture, Riedgman and Lindsay (2006, p.26) argue that "the main driver of the adoption of various initiatives in knowledge management in public sector services is changing the organizational culture. Thus, the authors identify four critical points of knowledge management in the public sector: 1 - efficiency across all public services by connecting information silos in different levels (tiers) of government; 2 – Development performance by focusing on a broader, more integration and ease of access to basic knowledge, and 3 - improved accountability (accountability) and risks mitigated (Mitigating risk) by an integrated and transparent access to information across all organizational levels; 4 - reducing costs of services and increase accountability and partnership with the people in return for a good value to taxpayers.

The partnership of the city with its business environment is another important cultural aspect. Indeed, the partnership with all stakeholders as a private industry and community organization is critical to develop a good knowledge management policy in the City. Stakeholders must include any person or organization whose interests may be affected positively or negatively (Riedgman and Lindsay, 2006). Furthermore, transparency in policy development is highly desirable in those affected and facilitates the involvement of community partners (Riedgman and Lindsay, 2006).

Regarding in particular the public sector, Bevenren (2003, p. 91) argues that there is no difference between private sector organizations and the public ones. A thing that must change is the culture that needs to understand that the customer (citizen or taxpayer) is a partner in the administration of the municipality (Wahle & Groothuis, 2005, p.32).

Indeed, in the context of knowledge management in a municipal organization, management, managers, all professionals, and all stakeholders in the city must: 1 - understand the culture of the organization and extend at the daily management of data, information, and knowledge, then, understand the issues and what knowledge management in the context of public administration in general and municipal organizations in particular, 2 - have a clear vision of knowledge management at all organizational levels, and 3 - provide the necessary support for knowledge management at all organizational levels, perhaps with pilot projects to determine the needs; 4 - grant awards to employees to justify their behavior by setting out clear rules or measures in order to reward good behavior and punish bad in terms of knowledge management; 5 - Finally, establish mechanisms for knowledge transfer with two main channels: - capture and codify personal knowledge through appropriate media and technologies to enable others to access them: for example, the tasks will be done through electronic records and other technological devices; 6 - use available technology to facilitate discussions among stakeholders for a specific topic.

To facilitate the knowledge management within a city, people need to be motivated. But, as shown in Table 8, the City is on the second level of the KMCM concerning the facilitation of knowledge management by motivation. So, the challenges for the facilitation of knowledge management by motivation, is to: 1 - Define a policy of IKM motivation; 2 - Define a policy to promote knowledge management; 3 - Support and encourage individuals and organizational entities to interact with others; 4 - Set up processes of knowledge facilitation and maintain continuous improvement.

Thus, to meet the challenges of a real motivation of professionals, managers, and policy makers of information and knowledge management, the city should: 1 - Define a policy of facilitating the management of knowledge through staff motivation and organizational entities regarding the management of knowledge; 2 - Adopt a policy of adopting knowledge management as an innovation of business processes, eliminate or minimize change resistance; 3 - Support and encourage individuals and organizational entities to interact with others; 4 - Assist in facilitating the demonstration of concept proof about the creation of new knowledge or the harmonization of views on the definition of theoretical concepts on protocols and technical procedures at the operational level; 5 - Encourage individuals and organizational entities to coordinate their information and knowledge management across the organization; 6 - Implement the process of facilitating knowledge and maintain continuous improvement taking into account industry trends and specific skills needed.

This is why Sharma et al (2005) argue that public organizations, considering the deployment of knowledge management systems, should take into account the position held by the skills of its members in business processes: the tactical expertise and individual experience of each professional should be captured and taken into account in the strategy, policy, and practice of knowledge management at all levels of management of the organization of service

activities to customers, because the intangible knowledge of employees can be the basis for radical innovations in planning, managing change, organizational culture, and different approaches (Sharma et al, 2005, p.2).

Thus, organizations need to supervise the performance and individual responsibility on the acquisition and sharing of knowledge to transform organizational culture: 1 - identify and understand the needs of the organization's performance relative to the need of knowledge management at the completion of the task, 2 - turning knowledge transfer in organizational performance, and 3 - to acquire knowledge to achieve the mission of the organization; 4 - helping the individual to transform lessons learned in new business practices; 5 - linking shared knowledge to organizational performance, 6 - to standardize the acquisition and sharing of knowledge at all levels of the organization beginning with the individual.

This is why, the development of human resources in IKM is important for the City (Syed-Ikhsan & Rowland, 2004). But, as shown in Table 8, the City is located on the first level of the KMCMM. So, the challenges for the development of human resources in IKM, is to: 1 - Develop training programs to promote the culture and skills in knowledge management; 2 - Develop measures to assess the value added per employee and return in the IKM; 3 - Define an organizational policy to reward the IKM; 4 - Define a policy of sharing risks and rewards to IKM internally and with partners.

To meet those challenges, the City should: 1 - Develop measures to assess the value added per employee and return in knowledge management, to define, clear and understood, by all actors, criteria for the development of human resources and rewards; 2 - Define a corporate policy of human resource development and rewards; 3 - Define a policy of sharing risks and rewards across the organization and with business partners.

Because, the corporate policy on human resource development and rewards is a key determinant of success or failure of the introduction of knowledge management within an organization. It must: 1 - recognize the ownership of knowledge in individual and organizational level, 2 - recognize the importance of sharing and reuse of knowledge, and 3 - to reward individuals and teams that promote the management of knowledge, including the capture of discussions and decisions of the teams, mentoring, documentation of lessons learned, the transformation of tacit knowledge into explicit knowledge (making tacit knowledge explicit), 3 - to encourage leadership and management in knowledge management to increase value to obtain a clear vision of the organization, aligning business objectives with those of managing knowledge, define a new way of working as a manager, encourage diversity and recognize the change in the composition of the workforce and the diversity of values, etc..

So, the development of the skills to use technology, to manage information, and knowledge at the City is very important. But as shown in Table 8, the City is the second level KMCMM. So, the challenges for the development of human resources in IKM, is to: 1 - Develop training programs favouring the acquisition of skills in Knowledge Management technologies; 2 - Develop, through the organization and its business partners, technical skills specific to the technology infrastructures supporting the IKM; 3 - Identify the skills, knowledge, best practices, and integrate its business processes.

It would therefore be beneficial for the City to: 1 - establish a policy of systematic training and incentive in the use of IKM technologies to professionals, managers, and decision makers in order to motivate them to cultivate, maintain, and share data, information, and knowledge; 2 - To develop, through the organization and its business partners, specific technical skills to the technological infrastructure supporting knowledge management; 3 - identify the skills, knowledge, best practices, and integrate them into business processes. Indeed, municipalities need to capture and analyze data from different technical operations, business processes and those of the market to view and organize them into meaningful information for decision making (Pavia, 2001). The data, information, and knowledge professionals, managers, and policy makers need not confined only to that of the municipality to which they belong, but extend to a network of organizations in a region where transfers of data, information, and knowledge are very common, (Pavia, 2001).

In addition, public organizations should encourage their organizational entities to make available to the paying of taxes, professionals, executives, managers, and other partners the relevant information and knowledge (Beveren, 2003).

This approach would help municipalities to survive and maintain their competitiveness. Thus it is increasingly evident that the development of specific organizational capabilities in knowledge management is a critical factor in almost all areas of business (Earl, 2001). That's what Smith (2004, p.9) argues when he writes: "It is important for all organizations to promote the transfer of knowledge across all its business processes, all actors' value chain. In fact, "well organized and vital communities allow people to supervise others, to collaborate, and to work together in virtual teams" (Smith, 2004, p.13). Moreover, taking stock of the benefits of a collaborative environment, Chatzkel (2004, p.6) states: "We felt the need to provide to our employees a collaborative environment for continuous learning and improvement performance within the organization."

## Conclusion

When asked why a public administration in general and municipality in particular does it need a new system of knowledge management, Rubenstein and Geisler (2005, p. 44) give the answer by advancing eight reasons (that is for) to: 1 - build a bridge and break the isolation between specialists and other organizational entities of support; 2 - learn from his own experiences and the experiences of other organizations; 3 - avoid repeating the same mistakes or disasters in several aspects including the management needs of customers, process control, misuse of equipment, and technology available; 4 - support training at all levels; 5 - to support weak or organizational entities with fewer resources by experience and strong organizational units rich in resources; 6 - share "tips and tricks", 7 - avoid the malfunction at the organizational design, management (staffing) and the distribution of tasks (workflow) 8 - changing the methods of productivity improvement, cost reduction and customer service.

Thus, this research has set a goal of diagnosis to identify avenues that might lead to improved organizational knowledge management capabilities (KMC) with a maturity model of the knowledge management capabilities (KMCMM) (Booto Ekionea et al, 2011). The Tables 8 and 9 present the diagnosis of the KMC within the City. So, those tables and the above discussion on this study demonstrate the ability of the KMCMM to make a diagnosis of an organization. However, these results can aid in understanding of the phenomenon of KMC in the context of municipal government.

In theoretical aspects, the KMCMM applied in the context of the City will serve as a foundation for the pursuit of research concerning the strategic planning of IKM in general and for the validation of a KMC standardized maturity model.

For practical implication of this study, the KMCMM applied in the context of the municipal government, professionals, managers, and decision makers in the municipal sector could use the KMCMM as analysis, diagnosis, and strategic planning tool of the KMC within their respective municipalities.

But the number of participants and only one studied division could limit the range of our conclusions but the found diagnosis is very relevant. This is why we which further studies at several municipalities within Canada and other countries.

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**USER EXPECTATIONS OF PRIVACY OF NETWORK TRAFFIC:  
PRIVACY ISSUES AND CONCERNS IN THE INFORMATION SOCIETY<sup>1</sup>**

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A survey was developed to gather user expectations of privacy and concerns related to network traffic monitoring. Data from people originating in 27 countries is presented. Empirical data was collected to determine user expectations of privacy at home, at work and at public hotspots. This data should provide a baseline of user expectations of privacy that may serve as a guide for those engaged in network security and privacy research. Our results indicate that a significant knowledge gap exists. This insight may help to guide training programs not only for individuals who process private data but for all employees.

## **I. Introduction**

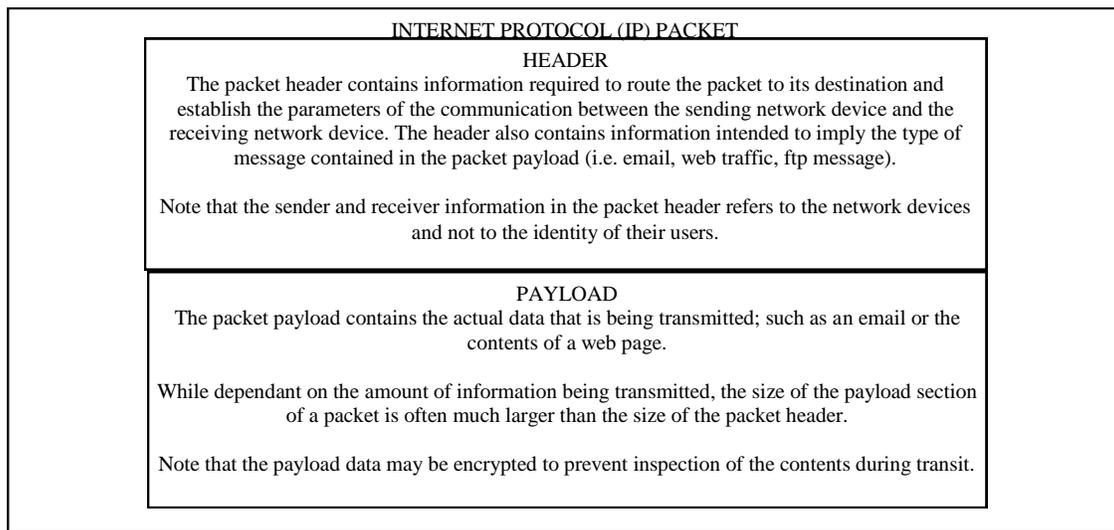
Network security practices often include the monitoring, capture and analysis of network traffic data. In 2009, one of the authors of this paper set out to conduct research into network security techniques which involved the monitoring, capture and analysis of network traffic data. This activity is often differentiated between techniques involving flow-level monitoring of network packet headers and full packet capture including payload data (see Figure 1). During discussions with other researchers in the field at that time, comments were made regarding the appropriateness of the application of each technique with respect to the user's expectation of privacy.

The opinions expressed during these discussions included beliefs ranging from 1) user concerns for privacy would prevent the capture of any portion of the network traffic data for security purposes, to 2) users were concerned only with the capture of payload data and did not care about packet header data. While many opinions were expressed there seemed to be little in the way of specific research available from which one could gain insight into what user expectations and concerns actually were with respect to the practice of network traffic capture and monitoring.

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The authors of this paper attempted to identify a body of empirical research specifically related to user concerns and expectations of privacy regarding network monitoring activity. While research existed relating to application layer monitoring of data contained in packet payloads such as the data transmitted in email, web traffic, and other proprietary applications such as electronic performance monitoring systems used in call centre software (Hoffman, Hartman & Rowe, 2003; Ball & Wilson, 2000), we were unable to locate publications that dealt specifically with the act of network traffic capture in a more general sense. We were specifically unable to locate any data set that examined the difference (if any) between user`s concerns for header versus payload capture.



**Figure 1.** High Level Structure of an Internet Protocol Packet

To help to maintain a balance between privacy and security research the authors of this paper set out to ask users about their expectations and concerns with respect to their network traffic. We believe the results will make a valuable contribution to the literature used by those who wish to investigate the user expectations of privacy of their network traffic at home, at work and at public hotspots.

The results of this study to date have not matched the authors' beliefs prior to the collection of the data. This was despite the high level of awareness and expertise of the authors in the subject matter. Specific areas where the data did not match the authors' a priori beliefs include the high number of participants that had an expectation of privacy in public hotspots and at work. As discussed in the conclusion, readers of this material are encouraged to consider the impact on user behaviour that the described expectations are likely to have when it comes to the handling and processing of private data. The authors also hope that this work will serve to provide researchers and organizations who engage in network traffic collection with additional insight into users'

expectations and concerns. This insight may help to guide training programs not only for individuals who process private data but for all employees. Such training could ensure that individual expectations may be brought in line with the actual practices taking place within the workplace or at other locations.

The survey we developed for this study also allowed the participant to express their concerns in other areas of network traffic privacy. Examples of these additional concerns are described in section IV B. We found that the opinions expressed in these additional responses provided a valuable insight to the privacy concerns felt by the individual participants. These privacy concerns may also serve as valuable input into the design of policy and practices and their associated implementation and training programs. Privacy expectations impact many activities of businesses, government and research communities. There are more privacy issues and concerns with the growing number of pervasive technologies. “With the growing prevalence of social networking sites, behavioural marketing, wireless technology, sensor systems, surveillance systems and nanotechnology, we are just now beginning to see some of the privacy implications of these emerging technologies. Globalization and the growth in online business will only increase the flow of data across jurisdictions” (Stoddart & Denham, 2008). The Privacy Commissioner of Canada’s Office has investigated cases involving privacy issues with respect to *Personal Information Protection and Electronic Documents Act* (PIPEDA) ranging across numerous industries including: Financial Institutions, Telecommunications, Health, Insurance, Transportation, Airline, School, Daycare, Law firm, Retail, Restaurant, Internet service provider, E-mail provider, Telemarketing, Landlord/tenant and Real estate industries.

The structure of this paper is as follows. Section II describes related work, section III provides the details of the survey, section IV presents the results and in section V we give our conclusions.

## **II. Related Work**

Xu, Smith, Dinev & Hart (2008:2) state that “the definitions of privacy vary significantly in different fields, ranging from a *right* or *entitlement* in law (e.g. Warren and Brandeis 1890), to a *state of limited access or isolation* in philosophy and psychology (e.g., Schoeman 1984), and to *control* in social sciences and information systems (Culnan 1993; Westin 1967)”. In this paper we are focusing on privacy expectations and concerns related to network traffic.

### **Privacy Expectations**

Palm (2009) looked at privacy expectations at work and found that employees’ need for local privacy as well as informational privacy should be accommodated. Palm states that this approach is contrary to prevailing workplace privacy protection practices.

## **Informational Privacy**

Informational privacy has been defined as the ability of an individual to control how their information is used, disclosed and who has permission to access it and who does not have permission to access their information (Cavoukian & Hamilton, 2002). The “ability to control the dissemination of personally identifiable data to private parties” is a central element of privacy according to Hermalin & Katz (2005:i). Palm (2009:202) describes informational privacy as “workers’ chances of controlling certain data and aspects of themselves”.

## **Personal Information**

Information considered to be personal includes names, birth dates, social insurance and social security numbers, home addresses, home telephone numbers, home email addresses, financial information, credit card information, or other contact information and personally identifiable data. Personally identifiable information (PII) may also include age, race, religion, financial and marital status and ethnic or national origin. Joinson, Reips, Buchanan & Schofield (2010:1) measured disclosure of personal information in an experiment where privacy and trust were manipulated. They found at a situational level that privacy and trust interact so “high trust compensates for low privacy, and vice versa”.

## **Privacy Concerns**

In 1996 Smith, Milberg and Burke developed the Concern for Information Privacy (CFIP) instrument. This 15-item instrument identified four subscales of individuals’ concerns for organizational information privacy practices. The four subscales of concern were collection, errors, unauthorized secondary use and improper access. Levels of concerns may be impacted by various factors (Smith, Milberg and Burke, 1996). Concern may be context-sensitive depending on the type of information. It has also been found that the type of organization collecting and storing the data affects the level of concern. One consequence is “opting out” of activities or services. “A cognitive process, comprising privacy risk, privacy control and privacy intrusion is proposed to shape an individual’s perception of a specific Web site’s privacy practices (i.e., privacy concerns)” (Xu, Smith, Dinev & Hart, 2008:2). Malhotra, Kim & Agarwal (2004) revised the Concern for Information Privacy (CFIP) (Smith et al., 2006) to adapt for the Internet and called it the “Internet Users’ Information Privacy Concerns (IUIPC).

### III. Survey

Our survey measured user expectations of privacy of network traffic in various locations; at home, at work and at public hotspots. With the rapid technological changes occurring it is important to understand what the current concerns are related to network traffic privacy. We gathered data describing what these concerns are by many experts in the field.

#### Survey Questions

Participants were asked “With respect to your network traffic, what is your expectation of privacy in the following locations?” (*Note: Your expectation is what you believe to be true, not what you wish were true.*) The locations included at home, at work and at public hotspots. There were three options provided to choose their expectation of privacy for each location. (1) Do not expect any privacy. (2) Expect privacy of data sent and received (packet payload) but no privacy for the address information of the two computers that are communicating (packet header). (3) Very private, no one should be looking at any part of the communication (not even your employer). See Table 1.

We intentionally avoided a more detailed description of the difference between header and payload data so as to not alienate a less technical audience. While developing the survey with initial test groups we found that there was a general level of comfort and expressed understanding of the difference between the header and the payload data. Whenever possible we made ourselves available to the survey participants for questions. If questions were received regarding the difference between header and payload data, then we used the analogy of an envelope containing a letter. The header data was compared to the information contained on the outside of the envelope, and the payload data was compared to the contents of the letter contained within the envelope. Questions of this nature from the participants were rare.

Participants were also asked “What concerns do you have about network traffic privacy?” An analysis of the content to this question will be discussed. A descriptive analysis is provided of the demographic information collected including: gender, decade of birth, level of education, country of origin, and profession/occupation.

#### Sample

Surveys were completed by 267 participants in 2009 and 2010. Seven surveys were eliminated from the privacy expectations analysis because the respondents selected more than one answer for their privacy expectation for a location. Information on additional privacy concerns were provided by 150 respondents. The majority of the sample was chosen from conference attendees from defined disciplines such as security and privacy practitioners, information technology and administrative professionals. The conferences were located in Canada, United States and Spain.

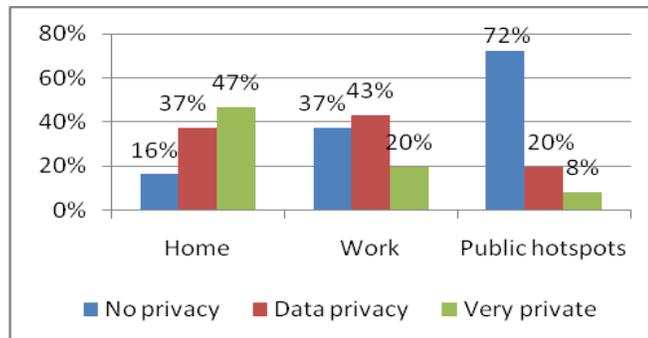
Many of these individuals are responsible for privacy and security in their organizations. Conferences were selected for the sample so there was control over who was providing the data. Professionals were targeted where they congregate and were accessible. It is a random sample because we did not choose who attended these conferences. Other survey participants attended security training and awareness workshops and MBA and Information Technology classes.

#### IV. Results

Table 1 provides the results from the *Privacy Expectations of Network Traffic Survey* at home, at work and at public hot spots for the entire sample. Figure 2 displays the percentage of users' privacy expectations of Network Traffic at Home, Work and in Public Hotspots.

**Table I. Network Traffic Privacy Survey**

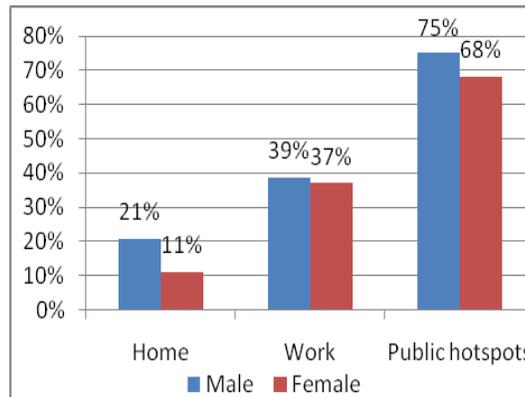
Location	With respect to your network traffic, what is your expectation of privacy in the following locations? (Note: Your expectation is what you believe to be true, not what you wish were true.)		
	<i>Do not expect any privacy.</i>	<i>Expect privacy of data sent and received (packet payload) but no privacy for the address information of the two computers that are communicating (packet header).</i>	<i>Very private, no one should be looking at any part of the communication (not even your employer).</i>
Home 🏠	16%	37%	<b>47%</b>
Work 💻	37%	<b>43%</b>	20%
Public Hotspot 📶	<b>72%</b>	20%	8%



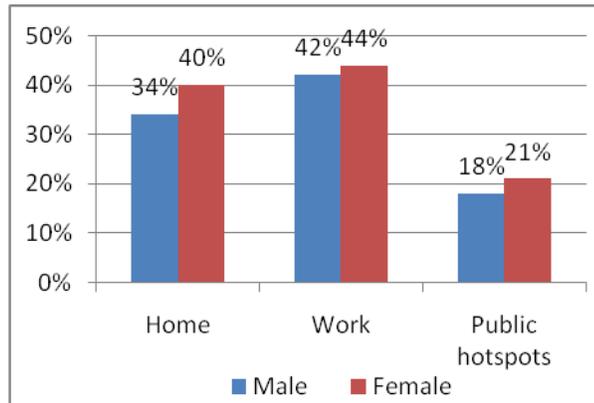
**Figure 2. Privacy Expectations of Network Traffic**

The data contained in the preceding figure and table holds several characteristics that should be noted. The most surprising results relate to user expectations of privacy at work and in public hotspots. For example, note that 63% of respondents expected either complete privacy (20%) or privacy of the data sent and received (43%) at work. Also, note that 28% of respondents expected either complete privacy (8%) or privacy of data sent and received (20%) at public hotspots. These findings did not match the authors' expectations. With respect to the work location data, we venture to speculate that these expectations do not match the prevailing thought in the business community of what the user's current understanding is with respect to their actual level of network traffic privacy at work. If it is the intention of a business to monitor the user's network data, our survey may indicate a knowledge gap that exists between the user community (including senior management) and business I.T. managers. The expectation of privacy in public hotspots may also be indicative of a troubling knowledge gap that may lead users to inadvertently disclose data such as passwords, personally identifiable information or commercial confidential information in these locations. It is difficult to ascribe negligence or poor judgement to an employee who is unaware that a dangerous practice is dangerous. Similarly, individuals who would otherwise have the right and desire to withhold certain personal information about themselves from others may reveal that information unknowingly based on an erroneous expectation of privacy. In the following graphs we illustrate our preliminary findings based on the data. However, analysis of the data is only just beginning and further refinement of results is expected.

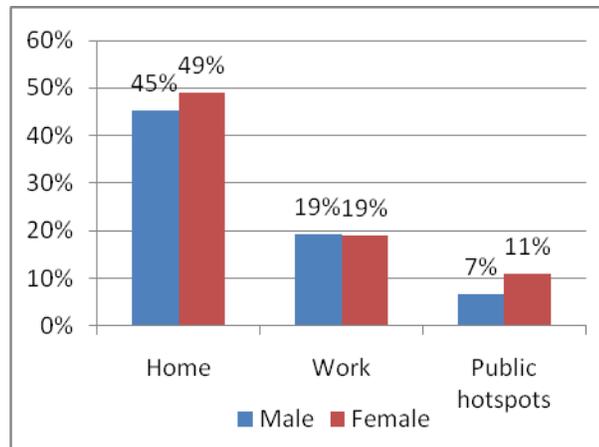
There was little difference in the responses based on gender (shown in Figures 3,4 and 5) with the only exception being that females appeared to have a higher expectation of privacy at home than males. As shown in Figure 3, 21% of the males stated that they did not expect any privacy at home versus only 11% of the females.



**Figure 3. Do Not Expect any Privacy of Network Traffic**

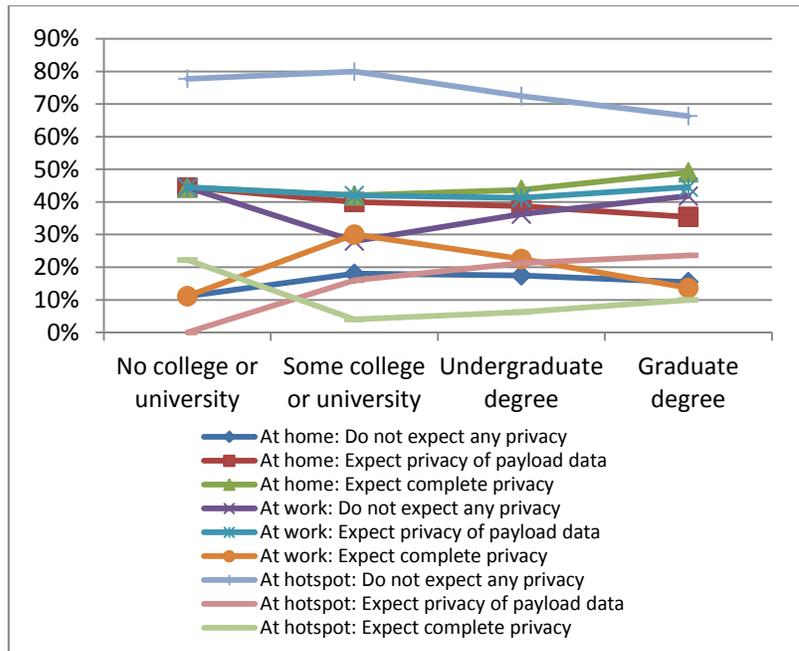


**Figure 4. Expect Privacy of Data but not of Packet Header**



**Figure 5. Expect Complete Privacy**

We note with interest, but without further comment, that the percentage of individuals who expect complete privacy at work (Figure 6, circles) was low among those with the least education, then increased among those with some university and finally returned to a low level among those respondents with advanced degrees.

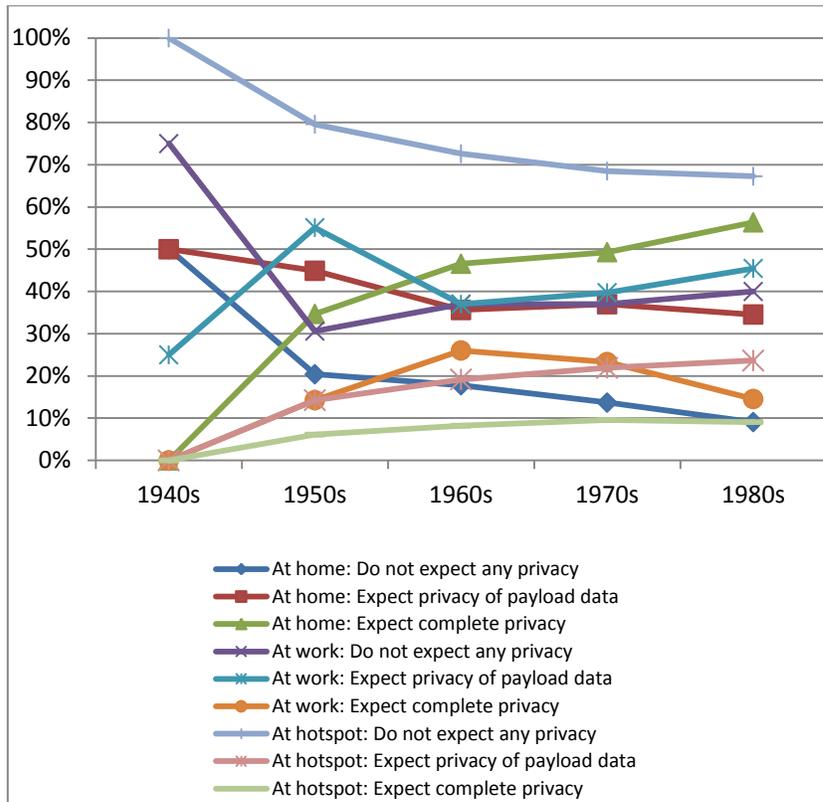


**Figure 6. Privacy Expectations by Education Level**

Figure 7 shows the expectation of privacy (i.e. do not expect any privacy, expect privacy of payload data, expect very private communication) for each location by the decade of birth for each respondent. For example, approximately 50% of the respondents born in the 1970s believe that traffic at home is very private (triangles). Whereas, a slightly higher percentage of those born in the 1980s believe that traffic at home is very private. The percentage of respondents who believe that traffic at home is very private increases as the age of the respondent decreases and conversely decreases as the age of the respondent increases.

### Categories of Privacy Concerns

The themes that emerged for the privacy concerns expressed by the participants are categorized in Table II. Further detail on each theme is given in the following sections. The profession or occupation of the participant is also included to give context and credibility to their privacy concerns. We used content analysis method to categorize privacy concerns.



**Figure 7. Privacy Expectations by Decade of Birth**

**Table II. Categories of Privacy Concerns**

#	Privacy Concern Category
1	Privacy breaches are to be expected (i.e. disclosure, unauthorized access) so people should be proactive
2	Errors cause disclosure, simpler language is required, people need greater understanding and education
3	Theft of identity, financial information, pictures, personal information, and registration is required everywhere
4	Social Networking
5	Network traffic is not private, controlled or restricted
6	Laws and Regulations
7	People are too “Careless”, people should “Be Careful”
8	Privacy is a “Losing Battle”
9	Hope and Desire Privacy
10	Privacy concerns are ubiquitous

1) *Privacy breaches are to be expected (i.e. disclosure, unauthorized access) so people should be proactive* - One Canadian Policy analyst was concerned that “moving to more open source and cloud internet based servers might lend to more large-scale privacy breaches”. They suggested that “a solution might be in proactive approaches to best practices”. An Access & Privacy Manager stated that, “Nothing is 100% secure. You should expect that there will be a breach and modify communications accordingly and use other data protection software to additionally secure information that is being communicated – if it is sensitive”. An Application Database Administrator (IT) says, “I don't expect privacy in Network Traffic unless I choose to encrypt my communications”. A Health IT (Information Technology) Consultant disclosed that, “It is easy for people in the know to intercept and view network traffic”. They recommended that there “should be more security by default to protect people who don't know”. A Canadian Lawyer/Privacy Specialist said their concern was “Disclosure or unauthorized access to my Personal Information” (sic). A Professional Services Consultant (Information Management) is also concerned with “unauthorized access by hackers”. “Surreptitious access” is the concern of an Information Technology professional. A FOIPOP (Freedom of Information and Protection of Privacy) Administrator had two concerns: “1) Hackers and 2) Third party disclosure”. “Too many people accessing my personal information” (sic) is the concern of a Federal Government Access to Information & Privacy Official.

2) *Errors cause disclosure, simpler language is required, people need greater understanding and education* – An ATIP (Access to Information and Privacy) professional stated that their “Concerns are of personal information being leaked out by error” (sic.). A Manager of Communications stated that their concern is with “Third party access, security and confidentiality of information. Not everyone has the same understanding therefore open for errors!” An Access Coordinator believed that “Simpler language” was required “so that there is no misunderstanding, more education within the youth especially”.

3) *Theft of identity, financial information, pictures, personal information, registration is required everywhere.*- A police officer's concern is that there may be a “take over (sic) of my 'personality' and it's use for negligent purposes”. An Information Access and Privacy (IAP) Professional said they had “None (no concerns) at work (except spoofing); however, all kinds of concerns with regards to PI (personal information) as a private individual – identity theft, theft of financial information”. One respondent was “Concerned that if something should be kept private, and appropriate security actions are taken, it would still be insufficient against a determined attacker. Concerned about ‘registration’ for almost everything online is easily compromised.”

4) *Social Networking* – A Communications professional stated “That too much information – private information – goes out through social networking” This caused another respondent to cancel her Facebook page. She was worried that there was “Too much information about a person (and their acquaintances) on own Facebook page; unknown what others on your friends list do with your pictures or information – a big concern”.

5) *Network traffic is not private, controlled or restricted* - A Canadian Lawyer stated “It's not a concern, just a comment: those who think network traffic is private is naïve”. A Health

Professional is concerned that “what does get out there is no real privacy” so “one becomes an open book”. A Manager of Policy and Planning for Education said, “There is really not much control or restriction on this”. They thought it was “sort of (an) unknown area”. An Administrator/Consultant stated that “I don’t want to be out there! More integrated work is required from all levels of government, business, IT, etc. to somehow bring this in control more”. A Manager for the Government of Nova Scotia is concerned with an “invasion of privacy”. One person commented that the “U.S. government routinely monitors network traffic, as does AT&T and perhaps other backbone providers”. Their concern was that “This access can be abused”.

6) *Laws and Regulations* – A Ph.D. in Informatics stated that he was concerned that there was no privacy of the Packet Header. He noted that the “EU discussion about IP (Internet Protocol address of the computer) equal to personal ID” is ongoing. He believed that the payload should be completely private and that it should be “prohibited by Law to inspect payload”. One respondent indicated that in “Principle: 1) Any network traffic or other traffic sent over the air is expressly interceptable (sic) under US law. 2) Traffic, once it enters an ISP or other provider's network, is interceptable by the provider (formally) or its employees (informally). Therefore, I as an individual can have no expectation that traffic is private. If I want it to stay private, I better ensure that myself - whether for payload or packet header”. One respondent was concerned about “Increasing power of law enforcement. New laws allowing for the mapping of IP address to physical addresses without the need of a warrant”.

7) *People are too “Careless”, people should “Be Careful”*- A Policy Analyst said that “People are too careless about it, putting in passwords on free Wi-Fi connections”. A Privacy and Information Access professional stated that “I have significant concerns about privacy and email traffic. Therefore, I am careful in what I say in email”.

8) *Privacy is a Losing Battle* – According to a Database Programmer/ IT Manager “I have a feeling it is a losing battle, unfortunately. People in 100 years will find it quaint that there ever was an ‘expectation of privacy’”.

9) *Hope and Desire Privacy* – One respondent wrote “I don't expect privacy, but I do hope it is possible! (I use encrypted channels as necessary). My concerns are primarily social, with a bit of government data (e.g. health information). I worry about the slow accretion of personal info that may not be overly sensitive on its own, but is simply no one's business - such as current location, photos, etc. that I might not want online. It makes a sort of informal (but very complete) dossier on my daily activities. So much info is now online, archived & searchable. It makes me nervous.” Another respondent explained that “Privacy expectation is not the same as privacy desire. I would love it if I trusted my ISP not to sell/analyze my traffic patterns & DNS [domain name service] lookups, but profit seems to come first in USA.” A respondent stated that “There is no privacy. I am in a big crowd. I hope no one notices me”. Another said that they “Wish my answers could have been *very private to all of the above*” with respect to their expectation of privacy of their network traffic at home, at work and at public hotspots.

10) *Privacy concerns are ubiquitous* - A Canadian Coordinator, FOI (Freedom of Information) and Privacy said they have “lots” of concerns about network traffic privacy. A Canadian Coordinator, Security and Compliance used the word “all” to describe their concerns. An IT Professional is concerned about, “Everything in relation to privacy”. They “always hope that network access is private but know in reality it is probably not”. Another participant’s concern was that “Every piece of your information could be revealed to the public”.

### Demographics

Demographic information of the sample is provided in Table III. The sample was comprised of 38 percent females and 58 percent males and 4% did not identify their gender.

**Table III. Sample Demographic Information**

<i>Description</i>	<i>Percent (%)</i>
Male / Female / Unspecified	58 / 38 / 4
<b><i>Born before:</i></b> 1950 / 60 / 70 / 80 / 90 / 2000 / Unspecified	2 / 19 / 28 / 28 / 21 / 1 / 2
<b><i>Level of education</i></b>	
No College or University	4
Some College or University	19
Undergraduate Degree(s)	31
Graduate Degree(s)	42
Did not indicate education	4
<b><i>Country of origin:</i></b> Canada / U.S. / China / Other	71 / 13 / 2 / 14
<i>Other:</i> Australia, Bangladesh, Czech Rep., Denmark, England, France, Germany, Haiti, Holland, Hong Kong, India, Iran, Italy, Kenya, Netherlands, Nigeria, Pakistan, Romania, Russia, Slovenia, South Africa, Spain, Trinidad & Tobago, Vietnam	

## V. Conclusion

The results to date of this study did not match the authors' beliefs of what the user's expectation of privacy would be in the various locations prior to the collection of the data. Anyone who is concerned with how the privacy of data may be impacted by user behaviour must consider what the users' expectations are in the settings where they send, receive and process private data. A worker who believes that they can expect privacy of network data in a public hotspot, as is the case with 28% of the respondents to this survey, may not consider themselves careless or negligent when accessing private data from these locations. The employee's belief of what is true regarding their environment must be taken into account when assessing behavior and performance around protecting the privacy of personal information. Similarly, employees who expect a significant level of privacy in data communication at work may be surprised at the amount of information that an employer may actually be able to see. If that employee is a privacy officer of the company, then their oversight or regulatory actions with regard to operations within the company may be negatively impacted by erroneous expectations or beliefs. For example, if a privacy officer is unaware that a network technician regularly collects and stores network traffic, which may contain private data, for security purposes then there is little opportunity for that privacy officer to review those data collection and storage procedures or to assess the level of training required by the technician.

In general, upon viewing the data, one gets the impression that there is a lack of awareness regarding the visibility and handling of network traffic. One of the strengths of this research is that many of the respondents to this study are experts in the fields of privacy, information technology and security. As a result, one would expect that awareness would be higher within the sample than within the general population. While we have no data to support this proposition, its possibility and the resultant lack of awareness that it would imply is troubling. A study of a wider cross section of education levels could be an area for future research so the results are more representative of a diverse population.

Real world data has been collected studying privacy expectations and privacy concerns in naturalistic settings. The main contributions of this paper are to establish the expectations of privacy of network traffic in the home, at work and in public hotspots and also to bring attention to the current privacy concerns of individuals in the information society; thereby providing a foundation for future privacy and security awareness activities including research and training.

With the proliferation of technology in the information society in which we live it is now easier than ever to access, collect, store and distribute personal information. Technology in workplaces has created a new domain and with this new domain there are new problems and concerns related to the privacy of information. We live in an environment with surveillance, e-mail, smart phones, ubiquitous wireless access and social networking. The privacy challenges we face today are more complex. Only one incident involving a breach of customer privacy and security could have a "significant detrimental financial impact on your business" (Herold, 2005, p. 98) and could negatively impact the lives of the individuals involved.

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## STUDENTS' SCHOOL RELATED READING PRACTICES: CONFIRMING WHAT WE ALL SUSPECT

Too many students aren't reading the required material for class. They aren't reading anything else either. This study describes the reading practices of students in a business administration program in relation to both course assigned reading and leisure reading.

We've discussed it around the water cooler. Students aren't reading the assigned material for class. Sometimes we come to this conclusion precipitously – seeing the blank stares on their fresh young faces as we lecture on a particular topic – other times its through outright admissions – like they are bragging, “I never read the text book.” I don't know about you, but it frustrates the hell out of me! As part of a Business Research class, a 4<sup>th</sup> year business student and I decided to find out just how much of their assigned course work students were reading. The results of the study are, at the same time, illuminating and predictable.

Literacy skills have become the currency of the knowledge-based economy. Part of the job of faculty members is to cultivate solid reading practices among students, firstly to support the development of core knowledge and understanding of functional business areas and secondly to instill in students the importance of reading to stay current and flexible in an increasingly competitive and tumultuous labor market. The courses we teach are (usually) developed to include readings of some sort, -- a textbook, journal articles, other supplementary reading, course notes, etc. These readings are intended to enhance students' learning. Yet do we really know if students are reading the material we assign?

So a Business Research student and I thought we'd ask them. We developed and distributed a short survey (we didn't want students to have to read too much in order to participate ;-)) asking students about their reading practices for both school and leisure. The survey was distributed both electronically and in person during class time and yielded 146 completed questionnaires. The results form the basis of this paper.

### Literature Review

Surely such an important topic as the reading practices of university students would be well documented in the academic literature. Right? The discourse on reading, or “literacy”, as it relates to the university experience is plentiful and diverse. Broad literature categories include academic discipline specific content, pedagogical practice, and specific student segments. Studies that examined the reading practices of a much broader swath of the population, and that may have reported results in such a manner as to segregate youth or post-secondary-aged students, also exist. In the following section, some of the key findings from these sources as related to this paper topic will be discussed.

In 2009, Graham reported that in excess of 35% of students enrolled in first year courses at a particular university had reading comprehension skills that fell below the grade nine level. A significant portion, over 12%, had reading comprehension skill levels at the elementary grade

level. Roughly half of the participants in Graham's study had reading skill levels at the grade 12 level or higher, which is presumably the skill level needed to be successful in a post-secondary education program --- otherwise why do post-secondary education institutions require a passing grade (or higher) in grade 12 English as an admission criterion? On another somber note, each of these students -- including the ones reading at the grade 3 and 4 levels --- had grades coming out of high school that met the entrance requirement for the university (Graham, 2009).

In general, the reading skills of the general population of Canadians are troubling. While the majority of Canadian read at a functional level deemed (by the OECD) to be sufficient to enable those individuals to participate in a knowledge-based society, there remains a whopping 30% (or so) of adult Canadians who, because of inadequate literacy skills, risk being marginalized both socially and economically (Brink, 2006). The results of the IALS, an international adult literacy study in which Canada participated along with a dozen or more other countries, are even more discouraging for Atlantic Canadians. The four Atlantic provinces occupied the bottom of the heap in relation to the other Canadian provinces on almost all dimensions of literacy measured in the IALS. Results were also available by education level, and while individuals with some post-secondary education fared better than those without, the difference was nothing to brag about. The results for the youth demographic too were disheartening. While individuals aged 15 -- 29 years performed above other age segments in most measures of literacy, the difference wasn't substantial and disappeared the further the individual moved away from the formal education system (Brink, 2006).

In *To Read or Not to Read: A Question of National Consequence*, an American study that examined the reading practices of adults in 2006, the authors concluded that youth -- in fact, all adult Americans -- are reading less, regardless of medium. Individuals aged 15 -- 24 spent on average seven minutes a day reading during the week and 10 minutes a day reading on the weekends. Even when reading occurred amongst this age group, researchers noted reading was often done simultaneously with other non-reading activities such as listening to music, watching TV, and surfing the internet. As further evidence of the decline in reading, data from the American study showed that families were spending less on book and other reading material (newspapers and magazines) than at any other time in the previous two decades, although this data must be tempered with the possibility that consumers have simply replaced paper versions of their favorite reading material with electronic or digital versions. Other key findings from the American study included: the average reading proficiency has been on a downward trend since 1992; little more than one third of high school seniors demonstrated proficient reading skills; the reading skills of males are declining more rapidly than for females; and the reading proficiency of adults across all education levels is declining. Although a similar study for Canadians does not exist and Canadians tend to perform significantly better than their American neighbors with respect to literacy skills, the overall trends in the data in terms of the downward direction of proficiency is consistent with observances in smaller Canadian studies.

College/university attendance no longer ensured active reading habits and although reading levels and comprehension were closely associated with education level, the percentage of university graduates who read literature declined over the last 20 years. By the time students became seniors in college, one in three students read nothing for pleasure in a given week (National Endowment For the Arts, 2007). Timbs (1993) conducted research with his own classes in 1993 to assess their reading habits and although the research is 18 years old, it holds very common similarities with research conducted in the years since. Timbs' findings concerning the reading habits of college and university students included:

- The majority of college and university students read very little for pleasure, and often cited the reason as not having enough time. Non-readers or those who read minimally

were undercutting their education and often lacked the requisite base of general knowledge that helped them place their own writing in a meaningful context (Timbs Jr., 1993).

- During college and university years, other medium of choice became more popular among students since it offered them an escape from the “chore” of reading. Timbs’ survey also showed that students had so much reading to do from class assigned material that the last thing they wanted to do in their spare time was read for pleasure. Students who once identified reading in their spare time as enjoyable, considered it a studious chore during college and university (Timbs Jr., 1993).

When it came to the relationship between reading for pleasure and gender, females regularly read more than males at every age group studied (Gallik, 1999). The following points highlight the significant findings in gender differences from a study conducted by Burgess and Jones:

- Females were significantly more likely to have read a book or part of a book than males.
- Males were more likely to have read a section of a newspaper than females.
- Although females were more likely to study than males, no significant difference in the use of textbooks by gender was reported.
- Females reported not reading because were too tired or did not have enough time whereas males did not read because they found it boring or too much of a hassle.

Although college and university bound students reported spending more time reading than non-college bound students, the number of college and university bound students who reported reading nothing for pleasure had doubled since 1976 (Gallik, 1999). In addition, reports indicated that reading for pleasure declined as students made their way through college and university. In a 2004 study, it was found that 27% of incoming college freshman read for pleasure three or more hours per week. At the end of their first year in college, this number decreased to 15% (National Endowment For the Arts, 2007).

“Textbooks have been a key element in schooling for centuries, although their form has changed over time. They are the least expensive, most reliable means of transmitting knowledge and providing coherence to the curriculum” (Goodwin, 1996). Textbooks have been used to explore content relevant to class discussions and lectures, served as an alternative delivery vehicle for content, provided clarification for information delivered in lectures, and has been a source of examples, problems, discussion questions, and cases (Fitzpatrick & McConnell, 2009).

The use of textbooks in any educational institution has been widely accepted by educators and as such, professors of colleges and universities have the expectation that students read the assigned reading material. However, this is not the case as professors have frequently complained that students haven’t completed assigned readings, nor have they thought critically about the content (Goodwin, 1996). Many students surveyed revealed they read just enough to get by and often concluded that the majority of professors delivered the important information via lectures, therefore eliminating the need to complete reading outside of class (Goodwin, 1996).

Various reasons were been offered by researchers to explain why students weren’t reading their textbooks. The first reason offered by researchers was that traditional students lacked mature and efficient reading strategies for self-learning when compared to non-traditional students (Yonker, 2009). Yonker further indicated that only some traditional students were well prepared to read the amount of assigned reading, but the majority of students were ill-equipped or unwilling to read the required text (2009). Non-traditional students often read more of the assigned material. This was explained by the fact they had likely returned to school for intrinsic

and interest reasons which promoted reading that provided deep personal satisfaction, interest and learning (Yonker, 2009). Other explanations for limited textbook reading by researchers included: professors failed to link reading the textbook to assessment and students' non-compliance in terms of textbook reading when professors had linked reading to assessment (Yonker, 2009).

The approach students took when it came to textbook reading was a strong predictor of their academic success and research found that students who skimmed their textbook as opposed to those who employed a multi-faceted approach tended to read less (Yonker, 2009). Students who read their textbook intensely developed competence in the subject examined whereas students who read their textbooks superficially acquired the minimal required knowledge in a particular subject area (Fitzpatrick & McConnell, 2009).

Research found that reading the assigned material prior to a class or lecture was rarely done by students. When reviewing the data on when the assigned material was read by students, it was found that only 17% of students read the material prior to a class or lecture, 55% read the material after all lectures were complete on the subject, and 28% read the material concurrently with content discussions (Fitzpatrick & McConnell, 2009). Students in the top quartile were more likely to have read the material prior to classes and lectures whereas those in the lowest quartile were more likely to have read the material following classes and lectures (Fitzpatrick & McConnell, 2009).

Finally, the readability level of textbooks was reviewed and findings showed that the readability level of assigned material had a strong impact on students' desire to read required material as well as the correlation it had to academic success. In a study conducted by Spinks and Wells, textbooks were reviewed using the Gunning Fog Index to determine their level of readability. The following correlations became evident as a result of their study:

- A strong inverse relationship was found between course grade averages and readability levels in common body of knowledge courses. This indicated that the higher readability level of the textbook, the lower the grade average in those courses (Spinks & Wells, 1993).
- A moderate inverse relationship was found between the number of "A" grades and the readability levels in common body of knowledge courses. This indicated that the higher the readability level of the textbook, the fewer number of "A" grades earned by students (Spinks & Wells, 1993).
- A strong positive relationship was found between the number of student withdrawals and the readability levels of textbooks. This indicated the higher the readability level of the textbook used, the higher the number of student withdrawals from those courses (Spinks & Wells, 1993).

## Methodology

To fulfill the purposes of the study, determining the reading practices of university students in relation to their assigned course material, a short and simple survey was developed. The survey consisted of 16 questions, 14 of the questions included fixed responses and required respondents to check a box that corresponded with their answer. Two of the questions were open-ended, allowing students to provide, in their own words, a response. The survey was vetted with a small panel of students to help ensure clarity of language and inclusiveness of response options. A copy of the survey is provided in the Appendices.

For ease of access, and because I wanted the data about our own students, the population for the study was students in the Business Administration program at UPEI. The sample encompassed students enrolled in summer courses offered by the School of Business Administration as well as students who enrolled during the regular academic year in Marketing 341, Marketing 416, Marketing 481, and section C of Business 101. These courses were selected base purely on convenience and accessibility but represented required courses from all 4 years of the program and thus should reflect the overall study population. The total population of students in the Business Administration Program at UPEI is approximately 770, while the accessible target sample was approximately 425 students (Note: there may be some double counting of students in the target sample if, for example, the student was enrolled in more than one summer class.) The number of completed surveys was 146, for a response rate of 34.3% of the target sample.

The surveys were distributed using 2 distinct processes. First, a link to the electronic survey and an introductory letter was via Moodle, the online classroom website, to all students enrolled in Marketing 341, Marketing 416, Marketing 481, and section C of Business 101 during the 2010/2011 academic year. Students enrolled in the class then received an email message inviting them to participate in the study. Approximately 45% of survey responses came from this process. In addition, students who were enrolled in summer courses offered by the School of Business Administration were invited to participate in the study during class time. Faculty for these courses were approached and asked if they would be willing to allow students to hear about the study, be invited to participate in the study, and complete a paper version of the survey during the first few minutes of class. Four of seven faculty members agreed. Approximately 55% of survey responses came from this process. Once the paper surveys were completed, the results were entered into the electronic database by the researchers.

The data was analyzed to identify trends in the responses that would enable a better understanding of the course-based reading practices of participants. The data was also analyzed by gender to identify any gender-based patterns or anomalies. The results of the data analysis are next.

## Results

The first few questions on the survey asked participants basic demographic questions related gender, full- versus part-time status, program of study, and year of study. Responses to these first five questions help establish the representativeness of the sample in relation to the population. The first question on the survey asked participants to identify their gender. Of the 146 students in the study, 76 were male and 70 were female (52.1% male, 47.9% female). This roughly correlates with the gender profile of students in the Business Administration program where males students slightly out-number female students. The next survey question inquired about the full-time versus part-time status of the student. The number of full-time students who completed the survey was 119 (81.5) versus 27 (18.5%) who were part-time students, which again is reflective of the overall student population in the School of Business Administration. Although students were approached to participate in the study via business courses only, 16.4% (24) of respondents indicated their program of study was something other than business (ie. Arts, Science, or other). Finally, students were asked to indicate which year of study they were in (or entering in September). First year students represented 1.4% (2) of respondents, second year students were 16.4% (24), third year students were 26.7% (39), fourth year students were 35.6% (52), fifth year students were 5.5% (8), and 8.2% (12) of respondents indicated they had graduated. Nine respondents (6.2%) indicated their year of study was "Other".

In the survey, students were asked about the frequency with which they read for school. Specifically, the survey question stated, “During the regular semester/term, how often do you read for school?” Possible responses to this question were daily, 2 – 3 times per week, 2 – 3 times per month, rarely, and never. The most popular response amongst participants was “2 – 3 times per week”, garnering 64 (43.8%) of responses, followed by “daily” which captured 56 (38.4%) of responses. Those students responding that they “rarely” or “never” read for school numbered 14 (9.6%) and 1 (0.7%) respectively.

When the responses to this question were segregated by gender the results become increasingly interesting. Females were more likely to read daily than their male classmates, 48.6% versus 28.9%. Roughly an equal proportion of male to female students reported reading 2 – 3 times per week, 44.7% versus 42.9%. Those students who reported that they rarely read for school included mostly male students, 13 versus 1 female student. Please see Table 1 for a summary of the results for this survey question.

Table 1: During the regular semester/term, how often to you read for school?

Responses	Total Sample (146)		Male (76)		Female (70)	
	#	%	#	%	#	%
Daily	56	38.4	22	28.9	34	48.6
2 – 3 times per week	64	43.8	34	44.7	30	42.9
2 – 3 times per month	11	7.5	6	7.9	5	7.1
Rarely	14	9.6	13	17.1	1	1.4
Never	1	0.7	1	1.3	0	0

Students were asked to identify what types of material they read for school. Survey question 7 asked, “When reading for school, what type of reading material to you more often read?” The list of possible responses students could chose from included textbook, other books, newspaper, journal/magazine article, notes or instructor’s material, website, other, and not applicable. Overwhelmingly, the most common response from students was “textbook”, with 123 (84.2%) respondents choosing this option. “Notes or instructor’s material” was the choice of 15 students (10.3%), while a smattering of students selected the other options. Shockingly, only one student reported reading the newspaper, four reported reading websites, and no students indicated reading journal or magazine articles. Gender differences emerged as 90% of female respondents selected textbook as their most read type of reading material, compared to 78.9% of male students. Please see Table 2 for a summary of the results for this survey question.

Table 2: “When reading for school, what type of reading material do you most often read?”

Responses	Total Sample (146)		Male (76)		Female (70)	
	#	%	#	%	#	%
Textbook	123	84.2	60	78.9	63	90.0
Other books	1	0.7	1	1.3	0	0
Newspaper	1	0.7	1	1.3	0	0
Journal/Magazine Articles	0	0	0	0	0	0
Notes or Instructor’s Material	15	10.3	8	10.5	7	10.0
Websites	4	2.7	4	5.3	0	0
Other	0	0	0	0	0	0
Not applicable	2	1.4	2	2.6	0	0

To gauge how much of the required/suggested reading that students complete, respondents were asked to indicate their level of compliance with the assigned reading. Survey question nine asked, “Which of the following statements best represents what you do when assigned to read something for school?” The range of possible responses included read all, read most, read some, read very little, or read none of the assigned material. The most common answer among participants was “I read most of the material assigned,” which received 67 (45.9%) responses. Thirty-two (21.9%) students indicated that they read all of the assigned material. Thirteen students said that they read very little or none of the assigned material 11 (7.5%) and 2 (1.4%) respectively. Differences emerged in the responses by gender. Thirty percent of female students indicated they read all of the assigned material, while on 14.5% of male said the same. In contrast, 31.6% of male students responded they read some of the assigned material, versus 14.3% of female students. Table 3 summarizes the results of survey question nine.

Table 3: “Which of the following statements best represents what you do when assigned to read something for school?”

Responses	Total Sample (146)		Male (76)		Female (70)	
	#	%	#	%	#	%
Read All	32	21.9	11	14.5	21	30.0
Read Most	67	45.9	33	43.4	34	48.6
Read Some	34	23.3	24	31.6	10	14.3
Read Very Little	11	7.5	6	7.9	5	7.1
Read None	2	1.4	2	2.6	0	0

To assess the relative importance that students place on reading with respect to their careers, survey participants were asked to indicate how important reading was to career success. The survey question asked, “In your opinion, how important is reading on a regular basis with respect to career success?” The possible responses incorporated a Likert-scale with options that included very important, somewhat important, neither important nor unimportant, somewhat unimportant, and unimportant. Over half of participants (79 or 54.1%) indicated that in their opinion, reading was “very important” to career success. Another 40.4% (59) indicated that reading was “somewhat important” to career success. The results differed by gender. Sixty-four percent (64.3%) of female respondents indicated that reading was “very important” to career success, compared to 44.7% of male respondents, while 47.4% of males said reading was “somewhat important” to career success versus 32.9% of females. Please see Table 4 for a summary of the results from this survey question.

Table 4: “In your opinion, how important is reading on a regular basis with respect to career success?”

Responses	Total Sample (146)		Male (76)		Female (70)	
	#	%	#	%	#	%
Very Important	79	54.1	34	44.7	45	64.3
Somewhat Important	59	40.4	36	47.4	23	32.9
Neither Important nor Unimportant	7	4.8	5	6.6	2	2.9
Somewhat Unimportant	1	0.7	1	1.3	0	0
Unimportant	0	0	0	0	0	0

To further gauge the role reading plays in the lives of students, survey participants were asked about their habits in relation to pleasure reading. The first survey question related to pleasure reading stated, “How often do you read for pleasure?” Possible responses included daily, 2 – 3 times per week, 2 – 3 times per month, rarely, and never. The most frequent responses from participants was “2 – 3 times per week” which was the answer choice of 44 (30.1%) participants. The second most common response was “rarely,” with 36 (24.7%) of participants choosing this response. Eleven participants (7.5%) indicated that they “never” read for pleasure. Differences emerged in relation to gender. More females than males, 27.1% versus 19.7%, indicated that they read for pleasure daily. Please see Table 5 for a detailed summary of participants’ responses to this survey question.

Table 5: “How often do you read for pleasure?”

Responses	Total Sample (146)		Male (76)		Female (70)	
	#	%	#	%	#	%
Daily	34	23.2	15	19.7	19	27.1
2 – 3 times per week	44	30.1	24	31.6	20	28.6
2 – 3 times per month	21	14.4	7	9.2	14	20.0
Rarely	36	24.7	23	30.3	13	18.6
Never	11	7.5	7	9.2	4	5.7

Participants were asked via the survey which type of reading material they most often read for pleasure. The survey question read, “With respect to reading for pleasure, what kind of material do you mostly read?” Possible responses included books, magazines, newspapers, online material, and other. Seventy-one (49.0%) of respondents indicated that they mostly read books, while 33 (22.8%) mostly read online material. Twenty-three (15.9%) read the newspaper most frequently, and 15 (10.3%) read magazines. Again, gender seemed to impact participants’ choice of reading material. Forty-four (62.9%) of females selected books as the reading material they read for pleasure, while only 27 (36.0%) said the same. In contrast, 25 male respondents (33.3%) chose online material as their most commonly read material versus 8 (11.4%) of female participants. Please see Table 6 for a summary of the responses to this survey question.

Table 6: “With respect to reading for pleasure, what kind of material do you mostly read?”

Responses	Total Sample (146)		Male (76)		Female (70)	
	#	%	#	%	#	%
Books	71	49.0	27	36.0	44	62.9
Magazines	15	10.3	6	8.0	9	12.9
Newspapers	23	15.9	14	18.7	9	12.9
Online Material	33	22.8	25	33.3	8	11.4
Other	3	2.1	3	4.0	4	0

Continuing along this vein, participants were asked about the number of books they have read in the previous year. The survey question asked, “With respect to reading for pleasure, approximately how many books have you read in the past 12 months?” The possible options were 0, 1 – 3, 4 – 7, 8 – 10, or 10+. Thirty-four participants (23.3%) indicated they read no books in the previous 12 months. A further 52 (35.6%) stated they read 1 – 3 books in the previous 12 months, whereas 18 (12.3%) replied that they had read 10+ books in the past 12 months. By gender the results were more polarized, 32.9% of males versus 12.9% of females stated that they read zero books in the past 12 months. Males also were more likely to select 1 – 3 books as their

response (38.2% versus 32.9%) than females. For options 4 – 7, 8 – 10, and 10+, females outnumbered males. Please see Table 7 for details on the responses to this survey question.

Table 7: “With respect to reading for pleasure, what kind of material do you mostly read?”

Response	Total Sample (146)		Male (76)		Female (70)	
	#	%	#	%	#	%
0	34	23.3	25	32.9	9	12.9
1 – 3	53	35.6	29	38.2	23	32.9
4 – 7	33	22.6	13	17.1	20	28.6
8 – 10	9	6.2	3	3.9	6	8.6
10 +	18	12.3	6	7.9	12	17.1

To get a better sense of students preferences in printed versus electronic material, the survey included a question that stated, “When reading for pleasure, do you read mostly printed material or electronic material?” Sixty-two participants (43.4%) indicated they read mostly printed material compared to 45 (31.5) who said they read mostly electronic material. Thirty-six indicated they read both printed and electronic material. Discrepancies by gender emerged. While 55.7% of females read mostly printed material, 31.5% of males said the same. In contrast, 49.3% of males indicated they most read electronic material versus 12.9% of females. Please see Table 8 for a summary of responses to this survey question.

Table 8: “When reading for pleasure, do you read mostly printed material or electronic material?”

Responses	Total Sample (146)		Male (76)		Female (70)	
	#	%	#	%	#	%
I read mostly printed material.	62	43.4	23	31.5	39	55.7
I read mostly electronic material.	45	31.5	36	49.3	9	12.9
I read both printed and electronic material.	36	25.2	14	19.2	22	31.4

Note: Three participants elected not to answer this question.

### Conclusions

So (I say with an air of dejection), now that we know a significant portion of students are not reading the material assigned to them, what do we, can we, or should we do? First of all, we need to decide if this is really a problem. After all, 68% of students are reading all or most of the material assigned to them. The following section will offer some conclusions stemming from the study results and suggest some implications to the study findings.

After reviewing the study findings, this is what we know.

1. Too many students (perhaps upwards of 32%) are potentially not getting the most out of their classes because they are not reading a significant portion of the assigned reading material.
2. The potential impact of not reading a significant portion of the assigned reading material is unclear in terms of course outcomes (grades and learning).
3. Aside from the textbook, students are not reading additional material for their courses.

4. Male students are reading less than their female classmates, both for school and for pleasure.
5. The reading habits of students with respect to schoolwork seem to apply to their leisure activities too. Actually, students seem to read more for school than for pleasure.
6. A significant number of students elect to read for pleasure via an electronic medium. This is even truer of male students than female students.
7. Students appear to agree that reading is important for career success.

As a faculty member, genuinely concerned with the growth and development of my students, the findings of the study are troubling. What can we do? Truthfully, I am at a loss. I would like to say things like chose more relevant and accessible readings, integrate the readings into the course material, avoid giving students all the required material in class lectures, test students on the readings, etc. But I believe we are doing many of the right things already and “forcing” someone to do something they don’t want to do is not a part of my pedagogical style.

As I prepare for the up-coming academic year by developing the course outline, including the course reading list, this is the best that I have come up with. I am going to talk to them (students) about how important it is to read. That’s it. Oh, I will do all the other things too, like limit my lectures to ensure I am not spoon-feeding them the material and writing exam questions that not only probe deeper into their cognitive thinking skills but also require them to have read (and reflected upon) the course literature. I am not delusional. This alone isn’t going to solve the problem. But if a few more students read just a little bit more, well then, that’s better than nothing.

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## Appendix A: Study Survey

### 1. What is your gender?

- Male
- Female

### 2. In which province do you attend post-secondary education?

- |                           |                          |                             |
|---------------------------|--------------------------|-----------------------------|
| <input type="radio"/> PEI | <input type="radio"/> PQ | <input type="radio"/> AB    |
| <input type="radio"/> NB  | <input type="radio"/> ON | <input type="radio"/> BC    |
| <input type="radio"/> NS  | <input type="radio"/> MB | <input type="radio"/> Other |

- NF                       SK

**3. During the regular semester/term, are you a full-time or part-time student?**

- Full-time student  
 Part-time student

**4. In what program area are you studying?**

- Arts  
 Business Administration  
 Education  
 Science  
 Other

**5. What year of study are you currently in (if it's the summer, what year of study will you be in in September)?**

- 1<sup>st</sup>  
 2<sup>nd</sup>  
 3<sup>rd</sup>  
 4<sup>th</sup>  
 5<sup>th</sup>  
 Graduated  
 Other

**6. During the regular semester/term, how often do you read for school?**

- Daily  
 2-3 times per week  
 2-3 times per month  
 Rarely  
 Never

**7. When reading for school, what type of reading material do you most often read?**

- Text book  
 Other books  
 Newspaper  
 Journal/magazine article  
 Notes or instructor's material  
 Websites  
 Other  
 Not applicable

**8. With respect to reading for school, how would you rate yourself as a reader?**

- I am a very good reader.  
 I am a good reader.  
 I am an average reader.  
 I am a poor reader.  
 I am a very poor reader.

**9. Which of the following statements best represents what you do when assigned to read something for school?**

- I read all the material assigned.
- I read most of the material assigned.
- I read some of the material assigned.
- I read very little of the material assigned.
- I wouldn't read the material assigned.

**10. For those who responded that they don't read the material assigned for class, could you briefly explain why you don't read the material?**

**11. In your opinion, how important is reading on a regular basis with respect to career success?**

- Very important
- Somewhat important
- Neither important nor unimportant
- Somewhat unimportant
- Unimportant

**12. How often do you read for pleasure?**

- Daily
- 2-3 times a week
- 2-3 times a month
- Rarely
- Never

**13. With respect to reading for pleasure, what kind of material do you mostly read?**

- Books
- Magazines
- Newspapers
- Online material
- Other

**14. With respect to reading for pleasure, approximately how many books have you read in the past 12 months?**

- 0
- 1 - 3
- 4 - 7
- 8 - 10
- 10 +

**15. What is the name of the last book you read?**

**16. When reading for pleasure, do you read mostly printed material or electronic material?**

- I read mostly printed material.
- I read mostly electronic material.
- I read both printed and electronic material.



# ASB Conference 2011 Proceedings

## *Marketing Stream*

University of PEI

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## **Trading Paint: The Transfer of Brand Meaning in NASCAR Racing**

### **Abstract**

The paper reports upon a series of depth interviews conducted with members of the NASCAR culture of consumption. It was found that fans are committed to the drivers they support and that drivers have the ability to influence fans perceptions of the brands. This has the potential to illuminate our understanding of customer commitment in consumer-brand relationships.

### **Introduction**

“Excuse me, I’m looking for a patch for a hole in some drywall”, I said to a guy with a Home Depot logo on his back as I was wandering through a local Home Depot, “Sorry Bud. I don’t work here”, was his reply. It was then that I realized that he was not an employee and that he was wearing a jacket adorned with the store logo. It turned out that he was a fan of Tony Stewart, a NASCAR driver who drove a race car sponsored by the Home Depot. This was an odd start to a project on brand loyalty.

NASCAR is one of the most popular spectator sports and broadcasted sports in North America and attendance at races can regularly top 100,000, depending on the venue (Wright, 2002). NASCAR started as a series of disorganized racing events in the 1950’s and early 1960’s. One particular entrepreneur, Bill France, saw the opportunity to build the sport of car racing and today it is the only major sports “league” that exists as a privately held business (Wright, 2002). For other major sports, the presence of corporate and business partners is a relatively recent occurrence; NASCAR has had sponsors and partners since its early days (Wright, 2002). The entire racing series (or league) has a sponsor, individual races have sponsors and drivers have a wide assortment of major and minor sponsors and even some racing tracks may have sponsors (Wright, 2002). At races, marketing has a ubiquitous presence (Newman, 2007). NASCAR races would be an obvious venue for the marketing of automotive brands and related products (gasoline, motor oil, auto parts) and historically products in these categories have been closely associated with NASCAR (Wright, 2002). In the last 20 years, NASCAR has moved beyond sponsors that are interested in reaching those people who are highly involved with cars. Today,

leading driver sponsors include major firms and brands from all sectors of the economy; alcoholic beverages (Budweiser, Jack Daniels, Crown Royal), Consumer Services (Subway); Courier Services (Fed Ex, UPS), Retail (Home Depot, Lowe's; Target; Best Buy), Consumer Products (Kellogg's, M&Ms, Red Bull, Amp Energy Drinks), Financial Services (Aflac; GEICO; BB&T) and Government Services (US Army, National Guard). Even presidential candidate Ron Paul sponsored a car for a few races during primary season in early 2008. Obviously, the major automotive brands (Chevrolet, Ford, Dodge and in recent years, Toyota) are also given positions of prominence at NASCAR races because cars of these brands are driven in races. The price of sponsoring a "car" varies according to the quality of the driver and team, but can approach \$20 million per year. Financial markets also react positively to major NASCAR sponsorship announcements (Pruitt et.al, 2004).

At a superficial level, it would be easy to conclude that brand sponsorship has an impact on the customer because the branded race cars are little more than billboards on wheels (Wright, 2002). A deeper analysis suggests that something happens at another level. What processes would explain why an individual fan of a driver would be so devoted that he would proudly wear the sponsor's brand, literally on his sleeve and shop at the sponsor's retail store?

### **How Sponsorship Works**

Sponsorship is like most other forms of marketing communication in that the ultimate purpose of the sponsorship activity is to achieve the marketing objectives of the sponsor (Cornwell, 2008). Conventionally, marketers hope that the act of sponsorship will raise awareness of the focal firm or brand among a target market that is relevant (from a target marketing perspective) to the sponsor. In other words, one of the marketing purposes of sponsorship is to "get noticed" (Cornwell, 2008). Automobile racing facilitates getting noticed (either by fans in attendance or television viewers) because of the large exposure frequency in that the advertisement gets noticed every time the car is seen. Exposure frequency matters in terms of its effects on a large number of consumer variables associated with recall and persuasion.

Yet sponsorship differs from other forms of marketing communication in that it is significantly designed to make an impact on the consumer by associating the company or brand with something (the object of the sponsorship) that the consumer cares about. The development of thoughts (or cognitions) about the sponsor is an important consequence of sponsorship activity (Speed and Thompson, 2000). This process serves as an avenue to the development of brand attitudes, which are also a key marketing goal of sponsorship activity (Cornwell, 2008).

In addition, taking a relationship marketing perspective on sponsorship, it is possible that of sponsorship serves as a relationship maintaining bond between the consumer and the sponsor. The roots of a strong relationship lie in trust and customer commitment (Bansal, Irving and Taylor, 2004). These are complex constructs, but two particular elements of customer

commitment may come into play in forming a bond between the customer and the sponsor. First, one particular aspect of customer commitment are social norms (normative commitment) and it is formed when the customer feels bound to reciprocate a good deed (Bansal, Irving and Taylor, 2004). Thus, when an organization supports something that is important to the customer, the customer may feel obligated to support the sponsor through continued (or new) sponsorship. Secondly, affective commitment arises when the customer develops an affective attachment (or an existing attachment is enhanced) to the company or brand. This might be derivative of effective sponsorship activity.

### **How Celebrity Endorsement Works**

Sports writers and talk-show hosts regularly debate the extent to which race-car drivers are “athletes” and automobile racing is a “sport”. Regardless, automobile racing has a large number of fans and the drivers can definitely be classified as celebrities among the fan community (Bodkin et.al, 2009). Thus, among the fans of automobile racing, the drivers have significant power as celebrity endorsers. To the extent that certain race-car drivers are well known among the general public, they may have value as celebrity endorsers among non-fans of automobile racing (Donahay and Rosenberger, 2007), but this paper is primarily concerned with the effect of the endorser among fans of the “sport”.

Celebrity endorsement works at a number of levels when it is effective. In most instances, sports celebrities are endowed with skills and expertise that would make them credible endorsers for products and services tightly related to their area of expertise (Speed and Thompson, 2000; Vincent et.al, 2009 ). In other situations, celebrities have other endowments (ubiquity, likeability, perceived personality, attractiveness) that add to their effectiveness for products and services that may lie well beyond their sphere of expertise (Vincent et.al, 2009). Any attribute or combination of endorser attributes can be used by marketers to make an impact on a relevant marketing outcome; awareness, attribute salience, attitude, among others (Speed and Thompson, 2000).

Celebrities are also endowed with cultural capital that can be brought to bear in marketing programs (McCracken, 1989). For example, actors have a body of professional work that forms a stereotype in the minds of the consumer (McCracken, 1989). In essence, they become typecast and while this state may not be good for their acting careers, it adds to their value as endorsers for firms and brands. McCracken (1989) argues that cultural capital comes into play as the cultural meaning inherent in the endorser’s typecast moves from the endorser to the object being endorsed.

A similar process exists for celebrities who are famous as a result of their sporting or athletic prowess (Speed and Thompson, 2000). While they do not have a body of work that forms the basis for a typecast, the way they carry themselves as competitors in their sport gives them a reputation that is a form of cultural capital. For example, prior to the discovery of his recent

marital infidelities, Tiger Woods had established a reputation for discipline, toughness and single minded pursuit of objectives that of endowed him with cultural capital that was relevant to a host of non-golf related firms and brands.

NASCAR drivers are endowed with various types of cultural capital. The stereotype is that race car drivers are aggressive risk takers, given the nature of the sport (Wright, 2002). Furthermore, the stereotype suggests that they appeal to a southern, traditional, male-dominated, “red-neck” culture (Newman, 2007) and that the drivers themselves would fit within this caricature (Wright, 2002). In actuality there is considerable diversity in the personalities of the drivers, at least in terms of how it is reflected in their public personas (Wright, 2002). Some drivers, particularly those who speak with “southern accents” may indeed fit the expected southern “good ol’ boy” caricature (Dale Earnhardt Jr.) but others (Jeff Gordon) have been described as having a personality type that is not so narrow and attracts different fans (Amato et.al, 2005). The goal of the sponsor is to make the best use of the driver’s cultural capital endowment so that the sponsorship of the driver can attain marketing goals. Obviously, getting noticed by pairing the driver with brand is one marketing objective that could be achieved. It is also possible that the image of the driver can be transferred to the brand as described by McCracken (1989). This implies that there is a process at play where the personality of the driver “rubs off” on the personality of the brand.

### **Brand Personality**

Brand personality is defined as “...the set of human characteristics associated with the brand” (Aaker, 1997, p. 347). Brand personality can serve as a mechanism of both brand identification and brand differentiation (Aaker, 1997). Significantly brand personality is an artefact of the totality of a firm’s marketing efforts for the brand, which may include the act of placing the brand in a cultural context so that the personality becomes apparent (Borghini et.al, 2009). For example, Coca Cola is often referenced as an “all-American” brand that is intertwined with national culture, even though it is now a global brand (Hollenbeck, Peters and Zinkhan, 2008).

Brand personality (like human personality) is a reified but enduring construct, which consists of five distinct dimensions; sincerity, excitement, competence, sophistication, ruggedness (Aaker, 1997). These brand personality traits are a large part of symbolic consumption. Consumers seek to create or augment their own personality traits via the consumption of brands that contain the desired personality attributes (Aaker, 1999). Consumer self is a malleable construct that exists along a number of dimensions; the real self, the desired self, the idealized self and the normative self (Aaker, 1999). The implication is that the consumption of brands is connected to the life experiences of the consumer.

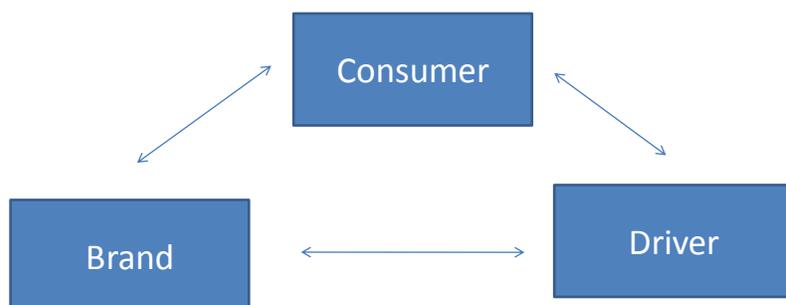
## **Fandom**

Consumers can be fans of teams, individual celebrities, entertainment products (Kozinets, 2001) and brands, among other objects (Schouten and McAlexander, 1995). Some have used the term “sub-culture of consumption” to describe the process where consumers self selectively attach and become committed to a brand related object or activity (Schouten and McAlexander, 1995; Kozinets, 2001). One has to recognize that there is a basic difference between sports spectating and fandom (Jones, 1997) in that fandom involves much higher levels of attachment, identification and commitment (Dionisio et.al, 2008). The result is that there is a shared identity, whether the community exists as fans of an entertainment product like Star-Trek (Kozinets, 2001) or a sports-entertainment product like the Green-Bay Packers (Sheldon, 1998). Within NASCAR, the committed fandom can exist towards either individual drivers, or the entire “sport” or form of entertainment (Amato et.al, 2005). As NASCAR fans, they are often highly committed to the drivers they support (Bodkin et.al. 2009).

## **Trading Paint**

Fans are attracted to car racing in part because of the excitement and the prospect for danger (Wright, 2002). Some fans look forward to accidents that result from either a driver mistake or a clash of aggressive driving (Wright, 2002). A typical car race involves many instances of aggressive driving; drivers bumping others from behind (bumping), drivers following each other closely (drafting), three or more cars attempting to pass concurrently (three-wide) and occasionally rubbing against each other as they attempt to pass (trading paint) (Wright, 2002). Trading paint is part of the NASCAR driver culture. Trading paint is also an appropriate model to describe the process of image movement among three central actors in a marketing context. Brand, driver and fan exist as three distinct parties in NASCAR sponsorship, see figure 1. The fan, or consumer, is obviously the central target of influence.

Figure 1.  
Trading Paint-Movement of Meaning



McCracken's (1989) work adequately describes the movement of imagery and cultural value from the endorser (driver) to the brand. In essence, the value inherent in the endorser "rubs off" on the brand. It must also be recognized that celebrities frequently become their own brands and this may facilitate the movement of value from celebrity to endorsed brand, so long as there is a fit between the celebrity brand and the endorsed brand (Vincent et.al, 2009).

The celebrity endorsement process also assumes that the celebrity has value that is attractive to the consumer (Vincent et.al, 2009). At a basic level, fans like the celebrity, demonstrating the potential for simple affect transfer. This being said, "liking" may result from the totality of the sports celebrity's attributes, not simply those affiliated with sporting prowess (Koenig and Boyd, 2009).

Fans also come to identify with the celebrity endorser over time (McCracken, 1989). This is particularly in the case of knowledgeable and committed fans of NASCAR drivers (Bodkin, Amato and Peters, 2009). Perceptions of shared values are central to the development of a committed relationship (Fournier, 1998) and this particularly the case for fans and their commitment to a driver (Bodkin, Amato and Peters, 2009).

But to the extent that fans exist as a community, they partially define the cultural capital endowment of the object of their fandom (Kozinets, 2001). Thus, the value of the sports consumption context is a bit of a two-way street where cultural value is negotiated between the fans and the object. Sheldon's (1998) study of Green Bay Packer fandom illustrates the fact that

the fans are not empty vessels to be filled by the marketing efforts of the team. Their characteristics significantly define the cultural value inherent in the “Packer” brand but at the same time derive value from their consumption of the brand (Sheldon, 1998). Wright’s (2002) ethnography of NASCAR fandom demonstrates the same process in car-racing.

The brand personality literature demonstrates that consumers acquire brands because of perceptions about the fit of the personality of the brand with one or more aspects of their self-concept (Aaker, 1999). Broadly speaking, consumer possessions are expressions of their self-concepts (Aaker, 1999), thus brand acquisition and consumption is similarly related to self-concept. This process, in part, explains how consumers become affectively committed to brands (Fullerton, 2005). While commitment in relationship marketing is a complex construct with multiple components (Bansal, Irving and Taylor, 2004), it is the affective component that is most central in any discussion of brand personality (Fournier, 1998).

### **Methodology**

This study employed a very basic unstructured, phenomenological interview, similar to those employed by Fournier (1998). Approximately 12 informants were interviewed in an unstructured process. Discussions generally lasted between 15 and 25 minutes. Participants were selected through a convenience sample. Interviews were not audio-taped or video-taped but written notes were taken both during and post-interview. This type of method can be used as exploratory research, or as an end methodology to gain a deep understanding of the phenomena in question (Fournier, 1998). To the extent that consumers often have relationships with the brands they consume, such a methodology may uncover the deep ties that lie at the heart of the consumer-brand relationship (Fournier, 1998). At the same time, consumers (fans) clearly have relationships with the sports celebrities (teams) that lie at the object of their fandom and that these meanings can be uncovered with phenomenological methods (Kozinets, 2001).

### **Findings**

Although researchers often assume that consumers are willingly persuadable by communications efforts, consumers know that they are the targets of influence tactics. Consumers are increasingly cognizant of authenticity in marketing actions (Holt, 2002). Given the ubiquity of marketing efforts in NASCAR, consumers are well aware that they are targeted by both brands and the drivers. “Of course we are marketed to. The brands are everywhere and the drivers are constantly mentioning their sponsors”: -Shannon (Sales Representative, 25,F). There is even the recognition that marketers have a plan to persuade the consumer and that they have the opportunity to defend themselves from the efforts of the marketer. “I’m not buying Amp Energy Drink because Little E (Dale Earnhardt Jr) has it on the hood of his car., but if I was going to buy

one of those energy drink things, at least I'm aware of Amp"- Todd (Government Worker, 50, M).

Within the community, there are also consumers who have a dominant thrust to the loyalty they express in their relationship. The major automobile brands have always been major sources of marketing in auto racing and for most of NASCAR's history the racing was a primary vehicle for the exposure of automotive brands. It is not surprising that for long-time fans, their car-brand loyalty is still a major focus of the relationships they maintain through their fandom."I'll root for anyone driving a Dodge. Kasey Kahne is probably the big Dodge guy right now. The chicks love him and Budweiser is the brand he promotes and you want to drink a beer that will get noticed by the women."- Todd (Government worker, 50, M).

But while Todd's dominant relationship is with the car brand, he recognizes that the cultural capital inherent in the driver has the capability to rub off on the sponsoring brand and ultimately (potentially) to himself as he consumes both. Fairly explicitly, there is the recognition, even as a sceptical consumer, that some endorsers are more appropriate than others for particular brands, in certain markets, because the personality of the driver fits with that of the brand and the idealized self concept of the target market.

Others see the fit in a slightly different way, in that the similarity between the strategic positioning of the endorsed brand fits with a particular driver at a certain stage of his career relative to other NASCAR drivers. "The young guys are the future. Kyle Bush is young and aggressive and he wants to win now! I think it rubs the older drivers and fans the wrong way. You notice how M&Ms is always coming out with new products, so he's a good guy for them – Shane (Accountant, 25, M). Others recognize that the cultural capital of driver reflects positively on the endorsed brand and raises the positioning or desirability of the brand. "Jimmie Johnson is a nice, well spoken guy. He is obviously good because he's won the championship 4 times in a row. He really represents the Lowe's brand and it makes you want to go there because they are associated with a winner. We don't have Lowe's in Canada, (do we?) but I went into one in Florida. I would buy stuff there if we had them here." Lynn (Government worker, 47, F).

Others see the relationship between the driver and the brand in more conventional, affect transfer terms, where the driver lends both likeability and credibility to the brand, yet the brand fits with the driver. "Jeff Gordon is the man. He's so articulate, not like some of the southern drivers, like Dale Earnhardt, Jr.. He was the white hat when Dale [Earnhardt] Sr. was very much the black hat. Jeff is the right driver for a solid corporate sponsor like Dupont. They are "blue chip" and so is Jeff".- Darlene (Government Worker, 50, F). Still others recognize a strong demographic fit between the driver, the sponsoring brand and the brand's target market. "When you talk about products and sponsorship, the best ever had to be Mark Martin being paired with Viagra. I mean, he was what? Almost 50 when he was driving that car. My uncle Rick is a big Mark Martin fan, although it would have been too much information for me to ask him if he used it". Evan (student, 21, M).

Kozinets (2001) in his study of Star Trek culture of consumption found that wearing the uniform made a symbolic connection with underlying cultural entity. The brand, colors and logo offer the opportunity to show membership in the community in many sporting contexts (Dionisio et.al, 2009). Similarly, NASCAR fans show their colors, logos and numbers to show connectedness with the driver community and the NASCAR culture. “.”I wear the M&M’s logo when I watch races at the bar with my friends to show support for Kyle [Bush] because lots of people hate him.”- Shane (Accountant, 25, M).

Kozinets (2001) also notes that members of a sub-culture of consumption sometimes have concerns about being “outed”, if members of their reference group question the culture or its norms. In this context the consumption of the driver’s cultural value is very much a private affair even though they are cognizant of the strong connection between driver and sponsored brand. “I’ve made a lot of money selling Fusions (a Ford product), but when it comes to racing nothing beats a Chev. I’ve got to keep my views on this to myself around work and downplay the whole being a Jeff Gordon fan. It’s not like the other guys who are NASCAR fans are all into Roush drivers (A Ford team), but when you come out and say you’re a Jeff Gordon fan, you might as well say you’re a Chev guy.” Gordon- (Auto Sales, 48, M).

There are situations where there is the potential for there to be meaning transfer that is negative. For some fans, certain drivers are disliked and others may become involved in situations that may not show the brand in the best light. The implication is that the driver may not always support the brand positively if there is a negative halo effect. “I like M&Ms but that Kyle Bush is such a shit. I can’t stand him! This is a decent brand, how could they have anything to do with him?”- Steven (Student, 24, M). As a dynamic sport, automobile racing also presents situations where the brand may not be portrayed as desired by the endorser, but yet still provided fit, at least in the eyes of the fan. “Carl Edwards has had some major wrecks lately. Big, big wrecks and he represents an auto-insurance company [Aflac]. Does that make any sense? I guess maybe they stand by their guy! Maybe that’s a good thing.”- Shannon (Sales Representative, 25, F).

### **Discussion:**

This study is ultimately about the consumer-brand relationship that is grown through the relationship between the consumer and the celebrity endorser and the relationship between the endorser and the brand. This transfer of personality, affect and cultural capital can be adequately described, using the NASCAR lingo of “trading paint”. However, the question is how this theoretical proposition can be extended to the broader theory of relationship marketing using constructs (trust and commitment) that have a tradition of research in the discipline. One possibility is that core of “trading paint” is that the consumer has multiple foci of commitments,

including the driver and the brand(s) that are supported by the driver. Investigating this through empirical methods is likely a worthwhile course of action.

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## **REVENUE ENHANCEMENT STRATEGIES AND THEIR IMPACT ON HOTEL PERFORMANCE DURING STRESSFUL ECONOMIC TIMES**

This research focuses on the revenue enhancement strategies used by top managers in the hotel industry during times of economic uncertainty, and the impact of these strategies on performance as measured by average daily rate (ADR), occupancy percentage and revenue per available room (RevPAR). Findings demonstrate that investing in marketing technology and pursuing niche markets provides a hedge against losses in RevPAR and ADR.

### **Introduction**

The relationship between executives and their impact on their organization's performance has long been studied in an attempt to determine if managers' actions are critical components of organizational processes (Hambrick & Mason, 1984; Carpenter, Geletkanycz & Sanders, 2004; Goll & Rasheed, 2005). This study became known as the Upper Echelon (UE) theory. In the hotel industry, the general manager is the executive and makes the daily decisions on activities that have a direct impact on performance of the hotel. This would include decisions in areas of marketing such as selecting appropriate markets to target, directing promotional campaigns, and choosing advertising media. Decisions would also include cost containment actions such as minimizing expenditures. This research explores the activities of the general manager and the resulting impact on the hotel performance during economic stressful times. The identification of these strategies would be very helpful for managers and educator to improve business performance and to ensure these skills and abilities are included in business school curriculum.

### **Background**

One of a manager's greatest tests is their decision-making ability during stressful economic conditions. The hotel industry in Canada during this research was in severe economic stress. "By the end of the year, in just six markets of Montreal, Ottawa, Toronto, Niagara Falls, Calgary, and Vancouver, our total tourism losses amount to \$1.7 billion" (Hotel Association of Canada Annual Report, 2004, p. 19). Hotel general managers were working in an environment of great revenue decreases, loss of market share and a sliding economy. Today, these conditions have not changed.

Whilst the worsening of trading performances over the past 12 months impacts the main hotel markets, it is important to understand how hoteliers can challenge the status quo by

understanding the fundamental changes in demand and better adapting their current hotel product to this shifting environment (Ricord & Perret, 2010, p. 1).

In order to mitigate these revenue losses, general managers may have implemented certain survival strategies which should be identified and made accessible to current managers as the economic difficulties are still present. Strategies implemented during stressful economic conditions are very valuable as the correct actions at the right time can protect market share and decrease costs at a time when resources are limited. Small percentage increases in revenue in the hotel industry, which is volume sensitive, can have a large impact on its survival. “When the tide turns, management shortcomings quickly become evident, and may affect both revenue levels and the bottom line. Inept management can increase a hotel’s vulnerability to distressed market conditions (Lloyd-Jones, 2010, p.2). The economic downturn has resulted in decreased demand and a resulting low occupancy so strategies to alleviate this trend are paramount. “Demand is decided by outside factors, such as the economic climate, consumer preferences, the industrial environment, etc., most of which are not controlled by the hotels” (Yu & Lee, 2009, p. 571). Hotels require an appropriate balance of efficient production operations and marketing operations and maintaining costs while offering high levels of service can be challenging.

Strategies implemented during economic stressful conditions tend to fall into one of two broad categories, market and non-market strategies (Crook & Snow, 2003). The market strategies are those that impact the customers and the non-market strategies are those that concern other stakeholders such as staff, shareholders, and others. In this research the market strategies were labeled as Revenue Enhancing (RE) strategies. The list of Revenue Enhancing strategies was created from the literature. The list appears in Table 1.

Table 1

### **Lists of Revenue Enhancing Strategies**

- 
1. Focused on Regional Business: Marketing efforts directed to region
  2. Marketed Uniqueness: Highlighted unique characteristics and services
  3. Redirected Sales & Marketing: Directed marketing and sales efforts to new markets
  4. Focused Training for Staff: Focused resources on marketing training for staff (eg: upselling, cross-selling, etc.)
  5. Increased Marketing Budget: Allocated more resources to marketing activities
  6. Used Technology to Gather Intelligence: Applied marketing research technology to gather market information
  7. Sold Weekends to Area: Sold weekend packages to local market
  8. Discounted Room Rates: Reduced room rates to attract customers
  9. Sold Rooms for Alternate Use: Sold rooms to other markets/for other uses (eg: corporate interviews, professional development opportunities, etc.)
-

Hotel performance metrics include occupancy percentage (Occ%), calculated by dividing the number of rooms sold by the number of rooms available, average daily rate (ADR), calculated by dividing the room revenue by number of rooms sold and revenue per available room (RevPAR), calculated by dividing the room revenue by number of rooms available. RevPAR is “often considered the most critical measure of operating performance, and by definition, encompasses an element of rate and rooms supply” (Enz, Canina, & Walsh, 2001, p. 27).

Marketing actions in a highly competitive situation can be strained due to cut backs in resources in attempts to decrease costs. Porter’s Model of generic competitive strategies advises that the choices of strategies in a highly competitive arena are either differentiation or low cost. The low cost strategy means that the firm needs to be a cost leader so in the hotel industry which is high fixed costs based, the best strategy would be to differentiate (Porter as paraphrased by Ormanidhi & Stringa, 2008).

One of the dangers during economic downturns is the lack of demand and the tendency to lower rates in an attempt to boost occupancy levels. However, this practice can damage the brand value of the property (if branded) and need to be targeted and differentiated as possible. To illustrate the impact of rate decreases, research shows “A 20 percent rate decrease would have to be compensated by 50 percent additional room nights, which is hard if not impossible to achieve, even with strong promotions and additional spending” (Butscher, Vidal & Dimier, 2009, p. 407). This effect would be exacerbated in luxury hotels where the costs are higher and the contribution margins thinner. Strategic decisions in revenue management must be made with long term considerations on competition and the economy.

## **Methodology**

The purpose of this research was to identify the strategies used during economic stressful conditions in the Canadian hotel industry and their impact on the actual hotel performance. Based on the literature review on management strategies (Hambrick & Mason, 1984; Carpenter, Geletkanycz & Sanders, 2004; Goll & Rasheed, 2005; Ormanidhi & Stringa, 2008), the following hypotheses are given:

**Hypothesis 1a.** There will be a positive statistically significant relationship between hotel performance as measured by revenue per available room (RevPAR) and Revenue Enhancing Strategies.

**Hypothesis 1b.** There will be a positive statistically significant relationship for hotel performance as measured by average daily rate (ADR) by Revenue Enhancing Strategies.

**Hypothesis 1c.** There will be a positive statistically significant relationship for hotel performance as measured by occupancy (Occ%) by Revenue Enhancing Strategies.

See Figure 1 for conceptual model of these concepts.

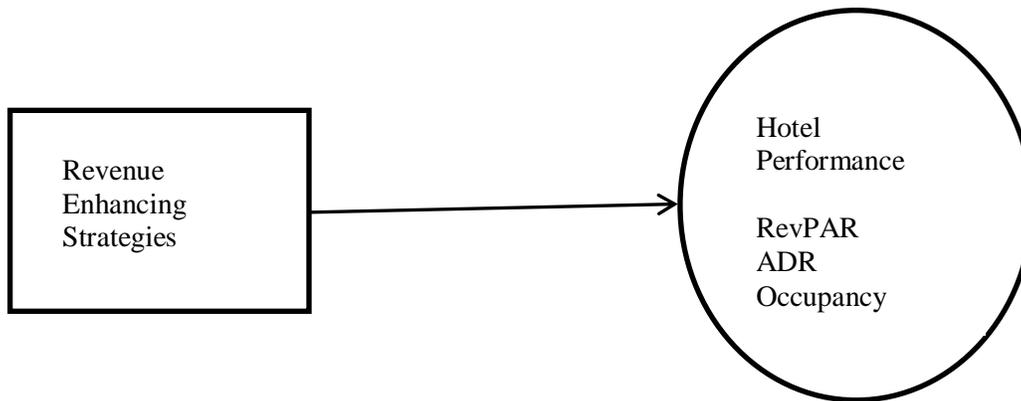


Figure 1: *Conceptual model for the hypothesis indicating the strategies and their impact on hotel performance as measured by revenue per available room, average daily rate and occupancy.*

A survey was sent to hotel general managers in Canada in properties with 30 rooms or more using a distribution list created from the Hotel Association of Canada membership directory, provincial hotel associations' membership lists and corporate hotel groups. The survey was posted on a webpage and emails were dispersed to the general managers that contained a hyperlink to the survey. The hotel industry in Canada consist of 8,447 lodging establishments in Canada with a 60% average occupancy rate, an average daily rate of \$131.00 and an average revenue per available room of \$79.00 (Hotel Association of Canada, 2011).

Descriptive statistics were generated to examine general managers' perceptions of the importance of Revenue Enhancing strategies during adverse economic times. Descriptive statistics were also generated for revenue per available room (RevPAR), average daily revenue (ADR), and occupancy percentage (Occ%).

An Exploratory Factor Analysis (EFA) was conducted on the Revenue Enhancing (RE) strategies to reduce the number of variables relative to sample size and to overcome problems with multicollinearity among the strategy variables. The EFA used a principal components analysis using a Varimax rotation. The factor scores were saved for inclusion in a regression analysis to test the hypotheses. A direct entry multiple regression analysis was used to test the hypotheses.

Prior to conducting the regression analysis the variable distributions were examined for normality. The normal distribution tests revealed that two factors from the RE strategy EFA (Factors 1 and 2), the occupation percent, and the average daily revenue, were non-normally distributed. The variables used in the follow up regression analysis are noted in the Table. The RE Factors 1 & 2 and Occ % were used in their original format because the transformation did not result in non-normal distribution. The log transformation was used to create a normal distribution for ADR and the transformed variable was used in the analysis.

## Results

The hotel associations and corporate hotel groups that agreed to participate and circulate the survey involved a total of 952 general managers and the responses totalled 184 completed surveys and gave a response rate of 19.2%. The sample consisted of 61.7% male general managers and the education level indicated most were graduates of a two-year college program (39.7%), or university undergraduate programs (37.2%). The average age was 43.9 years and their tenure consisted of being in management for an average of 16 years and in the position of hotel general managers for an average of 6.9 years. The hotels themselves were mainly smaller properties with 30 to 125 rooms being 52.5% and 126 to 250 rooms at 29.0% of the total hotels.

The general managers surveyed were asked to rate the importance of each of the Revenue Enhancing strategies when managing a hotel property during adverse economic times. Each strategy was rated on a Likert-type scale of 1 to 10, where 1=Very unimportant and 10=Very important. The descriptive statistics for the ratings of the strategies are shown in Table 2. The results revealed the three revenue-related strategies that were considered most important were focusing on regional business (M=7.91), marketing uniqueness (M=7.87) and redirecting sales and marketing (M=7.7). Focused training for staff was in a close fourth place with an average scale rating of 7.62. The least important strategies were selling rooms for alternate use (M=3.92), discounting room rates (M=4.76), and selling weekends to area (M=5.07).

Table 2:  
**Descriptive Statistics for Managerial Strategy Importance**

Strategy	Number	Range 1= Very unimportant 10 = Very important	Average	Std. Deviation
<b>Revenue Enhancing Strategies</b>				
Focused regional business	179	1 to 10	7.91	2.06
Redirected sales and marketing	181	2 to 10	7.70	1.76
Sold weekends to area	180	1 to 10	5.07	2.64
Discounted room rates	181	1 to 10	4.76	2.17
Increased marketing budget	180	1 to 10	6.02	2.18
Sold rooms for alternate use	178	1 to 10	3.92	2.60
Used technology to gather marketing intelligence	180	1 to 10	5.74	2.36
Marketed uniqueness	181	1 to 10	7.87	2.05
Focused training for staff	180	1 to 10	7.62	2.05

The general managers also provided estimates of the following performance indicators for their hotel properties: revenue per room (RevPAR), average daily revenue (ADR), and occupancy percentage. The results are shown in Table 3.

Table 3:  
**Descriptive Statistics for Performance Measures**

<b>Strategy</b>	<b>Number</b>	<b>Range</b>	<b>Average</b>	<b>Std. Deviation</b>
Revenue per Room (RevPAR)	152	\$24.39 to \$202.00	\$78.01	\$28.14
Average Daily Rate (ADR)	163	\$40.00 to \$293.00	\$111.91	\$33.93
Occupancy percentage	170	30% to 99%	67.95%	11.62%

The EFA for the Revenue Enhancing strategies (RE) resulted in three factors that explained 57.1% of the variance in the revenue-based strategies. The strategies that loaded most highly on the first factor were, in order of importance: focused training for staff, marketed uniqueness, used technology to gather market intelligence, and increased marketing budget. Given the nature of the strategies that explained the first factor it was labelled Niche Marketing and Investment. This factor accounted for 23.7% of the variance in the model.

The second factor loaded most heavily on the following strategies, in order of importance: sold rooms for alternate use, sold weekends to area, redirected sales and marketing. Based on the strategies loaded this factor was named Cross-Selling. This factor accounted for 21% of the variance in the revenue-based strategies.

The last factor was made up of two items that loaded most heavily, in order of strength: focused regional business and discounted room rates. The factor accounted for 12.4% of the variance in the model. The results of the EFA on the RE strategies is shown in Table 4.

Table 4:  
**Exploratory Factor Analysis for Revenue Enhancing Strategies**

<b>RE1: Niche Marketing &amp; Investment</b>	<b>Factor loading</b>
Focused training for staff	.84
Marketed uniqueness	.80
Increased marketing budget	.60
Used technology to gather market intelligence	.54
Cumulative variance	23.7%
<b>RE2: Cross-Selling</b>	
Sold rooms for alternate use	.77
Sold weekends to area	.71
Redirected sales and marketing	.46
Cumulative variance	21.0%
<b>RE3: Market Protection</b>	
Focused regional business	.72
Discounted room rates	-.65
Cumulative variance	12.4%
Total Variance Explained	57.1%

Tests of normality were conducted on the variables prior to running the regression analysis. The results of the normality tests are shown in Table 5 for the original variables and their transformations.

Regression analysis was used to test the hypotheses. The results revealed statistically significant differences between some of the Revenue Enhancing strategies and ADR and RevPAR. However, there were no statistically significant relationships between the Revenue Enhancing strategies and occupancy percentage. The results are summarized in Table 6.

These results revealed that for RevPAR and ADR there were statistically significant differences for Revenue Enhancing strategies. RevPAR was positively impacted by RE1 Niche Marketing and Investment, as was ADR. ADR was also positively impacted by RE3 Market Protection. There were no statistically significant differences for any of the RE strategies by occupancy percentage.

Table 5:  
**Normality Tests and Variable Transformations\***

Variable	Kolgomorov-Smirnov	df	Sig.
Original Variables			
RE1: Niche Marketing & Investment	.091	137	<i>.007*</i>
RE2: Cross-Selling	.065	137	<i>.200*</i>
RE3: Market Penetration	.073	137	<i>.073*</i>
ADR: Average daily revenue	.104	137	<i>.001</i>
RevPAR: Revenue per room	.055	137	<i>.200*</i>
OCC: Occupancy percentage	.112	137	<i>.000*</i>
Variable Transformations			
ADR: Average daily revenue (Log)	.049	163	<i>.200*</i>
OCC: Occupancy percentage (Cubed)	.084	170	<i>.005</i>
RE1: Niche Marketing & Investment (Square root)	.113	173	<i>.000</i>
RE1: Niche Marketing & Investment (Log)	.136	173	<i>.000</i>
RE1: Niche Marketing & Investment (Inverse)	.224	173	<i>.000</i>
RE1: Niche Marketing & Investment (Cubed)	.162	173	<i>.000</i>
RE3: Market Protection (Cubed)	.065	173	<i>.071</i>
RE3: Market Protection (Square root)	.097	173	<i>.000</i>
RE3: Market Protection (Log)	.129	173	<i>.000</i>
RE3: Market Protection (Inverse)	.209	173	<i>.000</i>

\*Note: Variables used in final analysis. Italics indicate statistically significant differences.

Table 6:

**Regression Analysis of Revenue Enhancement Strategies on Performance Measures**

(Note: Italics indicate statistically significant differences)

<b>a) Strategies x RevPAR</b>	<b>B</b>	<b>Std. Error B</b>	<b>Beta</b>	<b>t</b>	<b>Sig.</b>
Constant	79.041	2.282		34.630	<i>.000</i>
RE1: Niche Marketing & Investment	7.425	2.321	.262	3.199	<i>.002</i>
RE2: Cross-Selling	-2.259	2.289	-.081	-.987	.325
RE3: Market Protection	.408	2.398	.014	.170	.865
F-Ratio	3.714				
df	.143				
Sig:	<i>.013</i>				
R2	.074				
<b>b) Strategies x ADR</b>	<b>B</b>	<b>Std. Error B</b>	<b>Beta</b>	<b>t</b>	<b>Sig.</b>
Constant	2.034	.010		214.057	<i>.000</i>
RE1: Niche Marketing & Investment	.026	.011	.217	2.754	<i>.007</i>
RE2: Cross-Selling	-.017	.010	-.092	-1.176	.241
RE3: Market Protection	.017	.010	.134	1.692	.093
F-Ratio	3.631				
df	.154				
Sig:	<i>.014</i>				
R2	.067				
<b>c) Strategies x Occupancy percentage</b>	<b>B</b>	<b>Std. Error B</b>	<b>Beta</b>	<b>t</b>	<b>Sig.</b>
Constant	68.204	.907		75.194	<i>.000</i>
RE1: Niche Marketing & Investment	1.999	.900	.174	2.221	<i>.028</i>
RE2: Cross-Selling	-1.012	.906	.087	1.117	.266
RE3: Market Protection	-.245	.021	.021	.265	.791
F-Ratio	2.101				
df	161				
Sig:	.102				
R2	.038				

## Discussion

The fact that Revenue Enhancing strategies were important to general managers and had a positive relationship with revenue per room and average daily revenue is very telling. These results are consistent with the literature that demonstrates that creative marketing is required to increase revenue growth, even in times of economic difficulty. The niche marketing approach described by having Marketed Uniqueness, combined with data mining to utilize market intelligence are important strategies to develop niche markets. In addition, paying to train staff and increasing marketing budgets are consistent with an improved marketing campaign and enhanced customer service levels. These findings agree with a previous study in which it was found that “less successful companies cut their R & D and advertising more deeply, putting them at a disadvantage for tapping the opportunities these expenditures might create” (Dobbs, Karakolev & Raj, 2007, p.83).

Market Protection had a positive impact on average daily room rate due to the focus on regional business. This finding is consistent with Butscher, Vidal and Dimier (2009) who found rate decreases can enhance profitability if they are targeted and differentiated. Otherwise, across-the-board price cutting can result in enhanced occupancy rates, but lower RevPAR (Enz, et al, 2009). Enz et al. (2009) also reported that hotels that price above the competition tend to have lower occupancy rates, but higher RevPAR.

Focusing on the immediate market, often considered to be a non-aggressive and limited strategy, can actually benefit properties. Research by Ricord and Perret (2010) demonstrated that when international travel declines, local and regional markets can be a sustainable revenue source that is easier to tap into (p.5).

The fact that Cross-Selling strategies were not significantly associated with any of the performance measures was contradictory to the literature. Value packaging is considered to be a positive way to enhance offerings without having to discount prices. Ricord and Perret (2010) maintained that such approaches included enhancing overall value for price by including introducing complimentary services such as breakfast, spa treatments, and extra room nights. However, in this study there was no discernable impact on performance outcomes of such strategies.

It is interesting that the Niche Marketing & Investment strategy did not relate positively to enhanced occupancy rates. However, niche marketing allows firms to charge more per unit through adding value to the total product. This is what may be reflected in the Canadian hotel sample. Instead of slashing rates to boost occupancy, creative general managers were able to enhance their product and use customer information more creatively to attract the best customers who were not looking for a bargain in spite of the volatile marketplace. This would also indicate that these managers paid attention to the third party suppliers and did not allow their inventory to be discounted. This approach is preferable because vendors do not have to downgrade their product or their brand by deep discounting to attract customers. Butscher et al (2009) indicated that price cutting can be a useful strategy during tough economic times “provided it is well used” (p.406). The authors suggest that the proper way to discount rates is with a mind to future rate

management, offering early bird rates and avoiding the temptation to permanently reduce prices, or to give the impression that regular room rates have been discounted.

## **Conclusions**

This research strongly indicates that hotel managers should focus on niche marketing during these turbulent times and invest in the tools to aggressively target key customers. The research also suggests that a strong regional market focus will allow a hotel to enhance their average daily rate despite discounts by targeting value-added customers.

There are also additional strategies that may influence revenue generation that are outside of the approaches considered in this study. Butscher et al (2009) discuss the use of loyalty programs to build a solid market niche, particularly for properties that are not competing primarily on price. The ability to cross-sell, upsell, and bundle products and services leads to creative ways to offset slumping demand in the accommodations sector (Butscher et al (2009)).

Future research should focus on identifying how cost cutting strategies could work with revenue enhancing strategies to facilitate growth in RevPAR, ADR and Occupancy percentage. Attention should also be given to the personal characteristics of the top management team and how their decisions impact strategic management in the hotel industry.

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## **EMPIRICAL RESEARCH IN CONSUMER INFORMATION PRIVACY CONCERN ONLINE: A REVIEW AND CRITICAL ASSESSMENT<sup>1</sup>**

Marketers, in search of profitable customer relationships, require increasing amounts of personal information, yet consumers regularly express concern about their privacy. Investigations into consumer privacy concern in offline contexts exhibit inconsistencies in specification of a privacy concern construct. Application of those fragmented understandings to new contexts such as online transactions has resulted in confusion, an inability to compare results and irregular nomological networks. The objective of this paper is to provide an integrative review of empirical research on consumer online information privacy concern to provide conceptual clarification in order to facilitate future research into online privacy concerns.

### **The Importance of Information Privacy in Online Contexts**

Technology has allowed governments and companies to collect masses of consumer data. Retailers track purchase behaviour with loyalty cards, online transactions and websites visited by an individual can be monitored and credit card companies mine scores of data relating to a variety of purchases and credit history. There are video surveillance cameras in hotels, financial institutions, retail stores, parking lots, and transportation terminals. Electronic key cards that record time of entry and exit are commonly used for getting into and out of parking garages and hotel rooms. Biometric scanners are more frequently being used (Deloitte 2006). Web 2.0 technology has resulted in the worldwide proliferation of online social networks that permit the sharing of user generated content full of very personal information to the masses.

Companies desire vast quantities of consumer data to analyze and understand consumers so that they may engage in mutually beneficial long-term relationships. Government often requires substantial personal data for security reasons. Enormous amounts of personal information are being collected and disseminated and the existence of improved technologies, particularly in Internet and electronic storage situations, permit increased ease of combining data from multiple sources

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<sup>1</sup> The author acknowledges the guidance provided by Grabner-Kräuter and Kaluscha's (2003) literature review and analysis of empirical research of trust in preparing this analysis.

to create extensive consumer profiles. Coupled with recent reports of identity theft and privacy violations by reputable companies (Pitta et al 2003; Lawford and Simkevitz 2004; Deloitte 2006; Baker, 2011), it is no wonder that privacy is an increasing customer concern (Campbell 1997; Long et al 1999; Milberg et al 2000; Pitta et al 2003; Stahl 2004). Marketers, therefore, must find a balance between lucrative business opportunities that require collection and dissemination of customer information and protecting users' privacy. To do so, consumer privacy concern must first be understood.

However, isolating a commonly accepted definition of privacy has eluded scholars since the first published definition of the concept appeared in 1890 (Warren and Brandeis) and philosophical debate about the construct surged in the 1960s (Schoeman, 1984; DeCew, 1997). Academic study of the concept appears in a variety of disciplines including philosophy (Schoeman, 1984; DeCew, 1997), psychology (Stone et al, 1983); sociology (Westin, 2003), law (Solove, 2006) and business. Investigations in a number of specific business contexts including direct marketing (Goodwin, 1991; Nowak & Phelps, 1992; Culnan, 1993; Culnan & Armstrong, 1999), information systems (Smith et al, 1996; Stewart & Segars, 2002), e-commerce (Malhotra et al, 2004; Liu et al, 2005; Eastlick et al, 2006; Xu et al, 2008) and online social networks (Aquisti & Gross, 2006; Krasnova & Veltri, 2010; Krasnova et al, 2010) have also been conducted. Despite its long history of study, recent scholars admit to being unable to agree upon a commonly accepted definition of privacy (Introna & Pouloudi, 1999; Margulis, 2003; Casteneda et al, 2007).

Privacy is a complex construct. Clusters of individuals have been identified based upon their privacy beliefs (Ackerman et al 1999; Kumaraguru & Cranor, 2005). Various information privacy states of individuals have been identified based upon whether consumers know about data collection and who controls the data collected (Goodwin, 1991; Foxman & Kilcoyne, 1993). Privacy concern has also been recognized as a dynamic construct (Smith et al, 1996; Malhotra et al, 2004). Further, a 'privacy paradox', wherein individuals claiming to be concerned about their privacy behave in counterintuitive ways with their personal information (Aquisti & Gross, 2006; Norberg & Horne 2007), has been also shown to exist. To alleviate some of the complexity, researchers have tended to adopt very narrow, discipline-specific definitions of the construct by specifying situational and contextual constraints such as 'online', 'consumer' and 'information' to describe different types of privacy. For this reason, this paper will specifically focus on studies that emphasize online consumer information privacy concern.

Complicating the understanding of the privacy concern construct in this context is the dynamic nature of the context itself. Researchers today are attempting to explain the construct, its antecedents and its consequences in the rapidly evolving environment of online interactions where technology developments consistently outpace conceptual understanding. However, to advance scientific inquiry of complex constructs such as consumer privacy concern and its relationships with consumer behaviour, 'it is essential that the scientific community use similar operative definitions and measurement instruments for the variables analysed' (Casteneda et al, 2007, p.421; Day & Montgomery, 1999) because 'pursuing empirical work before adequately defining concepts is like putting the cart before the horse' (McKnight & Chervany, 2002, p.36). Therefore, understanding the various conceptualizations that have been utilized is a necessary step on the path of rigorous scientific research of online consumer information privacy concern.

## **Review of Empirical Studies of Consumer Online Information Privacy Concern**

Due to the complexity of the privacy construct noted previously, constraining discussion of the topic with parameters commonly employed in the literature provides the best ability to compare results within otherwise fragmented literature. Since consumer concern for information privacy in online contexts is a narrowly defined area of investigation previously pursued, technological evolution necessitates increased investigation into emerging online contexts, and true comparisons can only be made among studies employing common philosophical research orientations, the literature reviewed in this study was restricted accordingly. Consequently, to be included in this literature review, a study must have met the following selection criteria: 1) capture a consumer perspective; 2) specify an online focus in its measurement of privacy concern; 3) employ a quantitative research approach; 4) involve the collection of primary data; 5) be premised by theory guided research and 6) include either a factor analysis of consumer online information privacy concern or place consumer privacy concern within an empirically tested nomological network. Given these boundaries, 16 empirical studies of consumer information privacy in online environments published between 1999 and 2010 were isolated for review.

To maintain this focus, a number of studies in information privacy were notably excluded from this review. Many empirical studies of information privacy were disqualified from this analysis due to being situated in offline contexts (Stone et al, 1983; Nowak & Phelps, 1992, 1995; Smith et al, 1996; Culnan & Armstrong, 1999; Phelps, Nowak & Ferrell, 2000; Phelps D'Souza & Nowak, 2001; Stewart & Segars, 2002; Rose 2005). Some empirical studies of online information privacy were not included in this analysis because they did not meet other selection criteria. For example, Alge et al (2006) utilized an employee rather than consumer focus, Krasnova et al (2010) included only 'perceived risk of information disclosure' in the nomological network as opposed to investigation of a defined 'privacy concern', Liu et al (2005) studied consumer 'perceived privacy' in online transactions as a positive condition, but did not measure consumer 'concern', and Ackerman et al (1999) did not provide factor analyses of the privacy concern construct nor place the construct in a nomological network thereby making empirical comparison impossible.

Although the reviewed studies met the selection criteria, they exhibited numerous differences. It was these differences that highlighted the increasing need for a consistent treatment of consumer information privacy concern and provided the basis for this analysis. First, variations in context, sample characteristics, and analytic techniques employed were observed. A comprehensive overview of the reviewed studies is presented in the next section to illustrate these variations. A discussion of the major differences in the conceptualization and operationalization of the consumer online privacy concern construct follows. Finally, the nomological networks in which the consumer online information privacy construct was placed exhibited variety in the investigated studies as well. A discussion of those differences concludes this section.

## Overview of Reviewed Studies

Among the sixteen studies reviewed, considerable difference was noted on a number of general research criteria. Table 1 presents an overview of each of the studies compared in this literature review.

**Context of studies.** Two of the studies examined cultural differences in privacy concerns (Bellman et al, 2004; Krasnova & Veltri, 2010). Five of the studies specifically sought to establish the factor structure of a measure of consumer online information privacy concern (Sheehan & Hoy, 2000; Dinev & Hart, 2004; Malhotra et al, 2004; Buchanan et al, 2007; and Casteñada et al, 2007). Seven studies examined responses of consumer online privacy concern (Sheehan & Hoy, 1999; Dinev & Hart, 2006a; Eastlick et al, 2006; Van Slyke et al, 2006; Lian & Lin, 2008; and Li et al, 2010) and the main intent of three studies was to establish antecedents to consumer online privacy concern (Dinev and Hart, 2006b; Moscardelli & Divine, 2007; and Xu et al, 2008).

**Samples and methodologies.** Most of the studies collected data solely from respondents located in the United States (US). An international sample was obtained in one study (Bellman et al, 2004) and Krasnova & Veltri (2010) collected data from respondents in both Germany and the US but analyzed results separately by respondent country. Respondents from the United Kingdom (UK) were represented in one study (Buchanan et al, 2007); European responses were captured by Casteñada et al (2007); and a Taiwanese perspective was collected in one study (Lian & Lin, 2007).

Convenience samples of students were frequently used in the research investigated. Student samples were found exclusively in four studies (Buchanan et al, 2007; Lian & Lin, 2007; Xu et al, 2008; and Li et al, 2010). Moscardelli & Divine (2007) used a sample of exclusively high school students as the population of interest was adolescents. While three studies (Dinev & Hart, 2004; Dinev & Hart 2006a; and Krasnova & Veltri, 2010) did not intend to capture only students, each yielded samples that were dominated by young people. Two studies employed one convenience sample of students (VanSlyke et al, 2006; Casteñada et al, 2007) and another sample of ‘consumers’. Only five investigations used exclusively non-student samples (Sheehan & Hoy, 1999, Sheehan & Hoy, 2000; Bellman, 2004; Malhotra et al 2004; Eastlick et al, 2006). Details about the sample from Dinev & Hart (2006b) were unclear as the authors indicated soliciting responses from a broad sample but described the age demographic as split between ‘<30’ (59%) and ‘<30’ (41%) (p.15).

All studies involved data collection via survey instruments, though administration differed from email (Sheehan & Hoy, 1999; Sheehan & Hoy, 1999), mail (Eastlick et al, 2006), paper with immediate response submission opportunities (Dinev & Hart, 2004; Dinev & Hart, 2006a; Moscardelli & Divine, 2007; Lian & Lin, 2007), online (Bellman et al, 2004; Van Slyke et al, 2006; Buchanan et al, 2007; Krasnova & Veltri, 2010), personal interview (Malhotra et al, 2004) and unspecified (Dinev & Hart, 2006b; Casteñada et al, 2007; Xu et al, 2008; and Li et al, 2010). Privacy concern was measured by five-point Likert scales in six instances (Dinev & Hart, 2004; Dinev & Hart, 2006 a and b; Eastlick et al, 2006; Buchanan et al, 2007; Casteneda et al, 2007). Seven-

**Table 1. Overview of Empirical Investigations of Online Consumer Information Privacy Concern**

<b>Study</b>	<b>Context</b>	<b>Theoretical Framework</b>	<b>Country</b>	<b>Usable Responses (Effective Response Rate)</b>	<b>Data Collection</b>	<b>Analytic Techniques (Hypothesis Testing)</b>
Sheehan and Hoy (1999)	Responses to online info privacy concern	Consumer complaining behaviour	US	889 (24%)	email survey	(Correlation)
Sheehan and Hoy (2000)	Underlying factors and responses to online info privacy concern	FTC's Fair Information Principles (5)	US	889 (24%)	email survey	ANOVA, EFA
Bellman et al (2004)	Cultural differences in Internet privacy concern	Cultural classification	38 countries	534 (n/a)	online survey	Two group CFA; (MANCOVA)
Dinev and Hart (2004)	Measurement of Internet information privacy concern	Social contract theory	US	369 (40%)	paper survey	EFA (regression)
Malhotra et al (2004)	Measurement of online information privacy concern	Social contract theory	US	293 (n/a); 449 (n/a)	survey (personal interview)	EFA, CFA (SEM)
Dinev and Hart (2006a)	Privacy calculus to provide personal information online	Theories of Reasoned Actions, Planned Behaviour	US	369 (40%)	paper survey	EFA (SEM)
Dinev and Hart (2006b)	Antecedents of Internet privacy concern and intention to transact	Theories of Reasoned Actions, Planned Behaviour	US	422 (55%)	survey	EFA, CFA (SEM)
Eastlick et al (2006)	Consumer online purchase intent	Commitment-Trust Theory	US	477 (24%)	mail survey	CFA (SEM)
Van Slyke et	Consumer willingness to engage in online transactions	social contract	US	713 (65%); 287 (34%)	online survey	EFA (two step PLS; bootstrap-

al (2006)						ping)
Buchanan et al (2007)	Development of online privacy concern behaviour and measures	Attitudinal privacy	UK	515 (75%) ; 1,122 (58%)	online survey	PCA, EFA (correlation)
Casteñeda et al (2007)	Conceptual delimitation and measurement of online information privacy	Privacy invasions	Europe	440 (n/a); 400 (n/a)	survey	EFA, CFA
Moscardelli & Divine (2007)	Developmental factors of adolescent Internet privacy concern	Consumer socialization framework	US	713 (61%)	paper survey	hierarchical regression analysis
Lian and Lin (2008)	Determinant factors of consumer acceptance of online shopping by category	Product and service classification grid	Taiwan	123 (56%)	paper survey	EFA (Regression analysis)
Xu et al (2008)	Antecedents of online privacy concerns by type of website	Information boundary theory	US	823 (81%)	survey	(PLS; bootstrapping)
Krasnova & Veltri (2010)	Impact of cultural differences on self-disclosure in online social networks	Privacy calculus; cultural dimensions	Germany and USA	138 (58%); 193(76%)	online survey	t-tests; Mann-Whitney U-test
Li et al (2010)	Personal factors as predictors of information disclosure	privacy calculus; social contract (explicit and implicit)	US	182 (76%)	survey	(PLS)

point Likert scales were used for the primary privacy concern measures in the remainder of selected cases.

**Analytic techniques.** Various analytic techniques were used across the literature reviewed. All but four (Sheehan & Hoy, 1999; Moscardelli & Divine, 2007; Xu et al, 2008; and Krasnova and Veltri, 2010) of the studies examined the factor structure of a privacy concern construct. Exploratory factor analysis was the most common technique used for examining factor structure, observed in nine of the investigated cases (Sheehan & Hoy, 2000; Dinev & Hart, 2004; Malhotra et al, 2004; Dinev & Hart, 2006a; Dinev & Hart, 2006b; Van Slyke et al, 2006; Buchanan et al, 2007; Casteneda et al, 2007; Lian & Lin, 2008). Confirmatory factor analysis was employed in five of the studies (Bellman et al, 2004; Malhotra et al, 2004; Dinev & Hart, 2006b; Eastlick et al, 2006; and Casteñeda et al, 2007). Principle component analysis was used to assess the factor structure in one case (Buchanan et al, 2007). Assessment of the factor structure of the privacy concern construct in one study was unspecified and referred to only as ‘factor analysis’ (Li et al, 2010).

### **Conceptualizations and factor structure of information privacy concern constructs**

The following section discusses conceptualization, operationalization and factor structure of consumer online information privacy concern. A summary of these items from the reviewed literature is located in Table 2.

**Conceptualization and operationalization.** Numerous differences exist in the conceptualization and operationalization of the concern for online information privacy construct based upon the source of the conceptualization. As expected in theory-guided research such as this, all privacy concern conceptualizations were derived from previous sources and adapted and extended for the authors’ purposes.

Smith et al (1996) conceptualized, rigorously crafted and confirmed a four factor solution for consumer concern for information privacy (CFIP) in offline contexts that was comprised of concern about: i) collection of information, ii) unauthorized access to information, iii) improper access to information and iv) errors in information stored by organizations and represented by a fifteen item scale. This conceptualization was validated in other off-line contexts (Stewart & Segars, 2002; Rose, 2005) and was the most cited basis for the conceptualizations in the reviewed studies. Lian and Lin (2008) utilized an unaltered version of Smith et al’s (1996) operationalization. Two studies (Bellman et al, 2004; Van Slyke et al, 2006) adapted scale items to reflect an online context. Though Xu et al (2008) cited Smith et al (1996) as the source for their privacy concern scale and recognized the multidimensional nature of the construct, the study operationalized the construct with only one item from each of the four dimensions and employed a scale totaling five items.

Three studies drew their conceptualizations partially from Smith et al (1996) (Dinev & Hart, 2004; Malhotra et al, 2004; Li et al, 2010). Malhotra et al (2004) developed an Internet User Information Privacy Concern (IUIPC) measure using Smith et al’s (1996) operationalization of consumer concern about information collection and added dimensions justified to represent online

privacy. Awareness and control were ultimately operationalized by three items each and included in Malhotra's measure. Li et al (2010) utilized Malhotra et al's (2004) global information privacy concern (GIPC) scale that was originally attributed to Smith et al (1996). While Dinev and Hart (2004) cited Smith et al (1996) and Culnan and Armstrong (1999) as the source for their conceptualization of online privacy concern, the authors clearly conceptualized the dimensionality of privacy concern as consisting of only two dimensions - one's privacy concern for information finding (PCIF) and one's privacy concern about information abuse (PCIA). Subsequent studies by Dinev and Hart (2006 a and b) and Krasnova and Veltri (2010) operationalized privacy concern as PCIA only.

Eastlick et al (2006) employed a modified operationalization of privacy concern from a business-to-business context (Milne and Boza, 1998) and Castañeda et al (2008) utilized two adapted versions of a conceptualization originally created for a direct marketing context (Culnan, 1993). Three studies (Sheehan & Hoy, 1999; Sheehan & Hoy, 2000; Moscardelli & Divine, 2007) employed the fourteen item situational conceptualization of privacy concern from a direct marketing context presented by Nowak and Phelps (1992).

The conceptualization and operationalization adopted by Buchanan et al (2007) is unique in a few ways. First, whereas all other studies examined conceptualizations of 'information' privacy, this case attempted to represent privacy as a whole including physical privacy and expressive privacy. Second, rather than use previously established scales, the authors generated a scale of 45 items that were subsequently factor analyzed and compared with Malhotra's IUIPC.

**Factor Structure.** As expected, various conceptualizations and operationalizations of the construct evidenced in the literature reviewed yielded variation in the resultant factor structure of the construct. Factor solutions for the online consumer privacy concern construct in the selected studies present a range between one and four factors. A one-factor solution was commonly produced (Dinev & Hart, 2006a; Dinev & Hart, 2006b; Eastlick et al, 2006; Buchanan et al, 2007; Moscardelli & Divine, 2007; Xu et al, 2008; Krasnova & Veltri, 2010; Li et al, 2010). Two-factor solutions were reported in three instances (Dinev & Hart, 2004; Casteneda et al, 2007; Lian and Lin, 2008). Three-factor (Sheehan & Hoy, 2000; Malhotra et al, 2004) and four-factor (Bellman et al, 2004; Van Slyke et al, 2006) solutions were each found in two instances.

Of particular note in these factor solutions is that those conceptualizations based on Smith et al (1996) and adapted for an online context (Bellman et al, 2004; Van Slyke et al, 2006) produced four-factor solutions consistent with the original findings. However, Bellman et al (2004) concluded CFIP to be a *reflective* second-order construct whereas Van Slyke et al (2006) found CFIP to be a *formative* second-order construct.

The three-factor solution produced by Malhotra et al (2004) clearly established collection, awareness and control as distinct dimensions, yet Dinev and Hart (2004) established that control was a construct onto itself and concluded it should not be included in privacy concern conceptualizations.

**Table 2. Factor Structure of Consumer Online Information Privacy Concern from Selected Empirical Investigations**

<b>Study</b>	<b>Primary Privacy Concern Conceptual Source</b>	<b>Privacy Concern Construct</b>	<b># Factors</b>	<b>Factor Specification</b>
Sheehan and Hoy (1999)	Nowak and Phelps 1992	'Total Concern'	n/a	n/a
Sheehan and Hoy (2000)	Nowak and Phelps 1992	Total Concern	3	1. Control over collection and use of information (6 items)
				2. Short term transactional relationship (5 items)
				3. Established long term relationship (3 items)
Bellman et al (2004)	Smith et al (1996)	Concern for Information Privacy (CFIP)	4	1. Collection (4 items)
				2. Unauthorized secondary use (4 items)
				3. Improper Access (3 items)
				4. Errors (4 items)
Dinev and Hart (2004)	Smith et al (1996); Culnan and Armstrong (1999); author created	Privacy Concern	2	1. Privacy concern for information finding (PCIF) (9 items)
				2. Privacy concern for information abuse (PCIA) (4 items)
Malhotra, Kim and Agarwal (2004)	Smith et al (1996); author created	Internet User Information Privacy Concern (IUIPC)	3	1. Awareness of privacy practices (3 items)
				2. Collection (4 items)
				3. Control (3 items)
Dinev and Hart (2006a)	Dinev and Hart (2004)	PCIA	1	PCIA (4 items)
Dinev and Hart (2006b)	Dinev and Hart (2004)	PCIA	1	PCIA (4 items)
Eastlick et al (2006)	Milne and Boza (1998); author created	Privacy Concern	1	Privacy Concern (4 items)
Van Slyke et al (2006)	Smith et al (1996)	CFIP	4	1. Collection (4 items)
				2. Unauthorized secondary use (4 items)
				3. Improper Access (3 items)

				4. Errors (4 items)
Buchanan et al (2007)	Extensive combination of 45 items; Malhotra et al (2004)	General Internet Privacy Concern	1	General Internet privacy concern (16 items)
Casteñeda et al (2007)	Culnan (1993)	General Online Privacy Concern	2	1. Concern for control over collection of personal information (4 items)
				2. Concern for control over use of personal information (4 items)
	Culnan (1993)	Merchant Specific Online Privacy Concern	2	1. Concern for control over collection of personal information (2 items)
				2. Concern for control over use of personal information (2 items)
Moscardelli & Divine (2007)	Nowak and Phelps (2000); Sheehan & Hoy (1999)	Privacy Concern	1	Privacy Concern (14 items)
Lian and Lin (2008)	Smith et al (1996)	CFIP	2	1. Collection (4 items)
				2. Unnamed (10 items)
Xu et al (2008)	Smith et al (1996)	Privacy Concern	1	Privacy Concern (5 items)
Krasnova & Veltri (2010)	Dinev and Hart (2006)	Privacy Concern	1	Privacy Concern (4 items)
Li et al (2010)	Smith et al (1996); Malhotra et al (2004)	Global Information Privacy Concern	1	Privacy Concern (3 items)

Somewhat unexpected results were evidenced in three instances (Sheehan and Hoy, 2000; Buchanan et al, 2007; Lian & Lin, 2008). Sheehan and Hoy (2000) had proposed that privacy concern consisted of five dimensions established from the literature, yet the three factor solution that emerged was inconsistent with that expectation. Similarly, Buchanan et al's (2007) expectation of a multi-factorial solution for a complex construct was not realized. Lian and Lin's use of Smith et al's (1996) scale should have yielded a four factor solution; however, only two factors were evident in the presentation of their results, and this issue was not addressed in their study.

Excepting Buchanan et al (2007), single factor solutions of the construct were expected for the remaining studies given the parsimony exhibited in the scales employed by those authors.

### **Consumer Online Concern for Information Privacy in Nomological Networks**

Numerous variations were noted between the objects of the privacy concern construct and the tested nomological networks in the selected studies. Table 3 provides an overview of the stated objects of the concern measure along with its statistically significant immediate antecedents and consequences for studies that explored nomological relationships.

**Object of privacy concern.** The object of the consumer privacy concern differed considerably in the studies examined. While some cases asked respondents about their privacy concern online generally (Dinev & Hart, 2004; Dinev & Hart, 2006a and b; Buchanan et al, 2007), other studies measured respondents' concern about privacy in reference to 'online companies' (Bellman et al, 2004; Malhotra et al, 2004; Van Slyke et al, 2006). Other studies more narrowly asked respondents about certain types of websites, such as 'financial websites' or 'online social network sites' (Xu et al, 2008), or specific corporate entities that were either real (Van Slyke et al, 2006) or fictional (Eastlick et al, 2006). Lian and Lin (2008) did not specify the object of the privacy concern need be an online entity at all, by only measuring privacy concern with respect to 'companies'. Finally, Sheehan and Hoy (1999) and Moscardelli and Divine (2007) measured consumer privacy concern as an attitude toward specific business-to-consumer (B2C) behaviours with items such as, 'you receive e-mail from a company you have sent e-mail to in the past' and 'you are asked to provide names of newsgroups read to access home page' (Sheehan & Hoy, 1999, p.42)

**Antecedents.** As seen in Table 3, seven of the twelve studies placing the privacy concern construct in a nomological network examined its antecedents. Though many different antecedents were identified, some common relationships were noted across studies.

Internet experience had been shown to be related to privacy concern in three of these studies (Bellman, 2004; Dinev & Hart, 2006b; Moscardelli & Divine, 2007), though the direction of the relationships differed in these cases. Both Bellman et al (2004) and Dinev and Hart (2004) showed that Internet experience reduced consumer privacy concern, however, Moscardelli & Divine's (2007) hierarchical regression analysis established that teens who used the Internet more and who possessed email addresses had higher privacy concerns.

Consistent with privacy calculus theory that consumers willingly exchange aspects of privacy for certain benefit, some authors investigated the influential role of risk or vulnerability in privacy

**Table 3. Statistically Significant Nomological Network Relationships in Reviewed Studies**

<b>Study</b>	<b>Object of privacy concern</b>	<b>Antecedents (relationship direction)</b>	<b>Consequences (relationship direction)</b>
Sheehan and Hoy (1999)	Defined B-to-C contact behaviours	n/a	Register for websites (-); Provide incomplete data (+); Notify ISP about unsolicited email (+); Request removal from mailing list (+); Send highly negative messages (+)
Bellman et al (2004)	Online companies	Internet experience (-)	n/a
Dinev and Hart (2004)	Online	Perceived vulnerability (+)	n/a
Malhotra, Kim and Agarwal (2004)	Online companies	n/a	Trusting beliefs (-); Risk beliefs (+)
Dinev and Hart (2006a)	Online	Perceived Internet privacy risk (+)	Willingness to provide personal information to transact online (-)
Dinev and Hart (2006b)	Online	Internet literacy (-); Social awareness (+)	Intention to transact online (-)
Eastlick et al (2006)	Fictional insurance company	Services e-tailer reputation (-)	Trust in services e-tailer (-); Purchase intent in services e-tailer (-)
Van Slyke et al (2006)	Online companies generally; merchant specific	n/a	Trust (+); Risk perception (+);
Buchanan et al (2007)	Online	n/a	General Caution (+); Technical Protection (+)
Moscardelli & Divine (2007)	Defined B-to-C contact behaviours	Gender (+female); concept-oriented communication style (+); Informative peer influence (+); Frequency of Internet Use (+); Own email address (+)	Provide inaccurate information when registering for websites (+); Notify ISP about unsolicited emails (+); Request removal from email lists (+); Flaming entities sending unsolicited email (+)
Lian and Lin (2008)	Organization	n/a	Attitudes toward online shopping for tangible products (-)
Xu et al (2008)	Websites in one category	Privacy intrusion (+); privacy risk (+); privacy control (-)	n/a

concern. Perceived vulnerability (Xu et al 2008) or perceived risk (Dinev & Hart, 2004; Dinev & Hart, 2006) were observed to influence privacy concern.

While control was included in some measures of privacy concern as mentioned in the previous section, some authors had established that control is indeed a separate construct in the complex nomological network of which privacy concern is a part (Dinev & Hart, 2004). Although Dinev and Hart (2004) did not establish a relationship between control and privacy concern in their regression analysis, Xu et al (2008) recognized it as an antecedent to concern.

Other antecedents to privacy concern noted in this body of literature included social awareness (Dinev & Hart, 2006b), and services e-tailer reputation (Eastlick et al, 2006). Moscardelli and Divine (2007) also demonstrated that being female, having informative peer influences and being from homes with concept oriented communication styles positively influenced privacy concern.

**Consequences.** The consequences of privacy concern observed in the selected studies can be classified in four categories. First, risk perceptions were increased with privacy concern (Malhotra et al, 2004; Van Slyke et al, 2006). Second, consumer willingness to transact with a website (Dinev & Hart, 2006 a and b) or attitude toward shopping for tangible products online (Lian & Lin, 2008) was diminished with privacy concern. Third, consumer intention to engage in protective behaviours was increased in response to privacy concern (Sheehan & Hoy, 1999; Buchanan et al, 2007; Moscardelli & Divine, 2007) Finally, trust was an outcome of privacy concern, however the direction of the relationship could not be concluded due to inconsistencies reported in this review. While Malhotra et al (2004) and Eastlick et al (2006) report that trust was negatively impacted by privacy concern, Van Slyke et al (2006) confirmed that consumer trust in a specific website (Amazon.com) was enhanced by privacy concern.

## Discussion

The previous sections of this paper have presented an overview of sixteen empirical studies about online consumer information privacy concern that met rigid selection criteria. Careful analysis of the selected literature plainly indicates that despite the recent volume of research about online privacy concerns, understanding of the privacy concern construct and its place in a nomological network remains unclear. With even the narrowest constraints imposed upon the privacy construct, inconsistent conceptualizations have created yet another body of disparate knowledge. The numerous other inconsistencies in the study contexts, methodologies, and confirmed nomological networks shown in the body of work reviewed further propagates the poor understanding of privacy concern that had been noted between analyses conducted in offline contexts (Casteneda et al, 2007; Xu et al, 2008). Thus, comparison of results and extension of knowledge on this basis becomes challenging at best.

Particular difficulties were noted with two conceptualizations that initially demonstrated merit with their rigorous treatment of extant literature (Malhotra et al 2004 ; Castañeda et al's 2007). Both Malhotra et al (2004) and Castañeda et al (2007) suffered from the likelihood of confounding the privacy concern construct conceptualization with the inclusion of control. While Malhotra et

al (2004) included control as a distinct dimension of privacy concern, Casteneda et al (2007) included control in both privacy concern dimensions measured – ‘control over collection’ and ‘control over use’. However, as previously discussed, Dinev and Hart (2004) clearly showed that control is a construct distinct from privacy concern and no direct correlation between perceived control and privacy concern was found to exist.

Another challenge with Casteñeda et al (2007) resulted from its failure to include ‘knowledge’ as a dimension of privacy concern or place it within a nomological network despite its frequency of appearance within the study’s extensive literature review. While it may be argued that the same definitional inconsistencies that plague consumer concern for information privacy in online contexts existed in the offline situated literature used to conceptualize the construct, Casteneda et al’s (2007) two-dimensional conceptualization of control was disappointing given the authors’ clear acknowledgement that ‘knowledge of collection’ and ‘knowledge of use’ were recognized as important in studies argued to be foundational.

Despite the problem identified with Malhotra et al (2004), it must be recognized that the IUIPC conceptualization did receive some validation in another study (Buchanan et al, 2007). Support for Malhotra et al (2004) in this instance was not conclusive, however, as Buchanan et al (2007) did not attempt to confirm the dimensionality of the construct. Instead, IUIPC was treated as a global measure of information privacy concern in a nomological network yielding privacy protective behaviours.

The conceptualization that appeared to have the most support in the reviewed literature was validated in two instances, but its acceptance is not unencumbered. Despite the caveats noted next, Smith et al’s (1996) rigorously developed CFIP construct is considered to be the strongest conceptualization of consumer information privacy examined in the literature reviewed.

Smith et al’s (1996) CFIP construct was shown to consist of the four expected factors when adapted to online contexts (Bellman et al, 2004; Van Slyke et al, 2006), thus indicating that consumers hold concern about information privacy related to collection, unauthorized secondary use, improper access and errors. However, differences did emerge in its presentation as a second order construct with Bellman et al (2004) confirming a reflective relationship and Van Slyke et al (2006) demonstrating a formative relationship. Malhotra et al (2004) did also confirm support for this conceptualization in their work, though the authors noted the superiority of their own IUIPC at that time.

Where the Smith et al (1996) conceptualization encountered most difficulty was in Lian and Lin’s (2008) two-factor solution. Unfortunately the authors did not discuss the results of their factor solution or provide enough detail to permit further interpretation. It is possible that application of this conceptualization to a Taiwanese sample created the differences noted, but Bellman et al’s (2004) study provided support for acceptance of the scale among international respondents as does Rose’s (2005) validation of the construct in a New Zealand sample situated offline.

Another area that appeared to generate difficulty in comparative insight of conceptualizations among studies was authors’ interest in parsimony. While this author appreciates the practical li-

mitations of employing extensive scales, the complexity of the privacy concern construct and its nomological relationships likely warrants comprehensive treatment of the construct. Dinev and Hart's (2004) empirical analysis clearly established a two-factor solution for privacy concern that distinguished privacy concern for information finding (PCIF) as both distinct and related to privacy concern for information abuse (PCIA), yet future studies by these and other researchers (Krasnova and Veltri, 2010) included only PCIA items without justification. Similarly, Xu et al (2008) opted for a parsimonious representation of Smith et al's (1996) CFIP in their investigation of antecedents to privacy concern. However, this created a situation where an overall privacy concern was measured but did not permit examination of interactions of hypothesized antecedents with the various dimensions of the concern construct and prevented further insight into establishing the reflective or formative nature of the construct in second order representations.

The concentration of research in consumer online information privacy set in the United States is also an observation that requires mention. While some studies reviewed in this analysis present data collected from outside the US, a Canadian perspective was clearly lacking excepting the few respondents included in Bellman et al (2004). Despite Canadian and American consumers' many resemblances, our distinct privacy regulatory environments make it impossible to generalize results obtained from US respondents to Canadian consumers. Unlike Canada, the United States does not have omnibus rules governing organizational privacy practice. As such, Canadian consumer perspectives and behaviours may exhibit differences and thus require investigation.

Despite an inability to compare nomological networks due to the inconsistencies in construct conceptualization, the analysis presented in this paper provides some support for the existence of a privacy calculus mechanism and inclusion of trust in future research in this area. However, hypothesizing the direction of the relationship between trust and privacy concern will require increased analysis from the trust literature.

## **Conclusion**

Though consumer privacy concern has been studied fairly extensively of late, we know little about the construct. Despite decades of study, there is still no commonly accepted definition. That consumers continue to share vast quantities of personal information in Web 2.0 environments but cite high levels of privacy concern in public opinion polls indicates that we do not fully understand how the construct operates in nomological networks. Consistent application of one operationalization of the construct is warranted to extend the body of knowledge thus accumulated. While this analysis does not suggest one conceptualization of privacy concern to be superior in all cases, nor does it suggest that other conceptualizations of the construct are incorrect or necessarily inappropriate, there is support presented herein for consistent adoption of Smith et al's (1996) CFIP construct to represent consumer online information privacy concerns given its support in offline study and its validation in the online context (adapted version). This assessment also concludes that inclusion of a Canadian perspective in the discussion of consumer online information privacy concern is overdue. Finally, inclusion of trust in hypothesized nomological networks with the online consumer information privacy concern construct is an area of study that requires further empirical investigation.

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## **AN EMPIRICAL MODEL FOR TESTING FACTORS AFFECTING BUSINESS-TO-CONSUMER E-COMMERCE IN SAUDI ARABIA**

The exponential growth and proliferation of new media technologies has revolutionized the global marketplace, giving rise to such segments as E-Commerce (EC). One research stream in EC focuses on the numerous factors that either support or inhibit its growth. This paper provides a detailed analysis of opportunities and challenges unique to the proliferation of digital economy in Kingdom of Saudi Arabia (KSA). We identify factors that may affect online consumer behaviour in KSA. We also propose an empirical model for testing the significance of those factors.

### **Introduction**

Recently, nothing has paralleled the exponential growth of the Internet. The World Wide Web has evolved into not only the most prevalent and convenient encyclopaedia of information but also a vehicle for the complete transformation and simplification of many everyday tasks. It now globally permeates the everyday lives of individuals. With this progression has come a novel opportunity for marketers to expand their horizons to an unparalleled degree, as companies now have access to new markets. These markets are veritable blank slates awaiting the input of marketers.

The Internet has revolutionized marketing and profoundly influenced the consumer behaviour (Belch & Belch, 2004). Many researchers agree that the sheer volume of business-to-consumer (B2C) transactions is growing annually at an unprecedented rate and will likely continue increasing for the foreseeable future (Ahmad et al., 2004; Dennis *et al.*, 2009). Indeed, the EC has become one of the largest markets worldwide, with the volume of global EC expected to top a staggering \$13 trillion by the year 2012, involving 850 million people (Velasquez et al., 2009). Such dramatic growth indicates the transformation of consumer behaviour and a need for rigorous research to find what steers B2C e-commerce (EC).

In this evolving field, researchers have discovered a multitude of factors which influence individual decisions related to EC. The study of such factors is of interest across the globe. However, our focus is on the Kingdom of Saudi Arabia (KSA), a market that exhibits many distinctive qualities and extraordinary potential but has not yet been the subject of rigorous

study of e-consumer behaviour. The emphasis KSA gives on moving towards digital economy is evident from e-government initiatives as well as from a notable but gradual shift towards EC (Abanumy *et al.*, 2005). Furthermore, consumers in KSA are already shopping online, as \$3.28 billion were spent on B2C in 2008. Still, the level of diffusion of EC in KSA is lower than that in comparable markets, indicating a need for detailed research into factors helping or hindering the proliferation of B2C in KSA (Al-Maghrabi & Dennis, 2010).

In KSA, unique opportunities and challenges related to social/cultural norms require detailed analysis for better understand this burgeoning market. Some of these unique characteristics of the Saudi market are discussed in detail later in the paper. These characteristics include language, privacy issues, gender segregation, a lack of civil addresses for prompt deliveries, offline shopping as a form of evening leisure activity, etc.

In order to understand, plan, and explain the penetration of EC in KSA, more in-depth knowledge of the online purchasing behaviour of Saudi citizens is required. As a result, qualitative research on the effects of the various factors that influence the behaviour of online purchasers in KSA is presented herein through critical research, personal observations, and interviews conducted with Saudis. Indeed, no previous research has considered continuance intentions for EC or gender-based differences in online shopping behaviour in KSA.

This research provides a rigorous conceptual model that integrates different factors in the unique context of KSA. In addition, it provides a review of the main theoretical approaches that define, classify, and explain the e-consumer behaviour. Moreover, it delineates and assesses the factors which influence online purchasing behaviour.

### **Theoretical Underpinning**

Researchers have strived to explain behavioural patterns of e-consumers using various existing theories. Here we explore some theories that provide good explanations for e-consumer behaviour.

#### **Theory of Reasoned Action (TRA)**

One theory utilized in online shopping studies is the TRA, which suggests that an e-consumer's behavioural intention (BI) is determined by two important constructs: the individual's attitude toward behaviour (ATB) and subjective norm (SN). ATB is determined by the individual's beliefs about consequences of the behaviour. SN is determined by the individual's perceptions of social normative pressures about the behaviour. Research in TRA suggests that lifestyle, benefit perception, purchase preference, and demographic profile are the key factors affecting B2C behaviour (Wu, 2003). The TRA has its limitations such as an implicit assumption that, in the post intention stage, an individual is free to act as per intention without limitations. The Theory of Planned Behaviour was proposed to take care of this limitation.

#### **Theory of Planned Behaviour (TPB)**

The TPB is an extension of TRA by adding one major predictor construct, perceived behavioural control or PBC in determining BI. PBC is an individual's perceived ease, or lack of it, of performing the behaviour. It determines the confidence/control, or lack of it, over the behaviour. TPB also helps in understanding the link between the attitudes of consumers and their online purchasing behaviour. In the context of B2C, the application of TPB revolves

around the intention/attitude of an individual to engage in online purchasing. The TPB postulates that attitudes towards B2C are dependent on ATB, or the beliefs held by a consumer regarding the specific attributes of retail websites, such as whether or not they can find a product that fits their preferences. They are affected by SN, the social influence of the views and opinions of others, regarding B2C. Also, the beliefs held by users about the availability of technologies, opportunities, know-how, etc. and the ability to benefit from such resources affects the behaviour (Lim & Dubinsky, 2005). Such factors influence the degree to which user feels a sense of control, termed as PBC, affects e-consumer behaviour (Pavlou, 2002).

### **Technology Acceptance Model (TAM)**

Since computer technology is relatively new to some, people may feel reluctant to using it due to a lack of familiarity with keyboard usage, fear of identity theft, fear of "pushing the wrong button", etc. TAM is basically an adaptation of TRA to the technology adoption studies. TAM considers various theories concerning beliefs, attitudes, intentions, and behaviours to explain factors that establish consumer acceptance of computer technologies, making it one of the most effective vehicles for investigating and explaining the Internet and B2C usage behaviour of people (Al-Maghrabi & Dennis, 2010). The constructs considered by TAM to predict behavioural intention (BI) to use technologies are perceived usefulness (PU) and perceived ease of use (PEOU). In B2C, PU refers to how much a consumer using the Internet and retail websites believes that it would enhance his or her shopping experience. Whereas, PEOU pertains to the belief a consumer has in his or her ability to use the Internet for online shopping (Klopping & McKinney, 2004).

### **Expectation-Confirmation Theory (ECT)**

ECT is widely used in analyzing post-purchase customer satisfaction. ECT proposes that consumer expectations and attitudes about a product/service are solidified prior to the purchase/use. ECT also describes the key factors that compel the desire to repurchase a service/product such as expectation, perceived performance, confirmation, satisfaction, and repurchase intention. It posits that if the primary expectation is fulfilled and resulted in a positive confirmation while achieving consumer satisfaction then consumer is likely to repurchase the product/service (Salo & Karajaluoto, 2007). As such, a superior B2C experience would facilitate more B2C; whereas, a poor B2C experience would discourage B2C (Chang & Chou, 2011).

## **Factors Affecting Online Shopping Behavior**

Researchers have identified important factors that are specific within the context of online consumer behaviour. These factors have a great influence on most countries around the world; however, they cannot be applied universally, and generalizing in regards to their effects on countries such as KSA could have illogical or inaccurate results. Understanding consumer attitudes aids marketing managers to make predictions regarding online shopping rates and to evaluate future growth patterns in EC. Online shopping benefits, perceptions, and other external factors have been found to influence purchasing behaviour and shopping rates (Delafrooz *et al.*, 2009). Here we provide some discussion of additional factors which have a pervasive global impact.

### **Actual Look and Feel of Product**

The main disadvantage of online shopping is that customers are not able to physically examine the product that they wish to buy; this drawback is pervasive across the globe. We carried out personal interviews with people in KSA in order to investigate how this negative aspect affects the attitudes of Saudis with respect to online shopping. Interviewees exhibited the ubiquitous sentiment that both feeling the product and testing the actual colours, textures, and materials are more conducive to making a purchase than merely seeing the product online. Although pictures and videos can provide an adequate representation of what customers can expect when they receive the product, certain products such as electronic items and clothing might require first-hand examination. This can prove to be a determining factor behind customers making a purchase or not (Ahmad, 2002; Bellman *et al.*, 1999).

### **Website Usability**

Studies have demonstrated that certain website design factors profoundly affect the intention a consumer has to revisit the site of an online retailer and, in all probability, repurchase products or services. Shopping at an online store lacks lively interaction with a product. As the consumer cannot touch or smell the product, online shopping depends mostly on the website itself. For example, if a customer wishes to purchase a cell phone, he or she will not be taken in by the physical attributes of the product. Rather, the technical specifications that are listed on the website will become the deciding factor. Also, consumers are more likely to be attracted to websites that are striking in design, user friendly, and informative (Ahmad *et al.* 2004). This puts more weight on the quality of information, design, speed, and interactivity between the consumer and the customer care section of a website; these too are major factors affecting the purchasing behaviour of e-consumers (Udo, 2001).

**Information.** The Web has become a world-wide source of information for potential buyers as they decide whether to purchase a particular product or service. Traditional shoppers have to go to an actual outlet if they need to learn any relevant information regarding goods or services. The Internet has removed the need for this as it is a virtual display platform for all kinds of goods and services. Therefore, customers have access to all the necessary information that can aid them in making a purchase. This brings to the forefront a number of crucial elements regarding the quality and quantity of information that is provided (Ahmad, 2002; Kim & Kim, 2004). Information available on a website can be divided into two sections: product information and service information (Park & Kim, 2003). Information about the product could be descriptions, recommendations, and feedback reports, while service information might be FAQs, promotions, membership information, ordering, and delivery. This information should be sufficient and up to date in order to help consumers make the right purchasing decisions (Kwak *et al.*, 2002). Information on the Web is affected by the surfing experience as well as by the quality and quantity of content (Park & Kim, 2003), and the previous example of KSA demonstrates how a lack of speed and efficiency can have a detrimental effect on purchasing experiences and, by extension, online purchasing rates. Additionally, the nature of the information available on a product or service can also be a key influence on the shopping behaviour of online consumers. According to ECT, consumers will feel hesitant if the quality and the quantity of the information do not meet their expectations. Positive information with respect to reviews and personal preferences can result in a purchase being made, while the opposite can convince a customer not to do so (Kim & Shim, 2002).

**Design.** In EC, the major medium of communication is the website through which businesses advertise, promote, market, sell, and get feedback about their products/services. Consumer

perceptions of a company are strongly affected by the quality and interactivity of the interface and the presentation of the products/services. These often affect frequency of visits and frequency of purchases (Udo, 2001). Website design should be user friendly and easily guide the user throughout the website, reducing the time and effort expended on the process of acquiring information (Jenamani *et al.*, 2006). While distinguished web design attracts users to the website, personalization retains current and potential consumers for longer period of time by enhancing the user experience (Ahmad *et al.*, 2004; Jenamani *et al.*, 2006).

**Speed.** Slow website response could be a fatal factor affecting the purchasing decisions of e-consumers (Rose & Straub, 2001). Indeed, it affects the site usability and consumer attitudes negatively. Regardless of what technical reasons for slow response, users often conclude that slow response is due to the low quality of service and thus terminate the whole process. Slow downloads, which are present globally in countries such as KSA, will make consumers hesitant to navigate to another webpage (Konradt *et al.*, 2003).

**Interactivity.** Online interactivity is real-time communication, including a simultaneous and continuous exchange of information (Chen&Yen, 2004). Online shopping interactivity needs to be similar to the actual shopping environments at traditional retail stores. Many websites use e-mails, links, discussion forums, offline/online chats, etc. to present more convenient interactivity. Similarly, navigation from one webpage to another is also a common factor affecting consumer decision-making. Smooth and advanced navigation tools could also influence consumer attitudes by providing a sense of control, reliability, and trust, leading to more purchases (Ahmad, 2002; Udo, 2001). Whereas, inadequate interactivity can disrupt the navigation flow, resulting in loss of sales.

## **Convenience**

Convenience refers to the ability of a customer to shop on a flexible 24/7 schedule from their homes. Once again, websites that are easy to use and save customers time, while giving them greater control, enhance the shopping experience and contribute towards customer enjoyment (Kaufman & Lindquist, 2002). Indeed, an access to reliable and fast Internet service is a prerequisite to this convenience. Intuitively, the greater the ability to go online, the more online purchases will be made. Indeed, the recent introduction and popularity of high-speed Internet in KSA has led to a rise in online transactions.

## **Reduction in Search Time**

A significant influence on the decision to shop online by an individual is the amount of discretionary time available to them. More and more households around the globe, including those in KSA, are becoming dual income, which means that the number of hours spent at the workplace is on the rise. Consequently, there is less time to spend looking for products via traditional methods. EC web sites offer newer and more convenient ways to buy goods. People are now able to visit a large number of stores and indulge in comparative shopping within a short time period (Bellman *et al.*, 1999). In addition, saving time includes the time spent on navigation and downloading, which is directly related to consumer purchasing decisions. Ultimately, an e-consumer will be more likely to purchase a product/service online when the process of making this purchase is greatly facilitated, and the absence of the usual time barriers related to in-person shopping experiences is emphasized. With the absence of physical customer service aids and cashiers, online users wish to capitalize on the ability to do their shopping without the hassle of long lines and time spent commuting. Therefore, positive

perceptions of retail websites are dependent on how easily consumers are able to make their purchases and the amount of time that it takes them to do so.

### **Reduction in Search Costs**

Offline stores require the customer to travel, resulting in added expenditures such as fuel costs. In order to get the exact product or service that they want, customers have to work on a basis of trial and error, which increases the cost involved. At times, consumers might not be able to travel to stores that are located far from them. As a result of this, they may end up purchasing goods or services that are overpriced. The Web offers a rich source of information for price comparisons and does not require customers to leave their homes. This rich information repository is available at almost no cost (Brynjolfsson and Saunders, 2009). This factor can influence consumers to utilize online shopping (Brynjolfsson et al., 2008; Kwak *et al.*, 2002). On the other hand, delivery could add more costs if there is no efficient and efficacious delivery system. This is also the case in KSA.

### **Price of Product or Service**

Offline shopping provides the opportunity to see the actual product and come face-to-face with the merchant or the sales representative. However, e-consumers can significantly reduce the expenditure of effort, time, and money when shopping online. Also, there are more options and opportunities online, and it is more convenient to compare products and prices while surfing the Web (Sulaiman *et al.*, 2005). According to Haque et al. (2006), practical assessments by researchers have found that purchasers value price above most other factors while shopping online. The availability of better deals online motivates purchasers to shop online. Their research also revealed that price positively influences online purchase behaviour. Additionally, retail websites compete with each other in order to provide the best prices possible for potential customers. Such intense competition will continue to increase with the augmented availability of both intelligent search engines and different official websites of online marketers; these allow online purchasers to easily compare product offerings from various online retailers (Haque et al., 2006).

### **Wider Market Access**

The sheer number of retail websites online means that consumers have a much wider range of products and services to choose from than would have otherwise been possible. Many websites can be customized so that consumers are able to access products and services that meet their exact requirements. The sheer volume of online retail sites means that prices are competitive, with many sites offering promotions that are often not available at physical stores. Moreover, a wider selection is a determinant of online purchasing behaviour, and the ability to compare different products and their specifications without the need to travel is a huge attraction for potential customers (Brynjolfsson et al., 2008; Kaufman & Lindquist, 2002).

### **Utilitarian Orientations**

Utilitarian consumers display shopping behaviours that are distinctly goal oriented. These individuals concentrate on online shopping that is rational, task-oriented, efficient, and deliberate. The target of a utilitarian shopper could be any well-planned purchase: books, computers, furniture, house wares, and so forth. This type of consumer, mostly comprised of

men (Burke, 1997), will not be swayed by websites that cater to leisure or entertainment. Since utilitarian consumers wish to make their purchases with the least amount of hassle possible, they are more likely to use the Internet as a source of information (Kim & Kim, 2004). Therefore, vendors and marketers have to pay great attention to the design and content of the website that presents their products.

### **Firm Size**

Most studies have found a positive relationship between the size of a firm and its online sales rates; that is to say, larger retailers have a higher chance of adopting online marketing than smaller retail businesses. Revisiting ECT, consumers expect large retailers to have elaborate, well-developed, and reliable websites that provide all possible information needed. If this expectation is not met, it will influence consumer perceptions of the services offered by a retailer. Therefore, consumers are more likely to access the websites of large firms as compared to smaller ones (Steinfeld et al., 2005).

### **Demographics**

There are some demographic differences among Internet users. According to the CIA World Factbook (2009), the country with the highest number of Internet users is China, at 389,000,000 users in 2009. Next, the United States holds the number two spot with 245,000,000 users, and Japan comes in third at 99,182,000 users. KSA takes the 30th position with 9,774,000 users. Moreover, these figures have grown drastically throughout the years. For example, in Europe, the number of Internet users has grown by 352.0 % since 2000, which is statistically astounding, and the North American growth rate from 2000 to 2009 is 146.3 %. However, the Middle East has seen a far more significant increase in the number of Internet users, exhibiting a growth rate of an astonishing 1,825.3 % from 2000 to 2009 (Internet World Stats, 2010). These statistics clearly indicate that Internet users are increasing dramatically; this information is crucial for online retailers, given that these Internet users are all potential e-consumers.

**Geography.** Online shopping does not require the customer to travel in order to make purchases. Therefore, geographic areas do not have a major impact on whether customers choose to shop online. Nevertheless, shipping charges and delivery times may competitively favour the geographic proximity between the consumer and the shipping office. KSA enjoys an advantageous location in the middle of three continents. This geographic positioning makes KSA a hub of both online and offline economic and trade activity.

**Language.** Choice of language can help create a sense of psychological closeness and warmth and the use of natural/informal language can impact perceived social presence. Research suggests that text that stimulates the imagination may evoke elaborate/pleasurable fantasies involving the use of the product, improving liking/purchasing intentions. Furthermore, customers are more willing to purchase online when emotive descriptions of properties of products are provided rather than just a basic attribute listing (Fiore & Yu, 2001). Inability to get or understand the desired information on a website can dissuade consumers from purchasing the product (Li et al., 2002). Despite being widely spoken in KSA, the majority of Saudis cannot read and understand English well, which creates a significant barrier to B2C, as most websites are in English.

**Gender.** Some studies claim that online shopping has nothing to do with gender (Goldsmith, 2002; Alreck, 2002). Still, many other studies state otherwise. The tendency toward shopping

online is higher for men rather than for women (Dholakia, 2003; Kwak et al., 2002). The differences between men and women may be due to emotional and physical characteristics. Studies show that men tend to buy based on technical specifications of a product and women tend to buy based on aesthetic attributes (Dholakia, 2003). Women tend to be hedonistic shoppers, looking for enjoyment and pleasure; whereas, men tend to be utilitarian, looking for useful details and practical features (Dholakia, 1999). B2C is not easily amenable to hedonistic shopping involving physical visit and interaction with the products. As such, women are less emotionally satisfied with online shopping than men (Jayawardhena, 2004). Furthermore, men are often devoid of the time required for extensive physical search and are more inclined to shop online (Hashim et al., 2009). Similar gender differences are evident in KSA. For instance, women tend to buy jewellery, clothes, bags, and accessories; whereas, men tend to buy hardware and electronics.

**Social and Cultural Issues.** Cultural variations play an important role in determining attitudes towards online shopping. Collectivist societies such as KSA emphasize the maintenance of harmony by cooperating with the majority and promoting long-term relationships. Conversely, individualistic societies do not feel the need to conform to the majority (Bryan & Allen, 2008). These attitudes are also reflected in online purchasing behaviour. Individualistic societies demand greater control and higher efficiency with members more likely to access websites that address these preferences. In contrast, members of collectivist societies are likely to remain loyal to certain websites after reaching a certain degree of comfort/trust (Pavlou & Chai, 2002).

In KSA, privacy, gender segregation, busy lifestyles, and climate all play an integral role in reducing the number of potential venues for leisure and entertainment. As a result, air-conditioned malls are convenient and entertaining places for members of Saudi families to congregate. Stores, video game arcades, cafes, indoor playgrounds, sport facilities, and many more options for entertainment are available for shoppers in malls, making online shopping less attractive.

**Income and Employment Status.** Individuals who are employed and fall into higher income brackets are generally more amenable towards shopping online than others. Those with more disposal income are more likely to have credit cards and can, therefore, engage in online shopping more readily than those with lower incomes or no jobs at all. Even though employment status does not preclude individuals from accessing and possibly seeking out better deals online, the financial constraints that they face necessitate a greater degree of caution while accessing retail websites. Higher income households are not hindered by such burdens and are more likely to have a positive outlook on EC (Swinyard & Smith, 2003). In KSA, although the minimum wage is considered one of the highest in the Middle East, unemployment rates are increasing. In 2006, the official number of unemployed persons was 9%, while the unofficial figure was 20%. These numbers could have a detrimental effect on the spread of EC.

**Education Level.** The level of education can be a determinant of online purchasing behaviour, as those with higher education typically have more knowledge of the Internet and are more amenable to EC. Furthermore, there is a direct correlation between education and income, which can once again influence online shopping behaviour (Haque et al., 2005). In KSA, more students plan to upgrade their education by getting higher degrees, supported by generous government scholarships (MOHE, 2010). These students are likely to have more knowledge about and familiarity/comfort with B2C.

**Marital Status.** Married people generally have greater financial obligations, especially with large families, as is often the case in KSA. As such, they may be more likely to engage in B2C, as they require more products and have less time to get them. However, marriage also entails greater responsibility to other household members, which can deter people from pursuing any risks involved in online shopping (McKnight et al., 2002).

**Age.** Studies show that university students in the 18-24 age group are the largest demographic segment by the volume of online purchases made, largely on account of being more tech-savvy and spending a large portion of their time online. In contrast, senior citizens are the least likely to indulge in online shopping due to a lack of familiarity with current technologies and a lack of trust in online privacy/security. Professionals and working individuals in their thirties and forties also form a sizeable portion of online buyers (Haque et al., 2006). Similar demographic trends are evident in KSA, too. Almost 60% of KSA population consists of teenagers and young adults (Shoult, 2006). While older people are not especially interested in buying online, the potential for B2C in KSA remains excellent with its youthful population.

### **Technophobia**

Technophobia is characterized as "anxiety about current or future interactions with computers or computer-related technology; negative global attitudes about computers, their operation or their societal impact; and/or specific negative cognitions or self-critical internal dialogues during actual computer interactions or when contemplating future interaction" (Rosen, 1993, p.254). This kind of anxiety has a strong relationship with many demographic factors such as age, education level, and gender. Understanding how these factors combine with technophobia to influence consumers, especially e-consumers, should be a priority concern for EC sectors and marketing agencies (Gilbert, 2003).

The implications of such anxiety issues can obviously affect consumer attitudes toward online transactions and, subsequently, their purchasing behaviour. However, as the number of Internet users is growing day by day, technological awareness is increasing on a global scale. A study by Sulaiman et al. (2005) states that 78% of Internet users in Malaysia had regular access during a period of four years, which indicates the increase of Internet awareness and popularity. In the United Kingdom, online sales grew by 18% in July of 2009, with shoppers spending an average of £81 online annually. China had 108 million online shoppers in 2009 with a 45.9% annual growth rate. The Chinese online shopping usage rate was 22.1% by the end of 2007, while it has reached 28.1% at present (Su & Huang, 2011). These trends indicate that people are substituting traditional media such as television or radio with the Internet as a primary source of information. It also shows that people around the world are becoming more comfortable with the Internet and other similar technological advances.

However, there are still individuals who shun the use of computers and possess a negative attitude toward technology. Laeimau Tanuvasa, the CEO of Computer Service Limited (CSL), says that teachers in schools are afraid of using computers. She found that one reason is a lack of information and knowledge about computers. Another reason is their fear that computers might replace them (Netzler-Iose, 2011).

Such attitudes might result not only in avoiding computers and technology in general, but could also lead to loss of potential online consumers. We were not able to find any studies that assessed the prevalence of technophobia and its impact in the Saudi context. As such, this may be a good research direction.

## **Privacy Issues**

Personal information is an important aspect of any Internet transaction. The more profoundly personal this information is, the more concerns about a potential breach in confidentiality rise. On the other hand, marketers and vendors need this information in order to retain customers and apply strategies and ideas to their marketing plans, such as personalizing communications and promotions for individual consumers. Many studies have been conducted about trust and privacy issues; these studies have discussed concerns about personal information and the willingness of consumers to provide it (Udo, 2001). Moreover, not all consumers have adequate awareness of the legal and ethical regulation of online operations, so they are not able to consciously identify the implications of sharing their information online (Premazzi, 2010). That would leave them with a feeling of uncertainty, which would then lead to hesitation before making a purchase. In certain markets – for example, in KSA – sharing information is a crucial element behind the psychology of e-consumer behaviour. This is due to the high value of privacy and the collectivist nature of Saudi society and its surrounding cultural context.

Rifon et al. (2005) found that three-fourths of users view the Internet as a privacy threat. This suggests that online privacy invasion is a major deterrent to potential online shoppers. In fact, threats to privacy can reduce participation in online commercial activities and are particularly disconcerting to new users and women. Most consumers have told researchers that they are concerned about their safety. However, they are faced with motivational conflicts. Website usability – as mentioned earlier in relation to fast navigation and ideal download time – would cast the website in a more trustworthy light (Foucault et al., 2005). Privacy policies are intended to provide information to consumers so that they can control their participation in the process based on knowledge of website information practices. A consumer who is actively assessing information practices on a website would be motivated to do so, at least on the first visit, beyond the impetus to find information on the Internet. This means that customers will potentially make fewer purchases due to an increase in concern about safety issues (Rifon, Larose, & Choi, 2005).

## **Payment System**

Checkouts on websites generally necessitate the use of credit cards as a means of payment. This requirement can daunt those who are wary of credit card theft and of third parties intercepting these transactions (Rodgers & Harris, 2003), which triggers privacy issues once more. On the other hand, the speed of processing these payments increases the efficiency of websites and presents customers with a viable alternative to the long queues that are often present at large retail stores (Foucault et al., 2005). In addition, interest on credit cards is not acceptable by the Islamic law that rules KSA, a phenomenon which has a direct affect on the processing and completion of payments in an online transaction. All the aforementioned factors have a notable impact on the current state of online purchasing in KSA.

## **Unauthorized Online Purchases**

The risk of third-party interceptions means that online customers risk their credit card information being procured and used to make unauthorized purchases. Retail websites are not authorized to refund customers once such purchases are made, which means that they risk suffering huge financial losses. This factor is closely aligned with those concerning privacy and security (Premazzi, 2010).

## **Customer Service**

Consumers are likely to be dissatisfied with the lack of customer care available online. The advantage of physical stores lies in the ability of potential buyers to seek assistance in relation to certain products and to get personal care and attention. The nature of the Internet and online shopping prevents personalized interactions with experts and retail store representatives. The inclusion of FAQs has stemmed from customer concerns in this matter and seeks to assist website users in making informed choices with respect to their purchases (Swinyard & Smith, 2003).

## **Novelty of the Saudi Context**

There are numerous factors which have a significant influence on EC in general. These factors also have an impact on EC in KSA. However, within the context of KSA, the specific ways in which general factors as well as specific factors manifest are quite unique. In the following, we provide a survey of factors that support or hinder the proliferation of B2C which are relatively unique to the KSA context.

## **Enjoyment**

Shopping in KSA is a very popular leisure and social activity. As the climate in KSA is notoriously arid and hot, Saudis tend to congregate for socialization in shopping malls due to the presence of air conditioning. Additionally, shopping malls present a host of entertainment options such as restaurants, sports and games facilities, video game arcades, playgrounds for children, and cafes. Some malls are only for families or women and many have women-only floors. This also increases the popularity of shopping malls as a place to go for enjoyment. This view of shopping as a form of entertainment has can be detrimental to the growth of EC, given that EC may not present an equally enjoyable and social experience. Online buying cannot provide the complete experience of walking through a store filled with various products, listening to mood-enhancing music, touching and examining the products, and interacting with other customers. This can reduce the enjoyment of the experience and, therefore, lower the chances of unplanned purchases being made.

## **Adequacy of Net Legislation**

In KSA, specific laws for electronic trading have not yet been extensively formulated. In fact, the need for such laws has not been identified within the Saudi community. This lack of clearly stated and rigorously upheld trading laws might be one of the factors dampening the attitudes of Saudi consumers about online purchasing. Consumers need to have clear statements of their rights and obligations, the absence of which makes them more hesitant to buy online and more likely to buy offline. Still, the Saudi government has issued some regulations in regards to electronic publications which show that there some improvements being made, and plans for passing stricter laws for Internet usage and trading are currently underway. Besides, in 2008, the ministry of communication and technology in KSA passed a law dealing with issues surrounding online activities and trade (MCIT, 2011).

## **Payment Systems**

As the Saudi community is ruled by an Islamic system, using credit cards as a payment system is problematic, as any interest based financial transaction is forbidden by the Islamic

law. A lack of a reliable mode of payment has had a detrimental effect on the diffusion of EC in KSA. However, some Saudi banks now offer prepaid credit cards that can be used without interest, as it only has an annual fee for providing the service. This may be a step forward in solving this problem. Moreover, payments made over the Internet via Interac Online are becoming more widespread globally. This could be a positive solution for issues connected to unreliable payment methods in the online KSA market.

### **Security and Privacy Issues**

Recently, a lot of privacy invasion and security issues have been prevalent in KSA society, and this has resulted in a rise of concern about the practices of online businesses. In a study conducted by the Center of Excellence in Information Assurance (COEIA) on the information assurance, it was stated that 56% of the KSA firms surveyed witnessed no hacking incidents, 22% witnessed hacking incidents, and 20% were not sure whether they had or not (Al Mesaiheej, 2011). The occurrence of hacking in 22% of businesses is relatively high, especially taking into consideration that this is a figure for official KSA organizations and that figures related to the hacking of private websites have not been issued yet. Thus, it is no wonder that the Saudi e-consumer is hesitant in regard to shopping online.

### **Quality of Internet Service**

Internet service in KSA needs a great deal more development. Faster connections are expensive but sort of mandatory for safe and convenient online purchasing. Thus, Internet connections are a significant barrier to the assimilation of EC in Saudi society. As the number of Internet users is growing exponentially in the region, more investment into Internet service providers would benefit not only the EC, but also, in turn, the national economy.

### **Postal/Delivery System**

Another factor that influences online purchasing within KSA is its inefficient postal delivery system. The postal delivery service in KSA has many issues. To begin with, houses do not have civic numbers, making it difficult to deliver mail to a specific address. People tend to use commercial, private delivery companies such as FedEx, DHL, or Aramex. This adds greater cost to an online purchase, resulting in outlets appearing more economical in the eyes of the general public.

### **Language**

The prevalence of English as the language of choice on the Internet raises another issue for Saudi consumers, as their first language is Arabic. In KSA, Arabic is the official language used in all business and government dealings and operations, and not many individuals speak or write English fluently. However, this particular factor could have advantageous implications. Many Saudi students now want to invest significant amount of time and money in upgrading their English. This is an indication that the younger generation of the current Saudi population will have greater English skills and a higher education level, two factors which will increase the chance that they will engage in EC.

### **Social Issues**

Social issues such as gender segregation are another major factor. Limited contact between the two genders is preferred in KSA. Thus, because shopkeepers are often males, face-to-face

purchasing could be uncomfortable for women, especially in the markets of cosmetics, jewellery, undergarments, and clothes in general. In a society that places high value on the aspect of privacy, especially for women, this fact would definitely make online shopping a desirable and welcomed alternative.

### **Regional Economic Leadership**

Being the leading economy in the region, KSA economy has considerable impact on other regional economies. For instance, the recent economic stimulus package by KSA government boasted not only KSA stock market but also other regional stock markets. Indeed, changes in the Saudi economy tend to induce similar changes in regional economies. Thus, it is an alluring target for both online and offline retailers.

## **Theoretical Constructs**

### **Enjoyment**

*H1a: The higher the perceived level of enjoyment of online shopping, the higher the tendency to shop online.*

*H1b: The higher the perceived level of enjoyment in offline shopping, the lower the tendency to shop online.*

If an e-consumer in KSA has an enjoyable online shopping experience, s/he will have a tendency to return to the site where s/he made a purchase and buy online more frequently. Thus, online retailers should create a pleasant online environment and experience for e-consumers. A consumer who finds shopping at malls to be more enjoyable, social, and interactive will not consider online shopping to be a viable option. People in KSA like to shop in malls for the variety of forms of entertainment that malls offer. As such, they are less likely to view online shopping as an alternative.

### **Internet Laws**

*H2: The higher the perceived adequacy of Internet legislation, the higher the tendency to shop online.*

Internet laws protect the rights of all parties involved in an online transaction. When such laws exist, the consumer feels more secure in making an online purchase. Therefore, online purchasers will be much more likely to participate in Internet shopping in KSA if the country protects their rights to privacy and safety on the World Wide Web.

### **Payment Systems**

*H3: The higher the number of acceptable payment alternatives a Saudi individual has, the higher the tendency to shop online.*

Payment is a crucial aspect in online shopping. Consumers feel confident in making online purchases when payment methods are secure and culturally and religiously acceptable. Due to religious legislation, Saudi citizens cannot use credit cards which use an interest-accruing system; hence, the state must provide alternative forms of payment which do not use an interest-based system.

### **Security and Privacy Issues**

*H4: The higher the number of perceived security and privacy issues, the lower the tendency to shop online.*

Privacy invasion incidents alarm online shoppers. It is important that they feel secure and protected when conducting an online shopping transaction and providing their personal information. Measures must be taken to ensure the protection and safety of e-consumers and to clearly and effectively communicate these measures to consumers as well.

### **Quality of Internet Service**

*H5: The higher the perceived quality of Internet service, the higher the perceived level of enjoyment in online shopping.*

Internet speed and usability enhance the Web-surfing experience, which consequently influences attitudes toward online shopping. If consumers can navigate a site easily and efficiently, they will have a more positive outlook on the act of making an online purchase.

### **Delivery System Adequacy**

*H6: The higher the perceived adequacy of the delivery system, the higher the tendency to shop online.*

The timely and inexpensive delivery of purchases is a cornerstone of online shopping. The concerns that consumers have about online purchases decrease when their geographical area boasts a reliable delivery system. A consumer who feels confident that s/he can receive a product quickly and cheaply will have a very optimistic image of online shopping, and will therefore be more likely to make repeat purchases.

### **Social Issues**

*H7a: The lower the number of female shopkeepers in KSA, the higher the tendency for females to shop online.*

*H7b: The higher the tendency for females to shop online, the higher the tendency to shop online for the overall population.*

Almost all shops in KSA have only male shopkeepers. In KSA, it is not a comfortable shopping experience for female shoppers in many cases. Online availability of such products, with a lot of details and a variety of prices and brands, should make women prefer B2C. Such cultural sensitivities can increase the chance EC growth in KSA. Also, the lack of professionalism in some shopkeepers would make online shopping more attractive to women.

### **Buying Power of Consumer**

*H9: The higher the disposable income, the higher the tendency to shop online.*

Intuitively, higher disposable income leads to more purchases and more online shopping. In KSA, economic benefits and wages are on the rise. Still, higher unemployment may have an opposite effect. Also, higher incomes lead to more offline shopping due to the associated fun and entertainment.

## **Conclusion**

The Kingdom of Saudi Arabia (KSA) presents unique needs, challenges, and opportunities with regards to the proliferation of E-Commerce (EC). However, there is little known about factors that may influence EC in KSA. The existing research in this area is very meagre. This paper provides an extensive survey of factors that may influence proliferation of EC in KSA. It also presents a rigorous theoretical model for scientifically researching factors affecting online shopping behaviour in Saudi Arabia. Research in this direction would help businesses

and policy makers make informed decision regarding promotion of EC in KSA. In future, we want to explore more KSA-specific factors affecting e-consumer behaviour as well as test our theories using rigorous scientific studies.



Figure 1: Empirical model for factors affecting online shopping behaviour in KSA

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## **EXAMINING RACIAL DISCOURSE IN THE CHRONICLE HERALD'S SERIES *NOVA SCOTIA BURNING***

In 2010 two brothers, Caucasian, from Hants County, NS, burned a wood cross on the lawn of a biracial couple. Applying a critical discourse framework, this research examined print articles produced by The Chronicle Herald in response to the crime. What emerged was a discourse of racial power inequalities.

### ***Racial Discourse in Nova Scotia Burning***

In February 2010 a biracial couple living in Hants County, Nova Scotia, found a cross burning on their lawn. Two brothers, Caucasian, from Hants County, were arrested and later convicted of inciting hatred by burning the cross. The cross-burning in Nova Scotia quickly became a national news story with over 150 media stories produced for television, radio and print on the incident, aftermath and sentencing. Justin Rehberg was sentenced to two months in jail for inciting hatred and two months for criminal harassment (served concurrently) and Nathan Rehberg to four months plus one day for inciting hatred and six months for criminal harassment (served concurrently) (Brooks Arenburg, 2011b). In February 2011, almost a month after the brothers were sentenced, and a year after the cross-burning occurred, The Chronicle Herald, Nova Scotia's provincial newspaper, ran a four-day series, "Nova Scotia Burning" which focused on the "...story behind the cross-burning" (Brooks Arenburg, 2011a, ¶ 20). Web videos, multiple photos, event timelines, special editorials on the series as well as an online discussion forum complemented the front page print features.

This paper examines the four print articles produced as part of the feature to critically explore the provincial newspaper's treatment of racism through this incident. Using a critical discourse framework, and considering the relationship between media, discourses and society, I contend that the "Nova Scotia Burning" series failed to confront and address issues of racism and, instead, furthered racial power inequalities through language, subject matter and discursive strategies. Three themes explain this overall finding: (1) the construction of difference through otherness and class hierarchy (2) repositioning of victims and villains (3) sustaining power through denial. The paper is structured as follows: summary of literature on racism and media, overview of critical discourse analysis framework, presentation of themes found in the

series under study, and discussion of discourse. I conclude with the implications of the paper's treatment of this topic on racial discourse in Nova Scotia.

### **Media and Racism**

News media largely determine our awareness of the world and influence the prominence of ideas. They have signifying power and can represent events in particular ways (Blommaert & Bulcaen, 2000; Fleras & Lock Kunz, 2011; Henry & Tator, 2002; Van Dijk, 1991). Agenda setting theory demonstrates that media prioritize issues, informing readers and viewers about what to think about, and how to think about it (Griffin, 2009): "Agenda setting asserts that audiences acquire [the journalistic salience of an item] from the news media, incorporating similar sets of weights into their own agendas" (McCoombs, 1994, p.4). The media contribute to systems of ideology and power effects at the micro and macro levels of text and discourse (Van Dijk, 1991). Ideology represents socially shared belief systems and media organize and group social representations shared by members of the group and provide a link between social structures, discourses and social practices (Van Dijk, 2006).

The idea that media frame certain issues or have a bias is well established in the literature (Crawford, 1998; Fleras & Lock Kunz, 2001; Henry & Tator, 2002, 2003; McCoombs, 1994; Miller, 1994, 2005/2006; Tator & Henry, 2000; Van Dijk, 1991). Media have the ability to inform racial discourse; they also have the ability to change or perpetuate ideological frameworks used to understand or control ethnic events and relations (Henry & Tator, 2002, 2003; Van Dijk, 1991). Henry and Tator (2003) argue "the mass media are in effect a tool wielded by the dominant culture to reinforce its ideologies and to promote its social, political and economic interests" (p. 11).

Scholars (Crawford, 1998; Fleras & Lock Kunz, 2001; Henry & Tator, 2002, 2003, 2009; Mahtani, Henry & Tator, 2008; Miller, 1994, 2005/2006) argue the Canadian news media advance racialized discourse and such actions have identifiable words and practices (Henry & Tator, 2009; Tator & Henry, 2000). Tator and Henry (2000) contend, "racialized discourse is a set of social practices that favours the in-group and denigrates the out-group, categorizing, evaluating, and differentiating between groups" (p. 123).

A review of literature regarding media's treatment of racial issues in Canada revealed several key themes. First, African-Canadian perspectives are underrepresented in media. Research (Crawford, 1998; Henry & Tator, 2002; Mahtani et al., 2008; Miller, 1994, 2005/2006) examining the racialization of media has demonstrated that ethno-racial communities in Canada do not experience accurate representations of themselves in media stories. While visible minorities are underrepresented and stereotyped in the news they are overrepresented in news stories related to crime (Adeyanju & Oriola, 2010; Henry & Tator, 2002, 2009; Miller, 1994).

Second, the representation of racial issues is found lacking in the newsroom (Crawford, 1998; Miller, 1994, 2005/2006). This has implications given the power

inherent in news production. Replicating a similar study from 1994, Miller (2005/2006) compared the presence of racial minorities employed in the newsroom and found that racial minorities are more than five times underrepresented in daily newsrooms suggesting that a white perspective contributes to the production of news, and to non-inclusive coverage. Moreover, coverage of minorities, and minority issues, lags behind societal presentation (Miller, 2005/2006) and Canadian media misrepresent minorities who attempt to challenge the dominant discourses through peaceful protest and dissent (Tator & Henry, 2000).

Third, media's treatment of racial topics typically reinforce negative stereotypes of minorities and further a distinction of the racialized other (Tator & Henry, 2000). Otherness is a rhetorical strategy used to control and isolate individuals and communities at the expense of the dominant social perspective (Crawford, 1998; Tator & Henry, 2000). Minorities (e.g. African Canadians, Aborigines) are featured primarily within a discourse of crime, cultural differences, poverty, unemployment and tension (Fontaine, 1998; Henry & Tator, 2003). Furthermore, discourses surrounding minorities are produced to signal a racial difference from a Euro-Canadian perspective (Henry & Tator, 2003; Tator & Henry & 2000). A study of select Canadian TV shows found overt racial bias and stereotyping; the series lacked realistic portrayals of minorities, with a focus on the Caucasian representation as the "norm" while minorities saw limited screen presence and the occupation of a passive role in ads (Henry & Tator, 2003). In addition, scholars argue (Fleras & Lock Kunz, 2001; Fontaine, 1998; Henry & Tator, 2003; Tator & Henry, 2000; Van Dijk, 1991) that overt racism has been replaced with less implicit discourses focusing on difference. Such views are embedded in the everyday activities and meanings in that they are taken for granted and assumed. These taken-for-granted meaning systems help explain and justify societal attitudes (Phillips & Hardy, 2002).

The summary of literature identified a gap in empirical research examining racial discourse and Nova Scotia media. African Nova Scotians are the largest minority group in Nova Scotia, representing 2% of the population (Statistics Canada, 2006). In addition, the group's history in Nova Scotia has been plagued with racism, inequality and neglect (Ward, 2002). The role media play in larger social discourses and actions, including the treatment of minority groups in Nova Scotia, cannot be ignored when examining social concerns. Given media's role in the production and reproduction of language, concepts, and ideologies in our society (Fairclough, 1992; Henry & Tator, 2002; McCoombs, 1994; Van Dijk, 1991) a critical discourse approach provides a powerful lens from which to view the effects and role of media in societal discourse, and from which to examine The Chronicle Herald's treatment of racism through their print series, "Nova Scotia Burning."

### **Theoretical Framework**

Discourse, of which media play an important part, is socially constituted and conditioned (Blommaert & Bulcean, 2000); it constructs how we think about and experience social phenomena (Phillips & Hardy, 2002). Phillips and Hardy (2002) contend, "...social reality is produced and made real through discourses, and social interactions cannot be fully understood without reference to the discourses that give them meaning" (p. 3). Discourse analysis explores

the relationship between discourse and social reality through language, text and context (Fairclough, 1992; Phillips & Hardy, 2002). The power of discourse is that it determines the ways in which society interprets and further reproduces discursive and non-discursive practices (Phillips & Hardy, 2002; Jäger & Maier, 2009): “Firstly, discourses form individual and mass consciousness and thereby constitute individual and collective subjects. Secondly, since consciousness determines action, discourses determine action” (Jäger & Maier, 2009, p. 37).

Critical discourse analysis is particularly relevant when issues of power and inequality are of concern as they are with racism. Critical discourse analysis examines the relationship between language and society, considering structural relationships of dominance, discrimination, power, and social inequality (Blommaert & Bulcean, 2000; Mahtani et al., 2008; Phillips & Hardy, 2002; Van Dijk, 1993, 2009). According to Van Dijk (1993), “critical discourse analysts want to know what structures, strategies or other properties of text, talk, verbal interaction or communicative events play a role in these modes of reproduction” (p. 250). The method critically examines how discourse privileges some in society at the expense of others and how power relations are enacted, reproduced and challenged through discourse (Phillips & Hardy, 2002; Van Dijk, 1993).

This paper broadly follows a three-dimensional model for analyzing text (Fairclough, 1992); however it also considers approaches employed by scholars (see Henry & Tator, 2002; Van Dijk, 1991) interested in examining the media effects of racial discourse. First, when examining discourse as text, the researcher is concerned with the linguistic features as well as the organization of concrete examples of discourse. Second, the researcher examines the texts for discourse as something produced, distributed or consumed; attention is focused on speech acts, and features that link text to context (Fairclough, 1992). Third, when examining discourse as social practice the researcher is concerned with the ideological effects of discourse (Fairclough, 1992). When the research site involves the examination of discourse produced by media, special attention may also be paid to unique features of news production, such as headlines, captions, photos, and story structure (McCoombs, 1994; Van Dijk, 1991).

Completing discourse analysis involves selecting a site or set of texts to examine. According to Phillips and Hardy (2002), selecting a research site involves consideration of the theoretical framework and research question and practical concerns of access and timing. While the cross-burning incident in Nova Scotia includes a number of print and broadcast stories, the scope of this research focuses on the print texts *The Chronicle Herald* produced as part of its special feature. Consistent with recommendations for selecting a research site (Phillips & Hardy, 2002), this site is of particular interest given the unprecedented prominence the newspaper provided to the feature series, the significance of the incident (The Rehberg brothers are believed to be the first Nova Scotians convicted of inciting hatred by burning a cross (Brooks Arenburg, 2011a), and the perspective from which the story is told: *The Chronicle Herald* examines the perspectives of the perpetrators in an attempt to understand racial issues in Nova Scotia.

## Findings and Discussion

As part of the print series, journalist Patricia Brooks Arenburg (2011d) wrote, “Many wondered who could commit such a crime [burning a cross], so The Chronicle Herald set out to learn more about the siblings” (¶ 6). In doing so, the paper “hopes [the] project leads to real changes, not only in the hearts and minds of Nova Scotians, but also in our institutions, so that something like *this* never happens again” (Brooks Arenburg, 2011b, ¶ 27) (emphasis added). When reading the articles for the first time, I was concerned about the ambiguity of what *this* referred to - the stories focus on issues of neighbour-feuding, broken homes, alcoholism and poor education as a backdrop to understand the racial crime. What do the authors aim to prevent: incidents of racial hatred or the punishment of the two siblings who burned the cross? As a result, I set out to understand how, through these four texts, The Chronicle Herald treated the event and the topic of racism.

Consistent with other approaches to discourse studies (Phillips & Hardy, 2002) the text was coded for emergent themes as well as themes established through the literature review. What emerged through analysis is a discourse that furthers a racialized society and the representation of racial inequalities. Three themes help explain this: (1) the construction of difference (2) repositioning of victims and villains and (3) sustaining power through denial.

### Difference, Otherness and Class Hierarchy

According to Jäger and Maier (2009), a reoccurring statement in a set of texts is a signpost for sustained effects and a particular knowledge/assumption. By extension, the omission of statements also serves as a signpost. “Nova Scotia Burning” featured four articles and two editorialized pieces explaining the series and the approach; across all articles a Eurocentric perspective on ethnicity emerged through the presence and omission of language.

Establishing racial differences is important for a series focused on examining a crime of racial hatred. However, what is problematic in The Chronicle Herald’s treatment of racial relations – and significant for its discursive implications - is that it presupposes a Eurocentric-perspective. Participants in the story who are of a racial minority (i.e., Black, Hispanic) are separated from Caucasians in the text – a discursive strategy that is often used to further issues of power and racial inequality in order to distinguish those who are different from the dominant perspective (Van Dijk, 1993).

When a person who was *not* Caucasian was interviewed or introduced in The Chronicle Herald series, the distinction of their race was often identified (Emphasis added throughout): “Once we [The Chronicle Herald] made contact with Shayne Howe and Michelle Lyon, the biracial couple...” (Brooks Arenburg, 2011b, ¶ 17); “‘Being a biracial couple, it was good,’ said Howe, who is black.” (Brooks Arenburg, 2011a, ¶10); “[Nathan] had recently returned from Halifax to live at his mother and stepfather’s house with Mason, who is part Hispanic” (Brooks Arenburg, 2011d, ¶ 35); “‘We’re not taught what is the truth,’ said Michael Paris, a black man who lives in nearby Windsor” (Brooks Arenburg, 2011e, ¶ 8). However, a qualifier was never provided when introducing anyone who was Caucasian.

Second, a class hierarchy also emerged to further isolate minorities in this newspaper series and privilege a Caucasian experience. The only time a racial qualifier was not used to distinguish background was for Wanda Thomas Bernard, who was introduced as “director of the school of social work at Dalhousie University in Halifax” (Brooks Arenburg, 2011e, ¶3). Thomas Bernard’s credentials are identified in the final article: a member of the Order of Canada, a researcher on the topic of race and oppression and a member of a predominantly black neighbourhood in Nova Scotia (Brooks Arenburg, 2011e). However, there is no qualifier stating her ethnicity; only by watching the complementary web video do we learn her racial background. It’s important to note that her racial background isn’t relevant to her achievements; however The Chronicle Herald created a class hierarchy by qualifying racial background when someone *does not* have such educational qualifications and when they are not Caucasian. Qualifying the racial background for those who are not Caucasian is consistent with the findings of other research (Henry & Tator, 2002, 2003) that examined media’s treatment of racial minorities.

Third, the theme of otherness is also demonstrated through the language used to describe the participants involved. The images and captions used to describe the Rehberg brothers, the perpetrators of the crime, include positive qualifiers to demonstrate their characters; however Shayne Howe and Michelle Lyon, the targets of the crime, are treated differently (Emphasis added throughout): Photo Caption: “Nathan Rehberg plays with his dog...” (Brooks Arenburg, 2011b, p. A2); Photo Caption: “Justin Rehberg enjoys a joke over dinner...” (Brooks Arenburg, 2011b, p. A2); Photo Caption: “Justin Rehberg comforts his girlfriend...” (Brooks Arenburg, 2011c, p. A4); Photo Caption: “Wanda Lynn Macumber, the mother of Justin and Nathan Rehberg, weeps for her boys, now in jail for inciting racial hatred by burning a cross: They ‘had a rough go growing up’” (Brooks Arenburg, 2011d, p. A1); Photo Caption: “Justin Rehberg volunteered on a neighbourhood dairy farm...” (Brooks Arenburg, 2011d, p.A4).

Conversely, Shayne Howe and Michelle Lyon are not described with the same positive perspectives. Through photos and captions they are known as victims, gossipers or by racial background (Emphasis added throughout): “Shayne Howe, victim of racial hatred” (Brooks Arenburg, 2011a, p. A1); Photo Caption: “Michelle Lyon reflects on the ...gossip [that] prompted them [the brothers] to burn a cross on her lawn” (Brooks Arenburg, 2011c, p. A4); Photo Caption: “Shayne Howe and Michelle Lyon pose with their children in their blended family home (Brooks Arenburg, 2011e, p. A6-7). While the Rehberg brothers and their family members are described with verbs and language that suggests an active interaction with family and consideration of others, the Howe-Lyon family is qualified by their racial background. They are not a family that “shares jokes,” “eats together” or that “weeps” for concern, but rather they are a family that is “blended,” which discursively separates them based on their biracial relationship.

### **Repositioning of Victims and Villains**

A second theme that emerged through critical discourse analysis involved the positioning of victims and villains. On the surface, the cross-burning incident includes villains (the brothers, who burned the cross on the lawn of a neighbourhood couple) and

victims (the targets of racial hatred). However, this positioning is a surface-level distinction. The selection of photos, captions and headlines, as well as the placement of story topics within the articles, serve to reposition the victims as co-creators of the crime and the brothers as victims.

Headlines, leads, photos and captions are among the first - and sometimes only - pieces of information read in an article, and the information contained within those pieces shapes what readers think of the subject under discussion (McCoombs, 1994; Van Dijk, 1991). The front page articles in the “Nova Scotia Burning” series have a consistent layout (a photo is set against a gray-scaled cross with the title “Nova Scotia Burning”), however the treatment of the subjects in the photos has a dichotomizing effect. The photo on the front page of the first article, “Nova Scotia Burning,” features Shayne Howe, the target of the hate crime, alone, outside in the cold, in front of his snow-covered lawn (Figure 1). This is contrasted against images used in the second and third articles that feature the perpetrators of crime. The second article, “Why Did They Do It?,” features the Rehberg brothers inside with their family with concerned looks on their faces (Figure 2), and the third article, “The Cross-Burners,” includes the mother of the perpetrators inside her home wiping tears away from her face (Figure 3).

**Figure 1. Front page image of cross-burning victim, February 2, 2011**





The composition and placement of the photos demonstrate a shift of roles between the victims and villains of this incident. In the case of Howe's photo, the colour of the photo is gray and de-saturated creating a feeling of isolation. Whereas Howe is featured outside in the cold alone, the photos of the perpetrators feature them inside with warmer colour hues (i.e., yellows) establishing a more empathetic feeling for the subjects in the photos due in part to the photo composition. Second, while Howe is the victim of the cross-burning, the composition of his photo is contrasted against the headline "Nova Scotia Burning." This creates a criminalizing effect for Howe, suggesting that this person, featured alone, outside and with a solemn look on his face, is responsible for the "burning" in Nova Scotia. This treatment is consistent with research that finds that minorities are often featured in ways that reinforce negative stereotypes (Crawford, 1998; Fleras & Lock Kunz, 2001; Henry & Tator, 2002; Tator & Henry, 2000). However, featuring the mother of the perpetrators crying in her house with the title, "The Cross-Burners," has the opposite effect: it suggests that she has been the victim of some sort of incident, which will be discussed in the newspaper article.

Second, the placement of the subject topics within the story also reframes the victims and villains within the incident. Through interviews Justin and Nathan Rehberg indicate they were motivated by revenge to burn the cross— not racial hatred: "The Rehberg brothers from nearby Avondale insist they are not racists. Instead, the brothers said they burned the cross because they believed Howe and Lyon were spreading rumours that they had herpes" (Brooks Arenburg, 2011c, ¶ 5). The second article, "Why Did They Do It?" is dedicated to examining the impact of the gossip on the brothers' lives (paragraph 10-12). In contrast, we do not learn about the impact of the cross-burning on Howe and Lyon, the targets of the racial hatred, until the end of the article (paragraph 37-38) – after the impact of the rumours has been established:

...it was the kind of talk [the rumours] that followed the brothers wherever they went. At school. At parties. Socializing with friends. Even when visitors came to their home. 'He couldn't take it,' said Alisha Caldwell, 17, Justin's girlfriend of almost six years... 'He couldn't go to school. He was walking around with me and people were pointing and laughing, calling him names, saying he has different stuff and ... it hurt us.' (Brooks Arenburg, 2011c, ¶ 10-12)

The positioning of rumours is important for several reasons as newspapers demonstrate the significance of an issue by page, placement, headline and length (McCoombs, 1994). Stories are organized in a pyramid style of writing; the most important information, as perceived by the writer, is placed at the top of the article, and more detailed, less important, information provided further within the article. Arguably, information about the rumours precedes details about the consequences of the cross-burning in the article due to sequencing of events. However, reviewed from a critical discourse perspective, the placement also serves to legitimize the role the rumours play in the crime; they establish that Howe and Lyon spread negative information about the Rehberg brothers and help establish a justification for

the brothers' actions. Second, the placement of the rumours, coupled with the article headline, "Why Did They Do It?" suggests to the reader that the actions of the brothers are justifiable through explanation, and helps create a narrative of sympathy for the brothers.

Taken together, the way in which the key players of this incident are featured in photographs as well as the placement of subject topics discursively repositions the couple as co-creators of the crime - as partially to blame for the events. According to Henry, Tator, Mattis and Rees (2009), discourses of blaming the victim are dominant perspectives that are taken for granted in societal systems. Such a theme is consistent with findings Henry and Tator (2009) report: African Canadians are typically positioned in news reports as villains or troublemakers except in issues of racial acts, where they are positioned as victims. However, in this case, the idea that the victims also have a contributing role in what happened to them reinforces racial inequalities and existing power structures.

### **Sustaining Power through Denial**

Scholars (Fontaine, 1998; Henry et al., 2009; Tator & Henry, 2000) report the denial of racism is a dominant discourse engrained in society: "The assumption here is that because Canada is a society that upholds the ideals of a liberal democracy, it could not possibly be racist. When racism is shown to exist, it tends to be identified as an isolated phenomenon" (Henry et al., 2009, p. 116). While The Chronicle Herald's series discusses and offers solutions for racism that has occurred in Nova Scotia, the series discursively positions broader discourses of denial and system-level issues above these to maintain current power relations and to negate the very arguments the series proposes to address.

First, the multiple definitions used in the series to illustrate one of the most historic symbols of racism and hate ("Ku-Klux," 2011) help sustain a discourse of racial denial. For the targets of the hate crime, the cross-burning represents strong concern: "Burning crosses conjure up images of lynchings, beatings and Klansmen in white sheets during the struggle for black civil rights in America" (Brooks Arenburg, 2011a, ¶ 2); "I see my house getting burned down,' Howe said, recalling his fears that night. 'I see my family getting hurt. I see me getting killed. That's what I see when I see a burning cross'" (Brooks Arenburg, 2011a, ¶8); "It's not just that symbolic cross-burning that makes us the Mississippi of the North,' said Wanda Thomas Bernard, director of the school of social work at Dalhousie University in Halifax. 'It's also that insidious, invisible, everyday racism. It's that invisible systemic racism that affects all of us'" (Brooks Arenburg, 2011e, ¶ 3-4).

From this perspective the cross inarguably symbolizes fear, oppression and a racist act. At the same time, however, the cross is positioned within The Chronicle Herald series to represent merely vandalism, an act of stupidity, and a mistake (emphasis added throughout):

Justin Rehberg said he saw the cross-burning 'more as vandalism than .... a direct response to' Howe's skin colour. 'I just didn't want to do damage to anything. We could (have) just

thrown a rock through the window and then I would (have) had to pay money. .... But burning something, I used my own gas, so that would be it.' (Brooks Arenburg, 2011a, ¶43-44)

“By the Rehberg brothers’ own admission, what followed was an act of drunken, drug-induced stupidity [the cross-burning]” (Brooks Arenburg, 2011a, ¶ 16); “It wasn’t the best way to get revenge, I guess. But we’re not racist people. [Justin Rehberg]” (“What the Rehberg Brothers,” 2011, ¶8).

While the series states that the cross is symbolic of racism, a discourse of denial emerges through the use of the cross-burning to represent racism, vandalism, and stupidity. While the victims are “victims of racial hatred”, The Chronicle Herald refers to the perpetrators of the crime as “cross-burners,” which further advances a social discourse of denial by downplaying the role of the brothers as racists, or perpetrators of a racist act, despite the fact they were convicted of inciting hatred. Effectively, the series shifts from examining the implications of burning a cross, an historic symbol of a death threat, or the realities of being a biracial couple in a small town, and refocuses it to examine social inequalities experienced by the brothers.

Moreover, the Rehberg brothers argue they are not racist because they listen to black music, have black friends and are attracted to other racial groups (“We Asked the Rehberg Brothers,” 2011). According to Fontaine (1998), calling racism by another name is a technique of denial. By presenting the dual definition of racism, and positioning the brothers as cross-burners, larger discourses of denial and acceptance are furthered instead of addressed.

Finally, the discussion of system-level failings within the series also reinforced a discourse of racial power through denial. An important first step in addressing everyday racism is to identify the social systems that help reinforce it in overt and hidden ways (Fleras & Lock Kunz, 2001; Fontaine, 1998). The “Nova Scotia Burning” series identifies the roles the community and education systems play in breaking down and reinforcing racism, however the series fails to consider the role media play in this racial discourse. From a critical discourse perspective, language constitutes power and what is not present in the text is equally as important as what is present (Blommaert & Bulcaen, 2000). The significance of this omission is demonstrated through the themes discussed above as well as the distinction made by the newspaper itself in treating the topic of racism; that is, the newspaper minimizes the concern of racial inequalities to that of a separation of communities (emphasis added throughout): “Nova Scotia, a province where racial tensions had often boiled over, was labeled the Mississippi of the North. For many black Nova Scotians, it was no surprise” (Brooks Arenburg, 2011a, ¶ 7); “In interviews with The Chronicle Herald in December, the Rehberg brothers apologized to the victims, Shayne Howe, Michelle Lyon and their five children, as well as the black community” (“What the Rehberg Brothers,” 2011, ¶ 1); “For any province, it would be an embarrassment to be called that [Mississippi of the North], but especially for Nova Scotia, where black people have been marginalized...” (Brooks Arenburg, 2011e, ¶ 2).

Instead of confronting and naming racism as an issue that all Nova

Scotians need to recognize and address, the Herald relegates it to the “black community.” “The presence of racism is often ignored or covered up with euphemisms as ‘disadvantaged’ or ‘underprivileged’” (Fontaine, 1998, p. 4). The positioning of racism to be of concern to a select community or racial background – as opposed to all citizens regardless of ethnicity – is a demonstration of a euphemism that serves to sustain existing power structures and privilege a Caucasian experience.

### **Discussion and Future Implications**

Blommaert and Bulcaen (2000) identify critiques of critical discourse analysis, including issues of interpretation and texts, the blurring of concepts, methodologies, and the projection of prejudices when analyzing text. Yet, the critical paradigm offers important contributions to our understanding of discourse and its enactment of power in society. Such a framework allows one to critically ask questions such as Why this topic? Why this way?

The racial discourse identified in the text of The Chronicle Herald’s “Nova Scotia Burning” series is significant for several reasons. First, this is one of the only research studies to examine the relationship between media and racial discourse in Nova Scotia. Other published literature points to the dichotomizing effect media have on racial relations in Canada (Crawford, 1998; Fleras & Lock Kunz, 2001; Henry & Tator, 2002, 2003, 2009; Mahtani et al., 2008; Miller, 1994, 2005/2006), and this paper contributes to the growing body of literature by using this in-depth series to examine how the provincial newspaper in Nova Scotia – with readership of close to 300,000 (Leger, 2011) - treats racial discourse. Their treatment offers a glimpse into this paper’s treatment of racial issues (and potentially larger racial discourse in Nova Scotia society), signaling undercurrents of racism taking place in everyday social practices. Such everyday assumptions, left unchallenged, can have lasting implications on social discourse and actions of individuals, communities and judicial institutions.

Yet, these texts represent a moment in time: the meaning or significance of a text can’t be decided in isolation from the interaction that shapes the context (Phillips & Hardy, 2002). Thus, while the scope of this paper is confined to the discourse constituted in the text, there are broader contextual issues that also warrant further investigation in order to fully understand the relationship between media, society and racial discourse in Nova Scotia.

First, the broader news and political agendas of The Chronicle Herald must be considered. In the final article of the series, “Why This Difficult Story Had to be Told,” Dan Leger (2011), director of news content, provided two reasons for the investment: it’s the role of newspapers to address tough issues and they wanted to demonstrate a print newspaper could remain current through new social media practices. However, a more thorough examination of The Chronicle Herald’s treatment of racial issues in Nova Scotia over the years – beyond this one event – warrant examination to assess whether the newspaper is, in fact, “tackling important issues” (¶ 2) or selling newspapers.

Consider a brief review of recent articles published in the provincial

newspaper to help demonstrate this point. A search of articles published in the newspaper from the last five months related to the terms “African,” “Black,” and “Racism” returned just over 1,200 articles. A brief review of their content found only 57 related to the topic of black minority issues. Yet the topics, none of which appear to be treated in depth, continue to be of a stereotypical nature: violence, Black History Month, crime, and limited achievements. I do not put this forward as a full analysis, but rather to help illustrate that the “Nova Scotia Burning” series is linked to other topics that are – or are not – covered in the paper, and they must be explored collectively in order to fully understand broader discourses.

Second, scholars (Fairclough, 1992, Bensen & Neveu, 2005; Van Dijk, 1991) stress the importance of examining news production in the constitution of discourse. The continued use of racial ideology is not the fault of an individual journalist; rather, news production occurs within an ideological system that normalizes Euro-Canadian beliefs (Bensen & Neveu, 2005; Henry & Tator, 2002). “Media racism is manifested in the articulation of policies and ideologies, reflected in the collective belief system of the dominant culture and woven into the language, laws, rules and norms of the institution at large” (Fleras & Kunz, 2001, p. 43). Therefore, further research should explore how news production (i.e., the decisions of the editors, the perspectives of the journalists) shapes racial discourse in Nova Scotia.

### **Conclusion**

Mahtani et al. (2008) contend that developing effective strategies to address racial concerns in Canadian society requires a better understanding of how cultural images, ideas and symbols are produced and reproduced. Media play a critical role in this production. Such techniques as discussed above in the “Nova Scotia Burning” series, while espousing to confront issues of racism, actually restrict the conversation and must be critically examined in order to support racial equality. This is the first study of its kind to examine how Nova Scotia media treat racial issues.

In considering the issue of racism in Nova Scotia, there are a number of angles the newspaper could have covered, such as what it is like to be a biracial couple in rural Nova Scotia, or the impact the incident has had on the family or community who experienced the cross-burning. However, The Chronicle Herald selected to learn more about the people who committed the crime. In doing so, the series effectively re-positioned the issue to be of concern for the perpetrators of the crime, as opposed to the victims and the larger community affected by it.

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## **Finding Meaning through Work: Untangling the Braided Discourses**

This paper examines the braided discourses of finding meaning through work which is being indirectly promoted by the Job-Career-Calling model, the Spirituality in the Workplace field, and the Positive Psychology movement. We explore the intertextuality of these three areas converging to encourage meaning in life to be found through one's work. We then critique this growing discourse and argue that this "finding meaning through work" discourse is unrealistic for many people and is problematic as it is situating work as the default meaning for human existence.

### **Introduction**

"Rene Descartes was wrong. It isn't *Cogito, ergo sum* (I think, therefore I am), but rather *Labora, ergo sum* (I work, therefore I am). We need work, and as adults we find identity in and are identified by the work we do. Our work tells us who we are. If this is true, then we must be very careful about what we choose to do for a living, for what we do is what we become. At its worst, work is a burden and a necessity. At its best, work can be an act of personal freedom and self-realization. But either way, work is a necessary and defining ingredient in our lives." (Gini, 2000: 12)

We can conceptualize life as occupying two spheres – the outer life where we interact each day with other people including our work lives, and the inner life, the one we live in our mind, our thoughts and emotions (Fox, 1994). These two components or worlds are closely connected, and in order for the individual self to be fulfilled they must be adequately bridged. What happens in the outer world arguably affects the inner world and vice versa (Hollis, 2008). The literature on meaning suggests that work is a significant and obvious component of most people's outer life whereas meaning is intrinsic and "realized" in our inner life (Fox, 1994).

This paper explores the discourse of finding 'meaning through work' which is being indirectly promoted by the Job-Career-Calling model, the Spirituality in the Workplace field, and

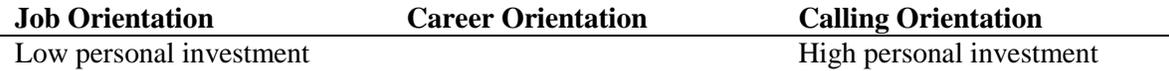
flow as an example of the Positive Psychology movement. The Job-Career-Calling model outlines a hierarchy of work from job to career to calling that implies that viewing work as a calling is preferable to work as a job or career (Freed, 2003; Wrzesniewski, 2002; Wrzesniewski et al., 1997). Adding to the belief that meaning is found through work is the spirituality and work “movement,” which has emerged strongly in the past decade (Dalton, 2001; Elmes & Smith, 2001; Fox, 1994; Gibbons, 2000; Harrington, Preziosi, & Gooden, 2001; Howard, 2002; Lips-Wiersma, 2002, 2004; Lips-Wiersma & Mills, 2002; Marques, 2005; Marques, Dhiman, & King, 2005, 2006; McCormick, 1994; Mitroff & Denton, 1999a; Ottaway, 2003; Tischler, 1999). Most scholars agree that spirituality in the workplace is an attempt to make a stronger connection between people’s outer work life with their inner life, and many now believe that there is a growing hunger for a more meaningful or spiritual life (King & Nicol, 1999). Lastly, also contributing indirectly to the growing discourse that meaning should be found through one’s work is the Positive Psychology area which is promoting happiness in the workplace as an attitude.

These three areas are significant components of the growing discourse that meaning in life can be found through one’s work, i.e., find your Calling. As a result of work being privileged in this way people are attempting to seek out work that is their main source of meaning in life. However, this is not only unrealistic for many people, it is problematic as it situates work as the primary purpose of human existence. In this paper we explore the increasing privileging of work and the problems we see of this growing discourse.

### **The Job-Career-Calling Model**

The Job-Career-Calling model was introduced in the classic book, *Habits of the Heart* (Bellah et al., 1985), which was an in-depth look at how life was being lived in the United States. Bellah et al (1985) argued that people were oriented to their work in three distinct ways, as a Job, as a Career, or as a Calling. They defined a Job as “work as a way of making money and making a living...supports a self defined by economic success, security and all that money can buy,” a Career as work that “traces one’s progress through life by achievement and advancement in an occupation...yields a self defined by a broader sense of success, which takes in social standing and prestige, and by a sense of expanding power and competency that renders work itself a source of self-esteem,” and a Calling as work that “constitutes a practical ideal of activity and character that makes a person’s work morally inseparable from his or her life...links a person to the larger community...a crucial link between the individual and the public good” (Bellah et al., 1985: 66). Therefore, a person with a Job orientation views work primarily as a means for economic gain, a Career orientation as a development path, and a Calling orientation as purpose in life and work that the individual would engage in even if he or she had no financial need for work (Bellah et al., 1985). The Job-Career-Calling categorization can be thought of as a continuum of personal investment with a Job orientation placed at one end, a Career orientation in the middle, and a Calling orientation at the far end (Wrzesniewski, 1999)(see Figure 1).

**Figure 1: Job-Career-Calling Continuum**



In a Job orientation, work represents the minimal personal investment whereas this is highest at the Calling orientation end of the continuum. People with a Job orientation view work as primarily “financial necessity” and typically they are counting the days until retirement with the belief that at that point they will be free to do what they really want to do in life. A Career orientation lies in the middle of the continuum as it involves a greater investment for the individual than a Job but less than a Calling. “The notion of a ‘career’ implies an organizational ladder to be climbed, but it also stands for an institutionalized life path and a series of choice processes” (Moen, 1998: 41). People with a Calling orientation to work do not separate their work from the rest of their life as people can do with a Job or Career orientation; a Calling *is* their life.

Historically, a career has been considered as work that is desirable, i.e., people are encouraged to seek out a career and not view their work as a only a means of financial gain (Collin & Young, 2000). However in recent years, careers have been replaced in importance by callings and people are now being encouraged to find their calling (Duffy & Sedlacek, 2007; Novak, 1996). Callings were originally related to religious endeavors, i.e., “called by God,” and examples include Mother Theresa and Billy Graham (Delbecq, 2004; Weiss, Skelley, Haughey, & Hall, 2004). Sometimes the term Calling is used interchangeably with vocation while others differentiate between the two with calling being a defined as an “external” call, i.e., outside the self, and vocation being defined as an “internal” call (Dik & Duffy, 2009). “A calling is a transcendent summons, experienced as originating beyond the self, to approach a particular life role in a manner oriented toward demonstrating a sense of purpose or meaningfulness and that holds other-oriented values and goals as primary sources of motivation” (Dik & Duffy, 2009: 427). Callings have also been associated with work that serves the greater good of society (Wrzesniewski et al., 1997). From a secular point of view, callings are usually identified by asking people what they would do with their lives if they did not have the financial need to work.

Wrzesniewski, McCauley, Rozin and Schwartz (1997) investigated the Job-Career-Calling model by surveying 196 university employees and found considerable empirical support for the distinction between the three orientations. They also found that work orientation was not occupation dependent, i.e., within the same occupation you could find people who viewed the same work as a job, career or calling. The work itself does not necessarily matter, only how it is regarded by the individual. For example, working as a police officer may be a Job for one person, for another it is a Career and for others still, a Calling. “Satisfaction with life and work may be more dependent on how an employee sees his or her work than on income or occupational

prestige” (Wrzesniewski et al., 1997: 31). Lastly, they claim that the same work can start as a career or even a calling but over time turn into just a job. The new nurse may at first see his or her work as a calling but this may change significantly over time and later in life consider the same profession as a job.

“We believe that we have demonstrated that it is easy for most people to assign themselves to one of the three Job, Career, or Calling dimensions, based on degree of agreement with three paragraphs representing the three work-relations. The differentiation of the three orientations was clearer and easier than we had anticipated. In accord with our predictions, we presented evidence indicating highest life and work satisfaction for respondents who see their work as a Calling – even when income, education, and occupation are at least roughly controlled (the administrative assistants).” (Wrzesniewski et al., 1997: 30-31)

In her Ph.D. dissertation on the Job-Career-Calling model and job loss, Wrzesniewski (1999) found that work orientation influences behaviours after suffering a job loss. She also reported a relationship between age and work orientation. Her results indicate that younger job seekers were more oriented towards a career while older job seekers had stronger orientations towards callings.

Preliminary research implies that the most contented and therefore productive people are those who see their work as a calling (De Klerk, 2005; Wrzesniewski et al., 1997; Wrzesniewski & Tosti, 2006). “Calling-oriented individuals report higher job and life satisfaction, even after controlling for income, level of education, and occupation, than people who view their work as jobs or careers. These employees also report higher work motivation and are less likely to regret their choice of occupations” (Wrzesniewski & Tosti, 2006: 74).

Freed (2003) investigated the relationship between the three orientations and job satisfaction, and found support that people with a Job orientation were least satisfied with their work, people with a Calling orientation were most satisfied, and that people with a Career orientation were in the middle. Other research has proposed that having a calling is connected with being perceived as a “success” in life (Heslin, 2005). Lastly, it has been suggested that people may be able to “re-craft” i.e., reframe their conception of their work, and change their view in order to find greater meaning in it (Parry, 2006; Wrzesniewski & Dutton, 2001). For example, if a hospital cleaner could connect his or her work to the greater purpose of helping others, then the work could be viewed as a calling instead of a job and result in greater meaning for the individual.

Banaga (2000) applied a framework based on spirituality and work to analyze the interviews of sixteen people between the ages of 38 and 78 to investigate why people may view their work as a calling. The results indicated that callings are related to contribution and concern

for others, and usually aligned with one's faith. "The results of my study show that spirituality and religion can have a significant influence in the experience of work" (Banaga, 2000: 218). However, Banaga (2000) also noted that a Calling may also be connected to increased levels of stress. Duffy and Sedlacek (2007) surveyed 3091 first-year university students using a 20-item scale to investigate the presence of or search for a calling. They concluded that, "students searching for a calling and those who obtain a calling are at very different points in their career development, and that the process to find a career calling may take a considerable amount of time...it may not be until some students feel a calling that they truly understand the importance of work in their lives" (Duffy & Sedlacek, 2007: 598). In a review of the literature on Callings, Dik and Duffy (2009) hypothesize that finding a calling may be related to the influence of family and critical events in a person's life, e.g., disasters such as the 9/11 attacks, Hurricane Katrina, and the Asian tsunami. They call for more research into the origins of callings and how 'finding your calling' might be encouraged in people (Dik & Duffy, 2009).

The Job-Career-Calling model has sparked interest in the management research community but the research is in an early stage, and has been mostly quantitative in nature. Although the model appears to provide an efficient way to categorize the importance of work in a life, human existence is very complex and how people understand the various parts of their lives may defy simple categorizations.

### **Spirituality in the Workplace**

Adding a new voice and therefore greater emphasis to the meaning through work discussion is the 'Spirituality and Work' movement. The topic of spirituality and work first appeared in the early-1990s and has grown quickly over the past fifteen years (Dalton, 2001; Elmes & Smith, 2001; Fox, 2003; Fox, 1994; Garcia-Zamor, 2003; Gibbons, 2000; Harrington et al., 2001; Howard, 2002; Lips-Wiersma, 2002, 2004; McCormick, 1994; Mitroff & Denton, 1999a; Ottaway, 2003; Tischler, 1999). The interest in spirituality and work has resulted in a plethora of research, space at academic business conferences, and consulting businesses. There are now numerous articles, books, websites and consulting companies dedicated to the promotion of spirituality and work. A search on "spirituality and work" in the databases ABI and EBSCO yields 410 and 1588 results respectively. On the Google search engine "spirituality and work" yields 154,000 results. It has been estimated that there are now over 300 books on spirituality and work. The Academy of Management has created a new interest section called "Management, Spirituality, and Religion" to respond to the great demand for the incorporation of values at work. "Business owners, managers, policymakers, and academic researchers all need to remember, as many surveys indicate, that tens of millions of world citizens are hungering for transmaterial, mind-expanding, soul-enriching, and heart-centred (spiritual) values" (Butts, 1999: 329).

Spirituality and work is viewed from many perspectives and has been defined in a variety of ways. Some scholars regard it from a religious perspective, i.e., bringing God into work practices, while others view it from a secular perspective. "Spirituality at work is not about religious beliefs...it is about people who perceive themselves as spirited beings, whose spirit needs energizing at work. It is about experiencing real purpose and meaning in their work beyond paychecks and task performance" (Harrington et al., 2001: 155). Dalton (2001: 18) maintains that "it is possible to speak of spirituality as a universal human activity because life is filled with experiences that drive us to question and seek answers on the meaning and purpose of existence." Mitroff and Denton (1999b: 83) define spirituality "as the basic feeling of being connected with one's complete self, others, and the entire universe." No matter how it is defined it is clear that spirituality in the workplace is an attempt to bridge the gap between work and the overall pursuit of a meaningful life.

"We each need to find meaning and purpose and develop our potential, to live an integrated life. Spirituality encompasses the way an individual lives out his or her sense of interconnectedness with the world through an ability to tap into deep resources... spirituality is both highly individual and intensely personal, as well as inclusive and universal." (Howard, 2002: 231).

The interest in spirituality and work has been linked back to the 1960s, when people were rebelling against many institutions and looking for different life experiences (Tischler, 1999). It has also been connected to the 1980's where there was a tremendous generation of wealth and people were making increased salaries but were still not happy with their lives (Garcia-Zamor, 2003). The changing of the psychological contract between employee and employer, downsizing and massive company layoffs, and increased use of technology are also considered to be motivators of the spirituality movement (Harrington et al., 2001). Also influencing the spirituality and work movement is a heightened awareness due to scientific discoveries about the dangers to the environment such as global warming and ozone depletion. Jaccaci and Gault (1999: 22) argue that "this renaissance, this dawning and awakening of humanity, is the emerging era of evolution...it is a time of our conscious creation of human evolution shaping all life on earth."

Not surprisingly, there are both physical and psychological benefits to having a healthy spiritual life, and work has been shown to play an important role in a person's well-being. Parker-Hope (2001: 9) claims that "increasingly, the medical profession is promoting the notion that a person's spiritual well-being may be as important a factor in long-term health as are diet and exercise...it [the value of spiritual health] has become a widely accepted area of medical study." There has also been a connection proposed between spirituality and emotional intelligence - the more in touch with his or her spirituality, the greater will be his or her emotional intelligence (EQ), and therefore the more productive he or she will be at work (Tischler, Biberman, & McKeage, 2002). Spirituality and work has been shown to have a positive correlation to job satisfaction and helps to prevent burnout (Komala & Ganesh, 2007). Lastly, a spiritual workplace

has been shown by some scholars to have a direct correlation to ethical behaviour (Garcia-Zamor, 2003; Moberg, 2001; Pava, 1999).

The interest in spirituality and work is contributing a new voice to the meaning of work discussion for academics and lay people. “The study of spirituality and religion has catapulted into mainstream psychology as an area that can shed light on many variables, including those tied to work and working” (Duffy, 2006: 52). Many spirituality and work scholars argue that work should be “meaningful” to the individual, that work should be where we find our “purpose,” and for the need to integrate spirit and work (Fox, 1994; Harrington et al., 2001; Herman & Gioia, 1998; Mitroff & Denton, 1999a, 1999b; Raelin, 2006).

Despite the fact that many are arguing for the incorporation of spirituality into the workplace, there is great debate about what this means and what a “spiritual workplace” or a “spiritual organization” would look like (Bell & Taylor, 2003; Butts, 1999; Garcia-Zamor, 2003; Howard, 2002; Marques et al., 2005; Ottaway, 2003). Regardless of the problems within the literature of this emerging field, the interest in spirituality and work both reflects and further illuminates the problem of a lack of meaning in the workplace, what some have termed a “spiritual crisis,” and has especially focused attention on the desire felt by many individuals for their work to have meaning.

### **Positive Psychology**

Positive psychology, provided that as a field it does not denounce its humanist roots, is far from new. In fact, modern notions of positive psychology can be traced to William James (Froh, 2004) although the more recent call for action by Seligman, in his 1998 APA Presidential Address, is typically seen as a watershed moment (Froh, 2004). Mired in discussion of how (indeed if) to scientifically and empirically examine human potentiality, the ongoing discussions about how the science of psychology is differentiated from humanistic approaches makes the 1998 address particularly poignant, as a scientific positive psychology is actionable.

At its core, positive psychology is concerned with human potentiality rather than solely the status quo, and so notions of an individual and their capabilities are intertwined with aspiration, self knowledge and striving. In his classic work *Beyond Boredom and Anxiety: Experiencing Flow in Work and Play* Mihaly Csikszentmihalyi (1975) makes an early contemporary contribution through his popular discussion of the concept of *flow*. Flow states are characterized by total personal immersion in some activity or pursuit, even to the extent that the individual does not perceive the passage of time in the conventional way. This is further seen as being related to personal growth, self knowledge, and mastery of increasingly difficult and complex performances, all outcomes and likewise preconditions for the flow experience.

There is an implicit link to be made between the humanistic, indeed spiritual, aspects of being “called” to become something and the flow based ideas of striving to develop at the personal level in ever increasingly complex and challenging ways. Of course, the artistic and sporting fields are easy places to find examples of the flow states which Csikszentmihalyi writes of. Moreover, with the increasing time spent at work, it becomes obvious that this field becomes an area of focus as well. It seems too tenuous a coincidence that the popularized ideas of a positive psychology situated notion of flow coincides with the virtual explosion of the spirituality at work movement. The subtext of near moralist intent in *Beyond Boredom and Anxiety: Experiencing Flow in Work and Play* (1975) goes beyond *be all that you can be to become more than you thought you could be*; process based striving with intent is a core element of the spirituality at work movement.

Through the intertextuality of the Job-Career Calling model, the spirituality at work movement, and the humanist inspired science of positive psychology field we can begin to discern a tightly woven narrative. If work is where life’s meaning is to be found, then the supposed satisfaction in following ones calling when combined with the “ought” of a requirement to seek and maintain a spiritual connection at work needs an understandable way to apply effort. Positive psychology, particularly using flow states as an example, provides a measureable and scientifically legitimized construct to tell us how well we are progressing in becoming called to our work or spiritual in our approach to work. That is, happiness as a measureable and process based outcome has elements of a deontological ethics which is compatible with both the secular idea of a calling and the transcendental sense of the spirituality at work movement.

### **The Meaning Through Work Narrative**

“Reflecting on the meaning of life may be spurred by psychological crisis but it may also arise from an acute awareness that Henry David Thoreau was correct: most people do lead lives of quiet desperation.” (Bellotti, 2001: 10)

The Job-Career-Calling model, the Spirituality in the Workplace field, and elements of the Positively Psychology movement support the notion that work is where meaning in life is found. However, while it of course beneficial for people to enjoy their work and not hate it, it is also problematic when people believe without question that their work should be their main source of meaning in life. This is not only unrealistic for many people, but it also creates an expectation on work that in most cases can never be satisfied.

Despite the increase in the importance of work in many people’s lives, work can have severe consequences for both individuals and organizations. For many people, work results in

anxiety, depression, stress, burnout, other work-related health problems (Blustein, 2006; Ciulla, 2000; Fox, 1994; Grint, 2005; Kanungo, 1992; Maslach, 1982; Mottaz, 1981; Pahl, 1995; Pines, Aronson, & Kafry, 1981; Rinehart, 2006), concerns of inadequate mix of work/non-work life (Bunting, 2004; Ciulla, 2000; Judge, Ilies, & Scott, 2006; Nippert-Eng, 1996; Pahl, 1995), workaholism (Bunting, 2004; Burke, 2001; Harpaz & Snir, 2003; Snir & Harpaz, 2006), and feelings of alienation (Baxter, 1982; Blustein, 2006; Kanungo, 1992; Mottaz, 1981; Neff, 1985; Rinehart, 2006). At the same time, organizations are dealing with problems of turnover, absenteeism, low productivity, and employee cynicism (Cartwright & Holmes, 2006; Jex & Crossley, 2005; Warr, 2007). One reason for these problems, as Mills and Simmons (1999: 114-115) remind us is that “people do not leave their selves behind when they come to work. The workplace is charged with emotionality, family concerns, sexuality, worries, hopes and dreams: try as they may, persons cannot divorce their selves from the workplace. Organizations are composed of persons with diverse psychological needs and behaviours which inevitably come to influence, and are shaped by, working relationships.”

Unfortunately, organizational mergers, downsizing, technology, acquisitions and strategic alliances have resulted in employees spending less time with one organization, many people having periods of unemployment, an increased trend toward contingent and part-time work, and people having multiple careers, all of which creates stress to individual workers (Nachbagauer & Riedl, 2002; Ransome, 1996; Rifkin, 1995; Turner, Barling, & Zacharatos, 2005; Zikic & Richardson, 2007). The ‘job for life’ concept of the past has now become obsolete for many people (Collin & Young, 2000; Hall, 1996). Additionally, many workplaces are being described as “toxic environments” with a variety of problems for employees: high levels of stress, depression, feelings of being treated unfairly, bullying, burnout, low productivity, high absenteeism, turnover, workaholism, and work-related health problems (Browne, 2002; Bunting, 2004; Gini, 2000; Goldthorpe, 1968; Jamal & Baba, 2000; Kelloway & Day, 2005; Kimura, 2003; Korman, 2001; Leiter & Maslach, 2001; Lerner, Levine, Malspeis & Agostino, 1994; Malakh-Pines & Aronson, 1988; Turner et al., 2005). Lastly, there is a growing concern of the inadequate mix between one’s work life and non-work life (Bunting, 2004; Ciulla, 2000; Judge et al., 2006; Nippert-Eng, 1996). Work and home have traditionally been viewed as two separate spheres of life but it is becoming increasingly apparent that what happens in one can significantly affect the other.

It appears that people today are more vulnerable than ever to the “meaning through work” narrative due to a hunger for meaning. There is a paradox currently taking place in Western society – an increasing trend toward superficiality (materialism, celebrity worship, internet obsession), and at the same time, there are indications that people are also hungering for a more meaningful existence. Despite great advances in medical care and technology, and a much higher average standard of living, general well-being and happiness levels have not changed in decades (Easterbrook, 2003; Myers, 2000; Seligman, 2002). Anxiety, depressions, use of medication, and suicide levels have, in fact, all dramatically increased, and meaning has become increasingly attached to security, comfort, consumption and material gain (Cottingham, 2003; Easterbrook, 2003; Fromm, 1955, 1976; Handy, 1994; Myers, 2000; Wattanasuwan, 2005; Whalen, 1999).

“The modern era has produced a qualitatively superficial but quantitatively staggering knowledge of the world. In these terms, human beings have sought to understand themselves through external images provided by the scientific and technological society and have consequently dehumanized and despiritualized their essential being.” (Bowles, 1989: 409).

The belief that increased wealth and materialism along with the resulting greater security and comfort would be the path to fulfillment and happiness has not materialized. “The great self-confidence of the Western technological nations, and especially of the United States, was in large part because of the belief that materialism – the prolongation of a healthy life, the acquisition of wealth, the ownership of consumer goods – would be the royal road to a happy life” (Csikszentmihalyi, 1999: 822). However, the emphasis on materialism, physical comfort, and safety has resulted in what some are calling a “meaning deficit” within both the individual and society (Fox, 1994; Fromm, 1976; Maslow, 1971; Needleman, 1991). “Self-actualization tendencies must compete with many other tendencies as man proceeds to make his own nature... conceivably, man may evolve in such a way as to lose his self-actualization drive and diminish his potential” (Greening, 1971: 9). Fromm (1976: 5) notes, “we are a society of notoriously unhappy people: lonely, anxious, depressed, destructive, dependent – people who are glad when we have killed the time we are trying to save.” We have become accustomed to a rather mundane existence, resulting in a loss of self but we still long for a different existence (Gaarder, 1994: 15). Frankl (1985) emphasizes that the problem is that people do not know how to live in the world and face what he refers to as an “existential vacuum.” “No instinct tells him what he has to do, and no tradition tells him what he ought to do; sometimes he does not even know what he wishes to do. Instead, he either wishes to do what other people do (conformism) or he does what other people wish him to do (totalitarianism)” (Frankl, 1985: 128). Therefore, despite unparalleled technological and material progress, finding meaning is difficult especially when it comes to work.

The question of “what makes up a meaningful life” has baffled philosophers and lay people alike for centuries, dating back at least to the days of Socrates and Plato. Like many others, we believe that the most important issue of the 21st century is the individual search for meaning (Bellotti, 2001; Cartwright & Holmes, 2006; Ciulla, 2000; Hollis, 2001, 2005). It appears that meaning is of much greater concern now than in previous eras to the average person because of the diminishing influence of religion, people’s more questioning natures, and the effects of scientific discovery (Fairholm, 1996; Hanfling, 1989). Additionally, most people historically have been preoccupied with economic survival precluding them from exploring the deeper questions surrounding meaning. However, notwithstanding the economic downturn in the past year, in recent decades the economic situation has significantly improved for most people in North America and in much of the Western world, and meaning in life (and particularly people’s lack of meaning) has become a greater issue (Baumeister, 1991; King & Nicol, 1999; Young, 2003). This was predicted by Frankl almost thirty years ago - “For too long we have been dreaming a dream from which we are now waking up: the dream that if we just improve the socioeconomic situation of people, everything will be okay, people will become happy...the truth

is that as the struggle for survival has subsided, the question has emerged: survival for what...ever more people today have the means to live, but no meaning to live for” (1978: 21).

What constitutes a meaningful life for a particular individual is complex and multifaceted, and not surprisingly, there are numerous theories on meaning (Baumeister, 1991; Belliotti, 2001; Feldman & Snyder, 2005; Frankl, 1985; Klemke, 2000). The question of what makes up a meaningful life has baffled philosophers and lay people alike for centuries, dating back to the days of Socrates and Plato (Baird, 1985; Baumeister, 1991; Belliotti, 2001; Klemke, 2000). Is meaning discovered? Is meaning created? Is there any meaning at all? It has been easier for scholars to discuss “well-being,” “right action” and “happiness” than to investigate the meaning of life (Metz, 2002; Ryff, 1989). The question of meaning is of much greater concern now in Western society due to the more critical, questioning nature of people, the general effects of scientific discovery, longer life-spans, a better economic situation for many, and critical world events such as the 9-11 attacks (Baumeister, 1991; Cottingham, 2003; Eagleton, 2007; Gems, 2003; Hanfling, 1989; King & Nicol, 1999; Wrzesniewski, 2002). Especially affecting the question of meaning is the gap which has been left from a diminishing emphasis on religion for many people. “For most of human history no one had to search for the spiritual in their lives...at the core of every culture was a religion, with sacred times and places set aside for public rituals...for many these holy places are less and less familiar today” (Fairholm, 1996: 17). Additionally, the events of September 11, 2001 in the United States had a significant impact on people. Since 9-11 many are re-evaluating their lives and their work, as they search for a deeper meaning in life, more than just achieving career success (Garcia-Zamor, 2003; Howard, 2002; Weiss, Skelley, Haughey, & Hall, 2004; Wrzesniewski, 2002).

Historically, for most people meaning has been based on a religious belief, living a “good life,” and honoring a greater power, with the hope of a utopian afterlife. Others, such as Nietzsche and Schopenhauer, have held a nihilistic perspective, i.e., that there is no meaning to be found and that the question itself is absurd (Belliotti, 2001; Schopenhauer, 2000). “That human life must be some kind of mistake is sufficiently proved by the simple observation that man is a compound of needs which are hard to satisfy; that their satisfaction achieves nothing but a painless condition in which he is only given to boredom; and that boredom is direct proof that existence is in itself valueless, for boredom is nothing other than the sensation of the emptiness of existence” (Schopenhauer, 2000: 69). Still others argue that if meaning is to be found in life, it must be created by the individual (Metz, 2001). Some note that meaning is only temporary, and that people continually fluctuate between boredom and fleeting feelings of fulfillment (Schlick, 1989).

Many philosophers agree that a universal meaning of life does not exist, because meaning is only in the eyes of the beholder and can therefore vary greatly (Belliotti, 2001; Frankl, 1985). “There is no such thing as a universal meaning of life but only the unique meanings of the individual situations” (Frankl, 1985: 55). They would also agree that in order for a life to be meaningful, it is necessary that the individual feels that his or her life is meaningful (Baird, 1985). It does not matter how the life is judged by others, only how it is perceived by the

individual. Frankl (1985) argues that meaning can be found in any activity, even within the concentration camps of Nazi Germany in which he was a prisoner. Some philosophers contend that meaning must be discovered, like finding buried treasure – which implies that it is out there somewhere to be found by each individual. Creating meaning, on the other hand, implies that meaning is made, built, or crafted (Baird, 1985). For Baumeister (1991), a meaningful life is made up of purpose, value, efficacy and self-worth, and that when all four of these factors are met, life is meaningful. Wohlgennant (1989: 35) defines meaning “as a feeling that human beings generally have when they achieve a sufficient number of objectives that they have set themselves, or when they can bring about the realization of values they recognize.”

It is clear there are no absolute answers when it comes to the meaningful life, and that there is more confusion than ever with what is considered a meaningful life (Metz, 2001, 2002). Most scholars agree that a meaningful life is determined by how the individual subjectively experiences his or her “puzzle of life,” and therefore makes sense of his or her life. For many people, work is a major, if not the most important, piece of that puzzle. “Work is the most common experience of adult life... some love it, others hate it, but few of us are able to avoid it... because we spend two-thirds of our waking life on the job, work is the way we come to know the world and are known to the world... work becomes our identity, our signature on the world... to work is to be and not to work is not to be” (Gini, 2000: ix). Ultimately, the pieces that make up a life, especially one’s work life, must fit coherently together in order for one to feel that life is meaningful.

The value we place on work will undoubtedly change throughout the course of life. As people age they will tend to view their life through a new lens, perhaps with new possibilities, and this will naturally affect how work is viewed. For example, upon graduation from university many students will tend to be seeking a job or career that pays them the highest salary. They may choose work based on financial need if they have large financial debt accumulated throughout their university years, and pass up work that they would prefer in favor of work that pays the highest salary. However, as people age, their life circumstances will undoubtedly change, as well as their personal views on what is important to them. This means that they may look to other possibilities when it comes to work or to expand components of their life or to add new avenues of life. “There is a search for meaning and new life goals: Spirituality is becoming increasingly important, especially for people at mid-life. With the former goals now viewed now viewed in a different perspective, and with time seemingly suddenly shorter, the person may begin to search for new values, goals, and meaning in life (Hall, 2002: 113). Mid-life is frequently a period where people may question their lives and in some cases make drastic changes (Grierson, 2007; Hollis, 1993, 2005; Levinson, 1978; Levinson, 2000). Traditionally, a person was supposed to choose a line of work, study for it, secure a position with an organization, and happily stay with both the work and the organization until retirement at the age of sixty-five. This was considered to be the “good life” (May, 1953). At mid-life most people have probably come to know and understand themselves much better, e.g., beliefs and values, and therefore what they consider to be the authentic life is much clearer.

“Between the ages of 40 and 50, people who may be successful in their professions frequently begin to question the value of their lives. This is a period of reassessment of one’s self, one’s life, and one’s career. It often happens to people who started their careers with great enthusiasm and conviction, believing they would make major contributions to society. By mid-career, they have begun to realize that their contribution may be far smaller than they had dreamed.” (Pines et al., 1981: 173)

Additionally, the search for meaning through work is clearly dependent on the conditions of a person’s life, as not everyone has the same choices about how he or she is to live. It is important to realize that not everyone has the same degree of choices in regards to many aspects of life, especially their work life. A key assumption in each of the theoretical models is that people have choices regarding the careers that they pursue. This assumption may be valid in the case of most college students but in no way can be extended to the general population. Many workers may believe that they had little if any choice in selecting their current occupations because they did not have the opportunity to explore their options or receive training for more desirable careers. (Duffy, 2006: 59)

Some people are not in a position to pay much attention to the deeper issues of meaning as they are consumed with basic survival (Baumeister, 1991; Maslow, 1943). This is especially true of those living in the developing world but also applies to many in the developed world as well. “Desperate people do not ponder the meaning of life. When survival is at stake, when the events of each day or each hour carry a sense of urgency, life’s meaning is irrelevant... meaning of life is a problem for people who are not desperate, people who can count on survival, comfort, security, and some measure of pleasure” (Baumeister, 1991: 3).

We suggest that there is a significant difference between engaging in ‘meaningful work’ versus finding a meaningful life through one’s work. The first is achievable and realistic for most people whereas the second is not. Unfortunately the two concepts are not differentiated properly as they need to be but instead used interchangeably.

## **Conclusion**

In this paper we have outlined the problematic intertextual braiding of discourses of finding meaning through work being promoted by the Job-Career-Calling model, the Spirituality in the Workplace field, and the Positive Psychology movement. Of course this is not to say that meaning cannot or should not be found through one’s work. For some people that existence may work very well and they will consider life to be happy and meaningful. But meaning does not have to be actualized through one’s work since there are many different ways to exist in this world and one is not necessarily better than another. The challenge is only that the individual

freely and consciously chooses that existence. Despite the apparent importance that we place on work in Western society, it may not be as important as many believe it to be, or perhaps in the “way” we believe it to be. It does not matter whether or not *work* is meaningful to the individual but it is important that a person feels that his or her *life* is meaningful. A meaningful life, then, is the real challenge and this takes an awareness of the existential self in order to make decisions that result in the authentic life. Work itself may be more interchangeable than thought as it is really only one component or many that are come together in determining the value that we ultimately place on our lives.

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**Peering into the Social Media Mirror I Made Myself:  
Authenticity, Existential Ethics and One Way Symmetrical Communication**

Abstract

The age of the image is upon us and with it comes questions of authenticity and representation. With the prolific use of social media utilities such as Facebook, we witness first hand large numbers of individuals choosing how to represent themselves to others. Through social media platforms, individuals construct themselves, as unique identities (ie Facebook pages, twitter accounts, LinkedIn contacts) and at the same time as members of collective identities (i.e. Facebook groups, or people who “Like” others or groups) How do they choose individually and as communities, and do they truly exhibit freedom in their choices, to represent themselves in the social media environs of their lives? The choices one makes in terms of one’s social representation(s) have likely always involved a range of intents and perceived or desired outcomes, so is social media any different? Perhaps the ubiquitous use of social media points to a new era in which every individual is a public relations practitioner. If so, then how can the public relations literature offer insight into how individuals (mis)represent themselves through the mass networking potential of modern electronic media? To begin our discussion of the authentic self within social media we draw on insights from Goffman’s (1959) work on presentation of self – with a particular focus on the context of communication within the social media milieu, and the implications of that virtual context on understandings of authenticity and identity.

This present work differentiates itself from the emerging work on ethics and social media via an existentialist based inquiry into the ethics of representation through social media. Much recent work that touches upon ethical use of electronic communication technologies focuses upon the exchange made, and the antecedents and consequences of such exchanges (e.g (Weatherbee 2010).

Some emerging research situates identity and ethics in social media within a boundary spanning social context (e.g. Thurlow & Yue, 2010) and certainly questions have been posed about the dangers of social media in terms of identity (e.g. Turkle, 2011). Building on understandings of symbolic interactionism and foundational theories of public relations, this article proposes that we examine and perhaps integrate an ethics of self and representation that is based upon Sartre’s phenomenological ontology and the so called *being for others*. In doing so, we may maintain a sense of personal choice with regards to social media and personal representation whilst also recognizing the facticity which informs such choice. We argue that when taken to its logical end point, then enactment of choice and identity in a self created network effectively becomes a type of one way symmetrical communication; stable technologically mediated narcissism. This philosophic inquiry into the use social media highlights certain aspects of individual existence which do not seem to have had historical analogues. This inquiry thus has implications for both individualistic and organizationally enacted use of social media.

## **Introduction**

Using the heuristic of existential case analysis (Yue, 2009b) and specifically examining the ethical considerations of social media through the lens of authenticity and potential for bad faith (Yue, 2009a), our aim is to deepen the discussion concerning ethics and the use of social media through the examination of individualized representation, in sharp contrast to a more common antecedents and consequences approach of the same. Consequently, this reflects an individual focus and a perspective which has elements of a deontological viewpoint concerning ethics, yet nevertheless is grounded in an existentialist phenomenological ontology. This is tricky theoretical terrain, in that there is a dual risk of both solipsism and nihilism as outcomes of such philosophic positioning. Interestingly these same risks are likewise already present through *not* taking such a perspective.

To begin this discussion, we briefly examine the emergence of social media and public relations perspectives concerning its use. We frame these discussions within a notion of authenticity which is largely based upon Jean-Paul Sartre's work. Authenticity in this context may also extend beyond the authentic representation of individual character – to the broader expectation of honesty and transparency in relation to organizations, communities and collective identities.

We then describe how the addition of sensemaking and the further addition of sensegiving to the theoretical landscape contribute towards understanding the topic. Finally we attempt to braid the threads of this discussion together in such a way as to offer insight and consideration for future directions.

### **The prevalence of social media**

The role of external validation in the construction of identities is important. As Weick et al. (2005: 416) point out, “Who we are lies importantly in the hands of others, which means our categories for sensemaking lie in their hands. If their images of us change, our identities may be destabilized and our receptiveness to new meanings increases.”

The importance and certainly the impact of this external involvement in identity construction is magnified by the speed and volume of communication points presented through social media. These identities may also be enacted – not only through text or speech via media, but on a non-virtual plain as well... impacting “real” social interactions with specific audiences.

The power of social media to enact social interactions outside the virtual context was first noted in the summer of 2003, when new ‘flash mobs’ began emerging in major cities;

as groups of individuals answered email summons to appear in specific sites, coordinated through the use of hand-held GPS tracking systems, to carry out particular actions. These brief playful encounters, which united new cultural collectives through the use of the internet, usually involved absurdist interventions that confused shoppers, security guards, and the media, although many times their point was simply to liberate an urban space such that prevailing social norms were challenged and temporarily set aside (Khan and Kellner 2004, 94).

More recently, the use of social media as a tool to organize for social or political purposes has expanded to the point where the mobilization of large-scale political revolutions is being credited to Twitter or Facebook.

But this phenomenon is complicated on the point of authenticity. For example, the twitter call for protests in Iran, although it received much media attention, went unactualized on the streets. Does the support of a large number of “followers” on line equate to an authentic social identity?

### **Public relations understandings of social media and authenticity**

Authenticity is what journalist Malcolm Gladwell in the New York Times, contends that social media cannot bring to the conversation.

The platforms of social media are built around weak ties. Twitter is a way of following (or being followed by) people you may never have met. Facebook is a tool for efficiently managing your acquaintances, for keeping up with the people you would not otherwise be able to stay in touch with. That’s why you can have a thousand “friends” on Facebook, as you never could in real life (Gladwell 2010).

Social media make arguably fragile connections between groups and individuals who actually may not share anything else in common but a network link. Although this may expose individuals to a large volume of information, it does not necessarily create an authentic relationship as characterized in Grunig’s (Grunig and Hunt, 1984) excellence models, central to contemporary public relations practice.

Participation in identity construction online is also problematic from this perspective. As a recent perspective on social media for change suggests, “Facebook, in particular, can increase participation in social movements – if you call a single click of the mouse participation. More than a million people have joined a Facebook page of the Save Darfur Coalition, but few among them have taken any additional action to help those in Sudan” (Wilson Quarterly 2011)

This disconnect between a desire to be identified with virtual communities and the lack of subsequent follow up action hints at the dilemma of authentic and ethical representation in this media.

Authenticity is further challenged in the most interactive sector of social media technology – virtual worlds. In these worlds such as Second Life or the children’s game Club Penguin, participants construct their identities through the development of avatars. Undoubtedly the most visible interpretation of identity construction online, the avatar represents an individual’s identity through both form and content of presentation. Advertisers have come under fire recently for the insertion of brand presence in these virtual worlds. Gamers complain that the virtual interaction provides a context for the development of social relationships and communication. The insertion of brand advertising in these contexts is seen by many as unethical and, at the very least, not authentic in terms of the context.

Adding to this concern for ethical representation of organization or even representation of self through social media were some early issues with public relations messaging and social media. One of the more high-profile examples of this came in 2006 with the blog Wal-marting Across America (Gogoi 2006). Two real people (Jim and Laura) were paid by Wal-mart to cross the USA in their RV stopping at Walmarts across the country. They blogged about their experiences, all incredibly positive, and raised suspicions about their authenticity. There was some speculation that they were not actually real people at all. As it turns out, they exist, but they were paid a substantive sum of money by the company to represent themselves as folksy RV travelers who happened to love Wal mart and had no vested interest in the company.

This example fed the speculation of many social media consumers that big business was “sneaking” into what should be an authentic and ultimately democratic channel of communication.

### **Presentation of Self and Identity**

Goffman’s work in symbolic interactionism has made a strong contribution to the public relations literature – and to the debate that continues within this profession around the importance of context and source in a communication process. Goffman’s (1959) book on self presentation in social interactions provides some insight into how individuals may conduct themselves with a view to creating a performance for a specific audience in every day social interactions. The identity individuals construct through this performance is created within a particular context of setting, appearance and manner. By extending this understanding of context into the forum in which many modern day social interactions occur – we see that the performative process of socially constructing an identity may rely on physical setting but also on the virtual symbols and setting of social media.

In the context of digital communication through social media – individuals may choose specific audiences, but on a much larger scale than ever before. Symbollic interactionism in this sense allows us to begin to investigate the processes through which individuals construct their identities on various media. Although Goffman himself is clear that some actions and impressions may be intentionally given to an audience – others may appear as unintentional although they may ultimately have been intended (1959 p. 4).

These choices, what to communicate, what symbols to invoke, what communicative actions to take (i.e. to Like something) bring us back to Sarte’s analogy of the voyeur in some ways. Participants of social media can choose the context and content of their performative communication – but once they have identified as part of a particular Facebook group or engaged with friends or followers, the individual’s interaction with that community begins to be governed by the norms, symbols, language, culture and context of that community. As the voyeur loses his anonymity – the individual communicating via twitter loses his as his tweets are read, re-tweeted, assigned a hashtag and eventually begin “trending”. The responses, feedback, re-tweets, etc. and the context of these responses ultimately shapes the presentation of self from the original sender.

Individuals communicating on social media with audiences that provide feedback lose their freedom, so to speak, as the feedback from friends, followers, etc shapes their responses and either enables or curtails the exchange. And eventually, in the case of our Tweeter – as others

assign hashtags to the re-tweet or the exchange – the Tweeter is assigned new, often multiple and sometimes conflicting identities.

### **Presentation of self in social media**

Recent work in public relations theory has adapted the insights that Goffman provided around the physical context of communication to a virtual context. Although the virtual experience has some defining characteristics... the durable record of the exchange, the nature of the audience, etc... there are some important similarities in terms of the performative nature of communication in this medium.

Oram (2009) points out that “...this leads to the ultimate dilemma in Internet identity. The artificiality of our participation online, and the limited scope of available media, suggest that the Internet will never let us show our true selves. But other characteristics--the persistence of information and the ease of recombining information from different places--suggests just the opposite: that we can't conceal our true selves for long.”

Others, such as Sherry Turkle, have presented the social media experience as more than just a change of context in the construction of communication and relationships. It may ultimately be an extension of self in that, as Turkle asserts, these media are not just changing our lives, the way we work and communicate – but they are profoundly changing our selves... our own identities, and authenticity (Turkle 1995)

To move towards an individualized and ethically situated discussion regarding authenticity and social media, we now turn to the work of Jean-Paul Sartre, particularly his ethics as espoused in his phenomenological ontology depicted in *Being and Nothingness* (1957).

### **Sartre, representation and being for others**

Sartre (1957) offers three fundamental types of being: being in itself, being for itself, and being for others. As individuals who possess free will, we cannot ethically place ourselves in the same category (namely, that of being in itself) as an inanimate object without choice. Likewise to define ourselves based upon the recognition of the metaphorical gaze of others is considered to be acting in bad faith. Consequently the recognition and enactment of one's free will to continually be in an aware process of becoming represents the Sartrean ethical possibility of acting in good faith.

Sartre, in *Being and Nothingness*, famously uses a vignette concerning a voyeur looking through a key hole to illustrate one particular instance of bad faith and the being for others. He describes how such an individual peeking through a keyhole is completely engaged in the act of watching others, and thus is not involved in any sort of image or reputation management. In short, this individual is, by virtue of such social invisibility, able to freely do whatsoever they desire. However, at the moment of discovery in the act of being a voyeur, this individual gains a self awareness and categorization that is largely dictated by the recognition of, in turn, being discovered. The voyeur becomes identified, labelled, and feels their freedom curtailed by the sudden imposition of their awareness of the judgement of another.

With this example offered by Sartre, one immediately begins to see the issues at play with representations of self, authenticity and the idea of being for others in the case of social media.

When someone chooses to make use of social media, they start out by making representations of themselves. The choices of a photo to display, a user name, or the attributes of an avatar are all examples of the possibilities concerning choice and representation of the self. Likewise, the acceptance or controls of one's privacy settings in social media utilities are implicated in these decisions. There are multiple layers of choice in terms of an individual's representation in social media networks.

There is also a temporal aspect to this individualized representation. In many cases we actually choose who to admit to our social media network once we are online (e.g. a Facebook list of friends). Knowing that this is the case, we can suggest that this is the social media equivalent of knowing that one will be caught in the act of peeking through Sartre's key hole prior to the act itself. Does this then shape an individual's choices? If so, then the prior recognition that those future members of a social network will evaluate and judge an individual is potentially an anticipatory rendering of oneself as an object at the whim of a social environment. This would then be to treat oneself as a being in itself thing, a bad faith inauthentic act of limiting and denying ones freedom to choose.

It seems clear that whether anticipatory or not, representing oneself in the social media context has the potential for bad faith inauthenticity, but with the added nuance of the choosing (at least in many cases) of the particular audience who will render their gaze upon the individual. At the risk of overusing the voyeur example, this is the equivalent of someone choosing who will catch them in the act of watching others through the key hole.

### **The making and giving of sense**

In prior work, we have expended some effort to first problematize and then fuse Sartre's phenomenological ontology with a narrowed interpretation of Weick's sensemaking perspective (Weick, 1995) treated as epistemology (Yue & Mills, 2008). This project was aimed at examining how dramatic individual and existential identity construction played out in extreme circumstances whereby the ordinary flow of sensemaking was interrupted and the choice to act in bad faith or not became poignant. It seems to follow that a further interrogation of the intersection of both sensemaking and sensegiving is called for, and that the situations concerning representation within social media to be a worthwhile social space in which to explore these ideas.

Sensemaking, as Weick articulates it, is an ongoing, social and retrospective process concerned with identity construction. It relies upon extracted cues and is enactive of environments which are understood to be sensible. Finally, plausibility and not accuracy is an overarching arbiter of sensemaking (Weick, 1995: 17). Sensemaking, as Yue & Mills (2008) further interpret it, is largely an epistemological based process. Naturally, any discussion of epistemology leads to an interest in the underlying nature of the reality of which one gains an apprehension. For Weick, the underlying ontology of sensemaking processes "oscillates" and he suggests that:

"If people have multiple identities and deal with multiple realities, why should we expect them to be ontological purists? To do so is to limit their capability for sensemaking".  
(Weick, 1995: 35)

For Yue & Mills (2008) this potential limitation of sensemaking capability, generally viewed as self imposed when sensemaking is braided with Sartre's ontological perspective, is acting in bad faith because it denies the free nature of humans to become what they choose to be.

Sensegiving is the other side of the sensemaking coin. Sensegiving is a persuasive process whereby an actor tries to direct or influence the sensemaking of others (Maitlis & Lawrence, 2007; Gioia & Chittipeddi, 1991). Sensegiving, while perhaps obviously being important for leaders, may also be found across all levels of an organization (Maitlis & Lawrence, 2007). Much of the existing literature on sensegiving points to ways in which influential actors are able to affect the "enactive of sensible environments" aspect of Weick's seven properties of organizational sensemaking .

This dyadic pairing of the making and giving of sense fits well with Sartre's ideas concerning the potential subjectification that occurs when confronted with the gaze of another. To accept the identity position offered once one is aware that they are perceived by the other is one type of bad faith. Could it be that to attempt to influence the other pre-emptively, in an effort to circumvent the othering of oneself, be a good faith attempt to sensegive and thus maintain one's own freedom? Or perhaps the effort is well intentioned, but through adopting one identity in an effort to prevent the imposition of another, is simply doomed to be in bad faith regardless of the outcome?

The expression of social media as a liminal space, where boundary crossing happens and with ethical implications, is discussed by Thurlow & Yue (2010) when they examine interview data concerning how faculty and students deal with information, pedagogy and ethics in the virtual world of social media in the higher education context. Focussing largely upon identity work and boundary crossing, the authors identify a confluence of perceived risks and rewards as well as themes of emancipatory potential and potential commodification in the social space of education and Web2.0.

This characterization of the social media space as liminal offers a notion of a contested space where formal organizational rules are at the very least in play and challenged. This is interesting, for it presupposes a certain "given-ness" of the social constituting a space where boundary spanning may play out. However, when an individual chooses who the audience is in addition to how they will portray themselves within such a network, it seems that we are dealing with an example in which a phenomenological frame is a practical if not essential, perspective. In short, an emphasis upon the individual from both an ontological viewpoint as well as an ethical one is indicated.

### **Networked, and Self-Organized**

In some ways it is very much a wide open frontier in terms of the ability of individuals to choose specific contexts and audiences within which to construct themselves, and re-construct themselves. And yet, there is some indication that even though identities are fluid , authenticity matters. Clay Shirky critiques Gladwell's contention that social media cannot be authentic as he agrees that although "barely committed actors cannot click their way to a better world," but asserting that "this does not mean that committed actors cannot use social media effectively." (Shirley and Gladwell 2011).

## Conclusions and implications

A great deal of work is left to be done on the subject of social media, authenticity and identity. We struggle with questions such as why some social movements or ideas are durable and actionable, while others go unrealized and fade from view. New media technologies are changing not just what we do, but in essence who we are... how we see ourselves, and how we present ourselves to others. The context that is so important to the establishment and development of authenticity is now a constantly changing landscape. And in that sense these new ways of communicating change the context in which we become ourselves.

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# ASB Conference 2011 Proceedings

## *Strategy Stream*

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ON THE QUANTIFICATION OF STRATEGIC MANAGEMENT:  
AN ALGEBRAIC APPROACH TO THE REFERENCING, COMPARISON  
AND EVALUATION OF BUSINESS STRATEGIES

This article addresses the quantitative limitations that arise from attempting to compare and assess business strategies prior to implementation. Recent advances in the strategic management literature have led to taxonomies of stakeholder-based business strategies which lend themselves to quantification *ex ante* implementation. These quantifiable strategies enable strategic analysts to enumerate compare and evaluate potential strategies with one another, within and potentially across firm boundaries, a contribution which enhances the strategic management literature using four distinct metrics.

A key limitation in the field of stakeholder management, indeed across the strategic management discipline as a whole, is the inability to quantifiably compare and assess business strategies *ex ante* implementation. This inability inhibits firms from making better reasoned and more well informed assessments of the costs and benefits of potential business strategies prior to committing to particular course of action. It also restricts the ability of the firm to compare prospective strategies to either current or past strategies. A further constraint is that it limits the ability to assess potential strategic choices in comparison to rivals in the marketplace. Of related concern, it curtails the ability of the firm to model the implementation of a particular strategic choice, to that of another firm in the same or in a different industry, to serve as a benchmark for those pursuing similar strategic choices. However, recent developments in the strategic management literature hold promise for overcoming these obstacles, and in so doing, may better facilitate the quantification of the strategic management field.

Within the literature, we frequently encounter authors' contributions as encompassing a typology or a taxonomy of business strategies, either specific to a particular industry or phenomena (Morrison and Roth, 1992; Kaufman, Wood and Theyel, 2000 ) or more generic in nature (Porter, 1980, 1985; Mintzberg, 1988; Fuller, 2010). The generalizability of these more generic typologies and taxonomies contributes to the development of strategic management as a discipline because it provides practitioners and researchers some ability to comparatively assess different strategic choices prior to committing to a given course of action. However, the more generalized typologies of which Porter (1980, 1985) and Mintzberg (1988) are exemplars lack

universal appeal, and therefore result in limited application by practitioners and researchers, whose theoretical lenses differ from those of Porter and Mintzberg. The promise of a universal standard typology or taxonomy of business strategy is the ability to comparatively assess strategies under consideration by the firm; to contrast these strategies with rival firms; to benchmark against other firms pursuing the same strategies; and to do so prior to the implementation of the business strategy.

This article seeks to contribute to this area of research by assisting practitioners and researchers in referencing, comparing and evaluating these strategies ex ante implementation. One of the benefits of a standardized taxonomy is that it facilitates the development of an index by which business strategies may be referenced. By leveraging the pan-theoretical taxonomy of business strategies identified by Fuller (2010), this article seeks to help compare and analyze business strategies within the firm, across firms, and across industries and geographic boundaries by describing a standard referencing system for business-level strategies. It provides an additional contribution by offering four metrics through which business strategies can be quantitatively compared and assessed.

### On the Importance of the Topic and Extant Knowledge from the Field

Much work in the strategic management field has involved the identification and classification of business strategies. Historically, these have taken various different forms: list-style and simple matrix typologies as compared to multi-dimensional taxonomies and one of two different foci (academic theories vs. particular phenomena). We compare these classification schemes in the following table:

**Table 1: Classification Schemes in Strategic Management**

Schema	Typology		Taxonomy	
	Theory	Phenomena	Theory	Phenomena
Foci	Theory	Phenomena	Theory	Phenomena
Format	List or simple matrix	List or simple matrix	Nested lists or complex matrices	Nested lists or complex matrices
Key Elements	Theoretical constructs	Phenomenological attributes	Theoretical constructs	Phenomenological attributes
Dimensions	One or two dimensional	One or two dimensional	Multi-dimensional	Multi-dimensional
Presence of Hierarchies	Occasional	Occasional	Often	Often
Specificity	Limited	Limited	More extensive	More extensive
Generalizability	Broad	Narrow	Broad	Narrow
Examples	Porter, 1980, 1985; Mintzberg, 1988	Kaufman, Wood and Theyel, 2000	Fuller, 2010	Morrison and Roth, 1992

Although the terms “typology” and “taxonomy” are frequently used interchangeably in the literature, taxonomies are generally more extensive in the nature of the classification schema, typically employing multi-dimensional characteristics, and often involving the presence of hierarchies among taxons. Chrisman, Hofer and Boulton (1988) go further, having proposed specific characteristics required in a taxonomy of business strategies. These characteristics involve the separation of strategies into distinct groups; the generalization of information within each taxon; and the fostering of consistent identification and retrieval of information.

Both typologies and taxonomies may evolve from a given theoretical frame (Porter, 1980, 1985; Mintzberg, 1988; Fuller, 2010) or focus on a particular phenomena, such as the supplier management typology developed by Kaufman, Wood and Theyel (2000), or strategies for global industries as highlighted by Morrison and Roth (1992). Typologies focus on one or two key variables, with the contribution of the taxonomy being either a list of values, or a two-by-two comparison matrix. In contrast, taxonomies generally involve multiple variables, all relevant to the given theory or phenomena. The result is that the level of detail for typologies is usually more limited in nature, leading to reduced specificity in terms of each taxon, when compared to the more elaborately detailed taxonomies in the literature. Nonetheless, this limited specificity can still be broadly generalizable, as the works of Porter (1980, 1985) and Mintzberg (1988) attest. This broad generalizability brings more value to the contributions of theory-based typologies and taxonomies than for phenomenological-based ones. However, typologies and taxonomies that are beholden to a specific theory inhibit the ability of the researcher, and the practitioner, of comparing strategies drawn from different theoretical traditions, especially *ex ante*, when firms still have the potential to change the course of their strategic direction.

One of the limits of the strategic management field is this inability, prior to implementation, to provide a precise, analytical assessment of the potential impact of a given strategy, and therefore to differentiate among favourable potential strategies at a very granular level of analysis. While some attempts at comparative strategic evaluation have taken place – for example, Kotha and Vadlamani (1995) empirically compared Porter’s and Mintzberg’s generic strategy typologies – the typologies under evaluation were developed under distinct theoretical lenses that were never designed to be interoperable. In comparison, Fuller’s (2010) taxonomy was developed to be pan-theoretical in nature, enabling either the researcher or the practitioner to specify a strategy in terms of the underlying strategic components, irrespective of the theoretical lens employed, thus facilitating cross-theoretical comparisons. This characteristic is of fundamental importance to any taxonomy of strategic management if one is interested in quantifiably analysing a range of business strategies, *ex ante*, in order for the firm to pursue those with the greater expected return on performance. The development of an ability to systematically reference and quantitatively compare business strategies would significantly broaden the strategic management discipline and add much value to both researchers and practitioners involved in comparative strategic analysis.

## Components of a Strategic Referencing System

Fuller (2010) identified four components to a strategic referencing system that are of importance to the specification of business strategies across theoretical lenses in strategic management: the stakeholder, the domain objective, the domain tactic, and the relevant competitive environment. The specification of these four items allow for the identification of a business strategy down to the tactical level of analysis. The stakeholder component associates the intended business activity with a particular audience in the internal or external environment of the firm. The domain objective distinguishes between management, defence and maintenance motives underlying the firm's behaviour, as derived from the work of Baysinger (1984). The domain tactic subscript signals whether the action is a proactive, accommodative or reactive approach of the firm, and is premised upon the works of Wilson (1975) and Carroll (1979) in this area. The competitive environment specification indicates the intended basis of competition for the particular strategy. Through the specification of these four components, we can now identify in an algebraic format the characteristics of an individual business-level strategy. The sum of a firm's stakeholder strategies, referred to as corporate strategy for a multi-unit firm, and business strategy for a single unit firm, can therefore be formulated as follows:

$$\text{Strategy} = \sum \text{Stakeholder}_1^n \bullet \text{DomainObjective}_1^n \bullet \text{DomainTactics} \bullet \text{CompetitiveEnvironment}_1^n$$

### Sample Equations

Sample equations can be defined to illustrate the use and benefits of a strategic referencing system. One example of an element of a stakeholder-based strategy might include the following:

*Sample Equation 1: Investor • Management<sub>Proactive</sub> • Economic*

This strategy equation suggests a series of business activities that are aggressively focused upon the investment community, the benefits of which are expected to have a significant focus upon the economic basis of competition and to have an important impact upon the firm's economic position. The conversion of a business into an income trust might be an indication of such a strategic approach. Compare and contrast this strategy with the next equation.

*Sample Equation 2: Employee • Management<sub>Proactive</sub> • Economic*

While the stakeholder focus has changed, the domain objective, tactical method and basis of competition remains unchanged. Yet the shift in stakeholders would likely produce a much different series of business activities than that supported by the previous equation. Such a strategy might involve the move from a salaried compensation system to one in which commissions are the primary form of remuneration.

*Sample Equation 3: Employee • Defence <sub>Proactive</sub> • Economic*

In this strategy, the stakeholder component remains constant but the domain objective has changed. While the scope of the strategy is unchanged, the scale may vary with the change in motivation. One could conceive of a leading edge diversity management system represented by this strategic equation. A proactive approach to diversity, if effectively implemented, might not only serve as a means to effectively retain employees and reduce the costs of turnover, but provide additional economic advantages by enabling employees of diversity to better engage with customer groups of similar diversity that also provide economic benefits to the firm.

*Sample Equation 4: Employee • Defence <sub>Accommodative</sub> • Economic*

By changing the domain tactic, one implicitly affects the scale and the intent of the business activities that are expected to result from the strategy. Imagine an industry where one firm develops a novel diversity management system, as per the previous example, wherein the organization can significantly enhance how it leverages the uniqueness of its employees. A rival firm may feel compelled, perhaps at the behest of its employees, to adopt a similar approach. Yet if the strategy originated as a result of accommodating the wishes of employees to have parity in working conditions, rather than from management realizing the strategic potential of diversity, the diversity initiative might be much less extensive in scale than for the preceding firm, even though the other strategic components remain unchanged.

*Sample Equation 5: Employee • Management <sub>Proactive</sub> • Political*

A change in the competitive environment can have a profound impact upon the nature of the business strategy. When competing against a dominant economic presence in an industry, rivals that are less competitive economically must choose to compete politically or socially lest they choose or are forced to exit the industry. For the dominant firm to remain dominant, the challenge is one of domination across three fronts – economically, politically and socially – which requires the continual expenditure of managerial resources. These resources could better be used to enhance the existing economic dominance were the firm's rivals not able to pursue political or social means of uprooting them.

In the above illustrated equation, an example may include the provision of political sabbaticals to employees wishing to manage the grassroots electoral campaigns for Members of Parliament. Volunteer campaign managers with exceptional organizational skills that can spend a number of months working long hours are chronically difficult to attract; the best ones may command a salary that, while enabling the employee to take an unpaid leave of absence from work, drain the election campaign of financial resources. This form of grassroots activity might enable a firm to develop a cadre of campaign managers that are supportive of the firm's corporate values and which have elite relationships with elected governmental officials.

In conclusion, the implementation of an algebraic method of identifying business strategies facilitates comparisons within the firm, throughout the industry and across geographic boundaries. The formulation of strategic equation referencing is an outcome of developing a

standardized classification system for business strategies. Together, these two contributions provide important benefits to the field of strategic management and are a direct result of the strategic model developed by Fuller (2010).

### **Analytic Measures of Strategic Policy Design**

Four measures of strategic stakeholder relations may be defined from the adoption of a standardized classification system. These metrics describe the extent of stakeholder inclusion; the relative emphasis placed upon economic, political and social competition; the degree to which firms engage in proactive stakeholder tactics, and the mixture of domain tactics. Taken collectively, they articulate the strategic intent of firms at a given point in time along a number of different dimensions. A time series analysis for a single firm can detail the evolution of stakeholder management within the firm. A cross-sectional industry analysis can describe the state of stakeholder relations for an industry. Forecasting and prescriptive insight may result from such analyses.

#### **Stakeholder Inclusion Ratio**

The stakeholder inclusion ratio (SIR) is the measure of the number of stakeholder-domain-competitive environments that comprise the strategy for each business unit of the firm, expressed as a percentage of all such available strategic choices. This measure is irrespective of the domain tactics employed, and thus does not differentiate between proactive, accommodative and reactive tactics. Accordingly, the scale of the strategic design may vary from one firm to another while the stakeholder inclusion ratio remains constant.

There are three advantage of utilizing this metric. The first advantage is that it reflects the extent to which the business strategies of the firm address each of the organization's stakeholders within their strategic planning activities. The second advantage is that it ties the inclusion of stakeholders to consideration of how the firm will not only grow its operations, but retain its current field of activities and protect the processes through which it functions. The third advantage is that it links stakeholder inclusion to political and social advantages as well as economic ones, therefore providing a commentary through which the non-economic facets of various stakeholders are also addressed.

At the business unit level of analysis, the ratio is calculated as:

$$\text{SIR} = \frac{\text{Number of stakeholder-domain-capital strategies employed}}{\text{Number of stakeholder-domain-capital strategies available}}$$

Example:

$$\text{SIR}_A = .400$$

$$\text{SIR}_B = .760$$

In the above example, Firm B has a much higher SIR score than Firm A. Given the nature of this metric – it does not articulate differences in competitive environments or domain tactics – it is difficult to predict short term performance differences between these two firms. It may very well be possible that Firm A has a much greater emphasis upon economic competition than Firm B which may take a more balanced approach to economic, political and social strategies. However, some deductions may be made. A firm that focuses exclusively upon economic competition and has the broadest, most inclusive strategy, can only achieve a maximum SIR score of .333, as economic, political and social stakeholder inclusion are weighted equally by this metric. That Firm A has a score of .400 suggests a certain amount of non-economic tactics are included in their strategy. Yet the size of the difference between Firm A's and Firm B's score suggests the latter organization has a much broader strategy overall. Further, that Firm B's score is well over the two-thirds benchmark suggests a significant focus upon political and social competitive tactics; otherwise, such a score would be beyond their ability to obtain. Ceteris paribus, we would expect Firm B to exceed the performance that of Firm A in the long term due to their more multi-faceted approach to business strategy.

### **Competitive Environment Ratio**

An extension of the stakeholder inclusion ratio (SIR) concept is the competitive environment ratio (CER). Whereas the former ratio measures stakeholder inclusivity across each of the three competitive environments as a whole, the latter delineates the SIR into the economic, political and social components. The advantage of doing so is that the relative emphasis of a business unit's focus on each competitive environment can be compared to the emphasis placed on each of the other two. Further, these ratios can be compared to those of rivals and to industry averages.

The ratio is calculated by comparing the economic inclusion ratio (ECIR) to the political inclusion ratio (POIR) and the social inclusion ratio (SOIR) using this formula:

$$\text{CER} = \text{ECIR} : \text{POIR} : \text{SOIR}$$

where

$$\text{ECIR} = \frac{\text{Number of economic strategies employed}}{\text{Number of economic strategies available}}$$

$$\text{POIR} = \frac{\text{Number of political strategies employed}}{\text{Number of political strategies available}}$$

$$\text{SOIR} = \frac{\text{Number of social strategies employed}}{\text{Number of social strategies available}}$$

Example:

$$\text{CER}_A = 95 : 30 : 15$$

$$\text{CER}_B = 95 : 60 : 52$$

In the above example, Firm A has a competitive environment ratio of 95:35:15 ( $CER_A$ ) compared to Firm B with a competitive environment ratio of 95:65:40 ( $CER_B$ ). In this example, both firms have chosen to focus most of their strategic emphasis on economic-based strategies, as reflected in this factor being the highest of each of the three scores for both firms. Key differences are apparent in the relative emphasis upon political and social competition. Firm B has twice as extensive the focus upon political strategies as Firm A (60% to 30%) which may involve including more stakeholders within their corporate political strategy, involving stakeholders in a broader range of political domains, or both. In regards to social competition, the difference between the firms is most acute. As it pertains to strategic formulation, Firm A's social competitive strategy is about one sixth as extensive as their economic strategy (15/95). Meanwhile, Firm B's social strategy is slightly more than half as extensive as their economic strategy. That said, Firm B's social strategy is more than three times as extensive as Firm A's (52/15). These differences have strategic implications.

It is to be expected that firms would have higher ECIR scores than either POIR or SOIR scores, given how economic means of competition tend to be predominant among most businesses today. Yet over time, firms with a greater emphasis on stakeholder inclusion and the triple-bottom line approach toward corporate social responsibility should see their POIR and SOIR scores increase. In the case of the above example, Firm B has a much broader strategic formulation in the political and social environments than does Firm A. In the long term, *ceteris paribus*, greater firm performance would be more likely from Firm B than from Firm A if there is truth to political and social competitive advantage, provided each business unit has a comparable ability to turn strategic formulation into strategic implementation.

### **Stakeholder Proactivity Ratio**

The stakeholder proactivity ratio (SPR) is a weighted measure of the firm's stakeholder inclusion at the business unit level of analysis while considering the impact of differing domain tactics. Whereas the stakeholder inclusion ratio does not consider the potential for differences in proactivity, accommodation and reactivity among firms, the SPR metric expressly includes it. Consideration of domain tactics is important because a proactive approach is suggestive of a firm which places a higher value upon a particular strategic choice than a firm which chooses an accommodative or reactive response that is incrementally engaging of the firm's priorities.

To create a weighted average, a multiplier is required for each of the domain tactics available to each business unit. It is proposed that multiples of three, two and one be assigned to proactive, accommodative and reactive tactics respectively. Since proactive tactics by definition are ones in which the business unit is heavily invested in terms of resources and effort, it is logical to presume these are also tactics that are perceived to have significant potential benefits to one or more stakeholder groups that the firm has prioritized. In comparison, business units that pursue an accommodative approach to a particular strategic issue implicitly balance competing impacts across various stakeholders, trade-offs being necessary as some benefits for stakeholders come at the expense of others. This contrasts with reactive tactics where the business unit demonstrates

reluctance or passivity in the attempt to address the concerns of stakeholders. By weighting each of these tactics progressively less, it recognizes the differing levels of priority attributed to each tactic.

The ratio is calculated using this formula:

$$\begin{aligned} \text{SPR} &= \frac{\text{Number of proactive strategies employed}}{\text{Number of proactive strategies available}} \times 3 \\ &+ \frac{\text{Number of accommodative strategies employed}}{\text{Number of accommodative strategies available}} \times 2 \\ &+ \frac{\text{Number of reactive strategies employed}}{\text{Number of reactive strategies available}} \times 1 \end{aligned}$$

Example:

$$\text{SPR}_A = 1.200$$

$$\text{SPR}_B = 4.800$$

In the above example, Firm B has a much higher SPR score than Firm A. Given the nature of this metric – it does not articulate differences in competitive environments or domain tactics – it is difficult to predict short term performance differences between these two firms. It may very well be possible that Firm A has a much greater emphasis upon proactive tactical competition than Firm B which may take a more balanced approach to domain tactics. However, some deductions may be made. A business unit that focuses exclusively upon reactive competition and has the narrowest, least inclusive strategy can only achieve a maximum SPR score of 1.0, whereas a firm that extensively employs all three tactics can achieve a maximum SPR of 6.0; this is because the maximum contributions of proactive, accommodative and reactive tactics to the SPR are 3.0, 2.0 and 1.0 respectively. That Firm A has a score of 1.200 suggests a certain amount of non-reactive tactics are included in their strategy. Yet the size of the difference between Firm A's and Firm B's score suggests the latter organization has a much broader tactical approach overall. Further, that Firm B's score is well over the 1.0 maximum achievable with an all-reactive tactical approach suggests a significant focus upon accommodative and proactive tactics. Consequently, in the long term, we would expect Firm B to exceed the performance of Firm A due to their more multi-faceted approach to business strategy.

### **Strategic Domain Ratio**

An extension of the stakeholder proactivity ratio (SPR) is the strategic domain ratio (SDR). Whereas the former ratio takes an agglomerative view of domain tactics, this ratio delineates the SPR into its three respective components. The advantage of this metric is that the relative emphasis the firm has placed upon proactive, accommodative and reactive competitive tactics is clearly illustrated.

The ratio is calculated using this formula:

$$\text{SDR} = \text{PSE} : \text{ASE} : \text{RSE}$$

where

$$\text{PSE} = \frac{\text{Number of proactive strategies employed}}{\text{Number of proactive strategies available}}$$

$$\text{ASE} = \frac{\text{Number of accommodative strategies employed}}{\text{Number of accommodative strategies available}}$$

$$\text{RSE} = \frac{\text{Number of reactive strategies employed}}{\text{Number of reactive strategies available}}$$

Example:

$$\text{SDR}_A = 15 : 45 : 25 \qquad \text{SDR}_B = 65 : 60 : 60$$

In the above example, Firm A has a strategic domain ratio of 25:45:35 ( $\text{SDR}_A$ ) compared to Firm B with a ratio of 65:60:60 ( $\text{SDR}_B$ ). In this example, Firm A has chosen to emphasize accommodative tactics to a much greater degree than proactive or reactive tactics. Yet that all three components of Firm A's DSR score are fewer than 50% suggests a low degree of strategic formulation is taking place. Accordingly, one would expect Firm A is involved in a mature industry with few rivals, or is a cautious and less influential player in a more competitive industry where the prospects for the organization of affecting industry dynamics are low. In comparison, Firm B is engaged more actively across the board in terms of the domain tactics employed. Yet it is the relative proportion of proactive, accommodative and reactive tactics that is intriguing with Firm B. The similarity in these three component ratios suggests the firm is at once moderately innovative with stakeholders in some areas, employing a balanced approach to stakeholder trade-offs in another area, and being recalcitrant in still other areas of stakeholder management. This mixture of domain tactics suggests the firm has diverse lines of business in which it differentiates treatment of various stakeholders; operates in an industry where complex and contrasting relationships exist in tandem with one another; or is lacking consistency in the approach to stakeholder relations.

### **Contributions and Implications for Theory**

According to Fuller (2010), the perceived linkage between stakeholder inclusion and firm performance suggests that the more extensive the inclusion of internal and external stakeholders and the more extensive the use of strategic domains, the greater the economic, political and social capital of the firm. In turn, the greater the combination of these three competitive advantages, the more sustainable will be the firm's performance. The use of strategic domains is thought to act as

a partial moderator to the positive relationship conceived to exist between stakeholder inclusion and capital-based competitive advantages.

An extension of this model is the development of the stakeholder strategy taxonomy (Fuller, 2010). His three dimensional construct is depicted visually as a cube with stakeholder inclusion, strategic domains and competitive environments serving as its main axes. This construct further defines domain tactics as being proactive, accommodative or reactive in nature. This taxonomy is inclusive of other strategic theories, such as the strategic positioning framework and the resource-based view; it does not supplant the research achieved in these areas, only re-conceptualizing its relationship to the strategic management paradigm. Additional benefits include the ability to compare and contrast strategies within firms and across firms.

This article builds on this earlier work by establishing a taxonomy from which a variety of business strategies can be classified. The result is a standardized referencing system through which business strategies, developed from a variety of extant theories in the literature, may be expressed using a common terminology. An advantage of this referencing system is that it permits the indexation of business strategies. Benefits of such an indexation include the improved capability of identifying, comparing and contrasting tactical and strategic choices. For strategic management researchers, this article contributes to the field by enhancing the ability to comparatively assess competing strategic theories as well as furthering the ability to quantitatively assess strategic management choice.

### **Contributions and Implications for Practitioners**

A final contribution of this article is the delineation of four metrics through which business-level strategies may be evaluated. The first of these, the stakeholder inclusion ratio, expresses the extent to which strategic choices cover the range of stakeholder, strategic domains and competitive environments. The second metric, the competitive environment ratio, illustrates the relative emphasis between economic, political and social competitive strategies. The third measure, the stakeholder proactivity ratio, provides a weighted average of the degree to which a firm favours proactive tactics compared to accommodative and reactive approaches. The final metric – the strategic domain ratio – comparatively demonstrates the emphasis of the firm for each of the three domain tactics. Benefits of these metrics include bringing greater specificity and enhanced quantification in the evaluation of business strategies which may enhance the entire strategic management process.

The implications of the standard referencing system and these metrics will change how practitioners undertake the strategic management process. The modern strategic management process of converting vision and mission statements into business objectives from whence a strategic design is formulated and then implemented can be dated back to the foundational work of Kenneth Andrews (Andrews, 1971; Christensen, Andrews and Bower, 1973). The process of formulating business strategy should now involve the documentation of the chosen strategy using the standard referencing system; a comparison to the use of past strategies as enumerated with the referencing system; a comparison to the present strategies of their rivals; and the application of

the four metrics described earlier in order to test the potential viability of the strategy prior to implementation. Prospective strategies that score higher across the most metrics should be viewed as more desirable than those that score lower. As the firm's intended strategy is altered through the course of implementation, the emergent strategy (Mintzberg and Walters, 1985) should also be catalogued using the referencing system and assessed using the four metrics. This process should be repeated whenever there is a change in the strategic direction for the firm. In so doing, the practitioner will validate the metrics within their own firm and industry, and opportunities for revisions to the existing metrics, and the addition of new metrics, can be discussed further.

### **Limitations**

There are some important limitations to this study that must be acknowledged. First is the assumption that it is possible to quantify strategic management; that strategy is a science, more than an art. This article argues that the quantification of strategic management is possible, through the necessary and preliminary process of enumerating business strategies in a consistent manner, premised upon the basic components of any business strategy: who are the stakeholders affected; what is the objective being pursued; what are the tactics employed; and what is the competitive environment where the strategy will be implemented. The contention is that *any* strategic design, regardless of the theoretical lens, can be defined through the Fuller (2010) taxonomy, and that it may subsequently be quantified using the standard referencing system described in this article. If this is not the case – that neither the Fuller taxonomy, nor indeed any taxonomy – can be devised to consistently describe a business strategy at its most elemental levels, then strategy is more art than science; that no common form of expression of strategies formulated from different theoretical lenses is possible; and that we shall forever be bound to unresolvable arguments over which theoretical perspective is superior. Whereas if we believe that theory is but metaphor in which we express the interaction of factors from which a desired outcome arises, then we must concede a plurality of theories is possible, wherein each expresses the same phenomena but through differences in metaphor, and therefore a common, unifying means of referencing them is possible, and desirable, from an academic perspective – this is the argument of strategic management as a science. And yet it must be acknowledged that even with the granular definitions of strategy that result from using this article's standard referencing system, mere replication of a strategic formulation by one company may not replicate the success of a predecessor having applied the same strategy, and thus the *art* of strategic management also remains, more narrowly defined than previous, but nonetheless providing an avenue for further debate in our field of study.

A second potential limitation is the possibility that some may view the taxonomy as presented here and in Fuller (2010) as being biased toward stakeholder theory and not in actuality a pan-theoretical approach to the classification of business strategies. While the taxonomy does enumerate strategies in terms of the stakeholders affected, and while stakeholders as a concept are embedded in and naturally associated with, stakeholder theory, it is a falsification to assert therefore that no other theory involves stakeholders. Stakeholders, in contrast, are associated with all strategic management theories, not just stakeholder theory. For example, Porter's (1980, 1985) positioning theory asserts the need to pursue one of three generic strategies in order to appeal to strategic stakeholders to obtain a competitive advantage. In contrast, the resource-based view

emphasizes the importance of resources and skill capabilities, but such resources and skills must be appropriable and strategically valuable, and that value is influenced by stakeholders (Collis and Montgomery, 1995). From positioning theory to the resource-based view to its ubiquitous presence in stakeholder theory, stakeholders play a fundamental role in any discussion of strategic management. Indeed, in these three theories from our field of study, and in other less prominent theories, one or more stakeholders are fundamentally affected by the actions of another stakeholder. It would therefore be disingenuous to assert that the taxonomy is not pan-theoretic in nature on the basis that stakeholder terminology is employed.

A third issue, related to the preceding topics, is whether all forms of strategy can be enumerated through the use of the strategic referencing system. The system as derived from Fuller's (2010) taxonomy enables both the practitioner and the researcher to express a wide range of business strategies from across a diversity of strategic management theories. Whether or not it is all encompassing across all strategic theories is beyond the scope of this particular article. However, the taxonomy itself is designed to be a living contribution to the field of business strategy, evolving as our understanding of the field evolves. Whether the taxonomy is sufficient to capture all historic and all future theoretical perspectives is an avenue open to future research.

A fourth limitation is the necessity of adoption. Without widespread adoption of the strategic referencing system within the strategic management community, the value of this contribution is constrained. At present, studies in strategic management describe managerial behaviour in descriptive terms; terms that are insufficient to provide strong comparisons with pre-existing research that differ in theoretical perspectives, industry differences, country differences and the like. While the referencing system is designed to overcome these obstacles, its success is predicated upon widespread adherence to the classification standards described earlier in this article. Failure of such widespread adoption would significantly curtail the utility of this article's contributions.

## Conclusion

This article makes an important contribution to the strategic management literature by leveraging the taxonomy of Fuller (2010) to create a strategic referencing system. The system provides a business-level approach to the identification and enumeration of business strategies at a more granular degree than otherwise exists in the literature. It then leverages this referencing system to outline four metrics through which business-level strategies can be compared. This is advantageous for performing *ex ante* comparisons of different potential strategic choices, historical analysis to past strategic behaviour, as well as intra-industry comparisons to those of rivals. At a fundamental level, it promotes the quantification of the strategic management field through the development of a *lingua franca* through which business strategies, of a variety of theoretical traditions, can be defined, compared and contrasted. While subject to a number of constraints and limitations, widespread adoption of this referencing system within the literature would provide many advances in quantifying the field of strategic management and in the comparative analysis of business strategies.

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## THE EFFECT OF PRESTIGIOUS CEOS ON STRATEGIC AND OPERATIONAL RISK-TAKING

Longitudinal data from the US cellular telecoms industry between 1991 and 2009 suggest that high prestige CEOs take higher risks in capital expenditures, and less risk with R&D expenditures. No relationship was found with M&A expenditures. This suggests that CEOs only use their prestige to affect operational or internal investments.

### **Introduction**

Risk is an inherent part of the strategic process (Bower, 1970), necessary for sustaining a competitive advantage (Fiegenbaum & Thomas, 2004). Strategic risk-taking is “the degree to which managers are willing to make large and risky resource commitments – ie. those which have a reasonable chance of costly failures” (Lumpkin & Dess, 1996).

When selecting a new Chief Executive Officer (CEO), board members may naturally consider the risk preferences (Sitkin & Pablo, 1992) of candidate executives. To assess this characteristic, the board may have to depend more on the executive's prestige as a signal of quality than on his/her performance in an earlier role, especially if the executive has little experience in the particular industry or firm (Podolny, 2005). Personal prestige is defined as the ‘property of having status’ due to ‘membership in elite social circles’ (D'Aveni, 1990:121). High prestige results from a personal network of significant and prominent social contacts that contributes to personal power (Finkelstein, 1992) and generates unique privileges (Washington & Zajac, 2005) such as the ability to more easily foster resources, to lower costs (Bothner, Kim, & Lee, 2009), and for the ‘Matthew Effect,’ the ability to derive greater rewards for performing a given task at a given level of quality than lower-status actors (Podolny, 1993). Board members may therefore wonder whether such privileged CEOs favour risky or conservative strategic action. In other words, can the board count on a prestigious CEO to drive radical change, or will such a CEO “play it safe”?

The literature presents two contradicting views on the relationship between executive prestige and strategic risk. On one hand, some argue that those with high prestige are hesitant about jeopardizing what they consider as a valuable and fragile asset (Huberman, Loch, & Onculer, 2004). Proponents of this view emphasize that prestige warrants protection (Podolny, 1993). High-prestige executives therefore act more conservatively in an attempt at preserving this asset. On the other hand, other studies suggest that high prestige encourages risky action because any loss can be quickly recovered (Bothner et al., 2009). According to this view, high prestige allows pursuit of new opportunities at lower cost than less prestigious counterparts could offer through greater access to information via their superior social networks, and higher benefits granted by lower-prestige actors (Podolny, 1993).

In this paper, we consider the CEO, the top executive of a firm, to determine whether high personal prestige associates with higher risk or lower risk strategic action. Our paper examines the strategic investment risks taken by CEOs in a single industry – US cellular telephony network operators – over a 19-year period. Prominent firms include Verizon, Dobson, Cingular, Southwestern Bell and AT&T Wireless. This industry is characterized by at least two kinds of strategic risk. First, competitors have to spend years building a complex and costly infrastructure involving telephony switches, transmission towers and service nodes to accommodate the cellular function and features they plan to offer their customers. They may do this through internal capital expenditures, or by acquiring the pre-existing networks of rival firms. Secondly, they require research and development (R&D) efforts to tailor unique products and services to differentiate themselves from their competitors. These kinds of investments are of high strategic risk because they involve long-term resource commitments, whether through capital or research and development (R&D) expenditures, or through mergers and acquisitions (M&A) (Beckman & Haunschild, 2002:144; Chen & MacMillan, 1992; Hoskins, Hitt, & Hill, 1993; Nutt, 2001). In this vein, we consider larger investments as a measure of higher strategic risk since they represent more dramatic changes in key resource allocations (Chatterjee & Hambrick, 2007; Sanders & Hambrick, 2007). We distinguish between risky strategic investments, aimed at adapting the environment to suit the firm in response to a threat or opportunity, and operational investments, which attempt to adapt the firm to the environment (Dutton & Jackson, 1987).

We next develop two contrasting hypotheses pointing to prestigious CEOs either taking more strategic risk, or less.

## Hypotheses

### **Prestigious Executives Act More Conservatively**

Higher prestige executives act more conservatively because they consider their prestige and the benefits such prestige provides worth preserving. Prestige provides a basis for CEO power through associations with powerful and elite contacts (Finkelstein, 1992). It can be considered both as a signal of quality (D'Aveni, 1990; Podolny, 1993) when other quality signals such as performance are absent (Graffin, Wade, Porac, & McNamee, 2008), and as an intrinsically valued resource (Huberman et al., 2004). A study of biotechnology start-ups found that those with endorsements from high-status third parties were able to secure IPO funding more easily than those who were not (Stuart, Hoang, & Hybels, 1999). Podolny (2005) noted lower transaction costs between buyers and high-status accounting firms that lower-status firms could not match.

High prestige actors also shun risky action since using prestige may ultimately lead to its loss (Podolny, 2005). Podolny (2005) argued that in highly uncertain times, high prestige banks were reluctant to enter the 'junk bond' market in the 1980's for fear of degrading their own prestige in the eyes of the investment community. As a consequence, such actors eventually become complacent or self-satisfied (Huberman et al., 2004), isolating themselves from competitive forces necessary to foster aspiration and experimental learning from rivals (Barnett & McKendrick, 2004; Miller & Chen, 1994). We should therefore observe a negative relationship between a CEO's prestige and the strategic risk they take.

*Hypothesis 1: CEOs with higher prestige take less strategic risk than their less prestigious counterparts.*

## **Prestigious Executives Take More Risks**

On the other hand, prestige may also encourage more risky action to pursue opportunities since prestigious actors have easier access to information and can more easily recover from any loss if the bet proves wrong. In the case of erroneous strategic action, high prestige CEOs can acquire new resources more easily, at lower cost than their less prestigious counterparts (Bothner et al., 2009; Podolny, 1993, 2005). High-prestige actors therefore have little to lose by taking risky action, as witnessed in a study of venture capitalists (Bothner et al., 2009). This extra resilience persuades executives to take on more risk. We should therefore observe a positive relationship between a CEO's prestige and the strategic risk they take.

*Hypothesis 2: CEOs with higher prestige take more strategic risk than their less prestigious counterparts.*

## **Method**

We adopt a longitudinal view of a single industry to test the hypotheses in order to control for industry effects. Within this industry, we focus on the attributes of the CEOs and the firms they lead across a span of 19 years. For any given CEO, we expect firm and CEO attributes will change only modestly from year-to-year. For instance, between any two successive years a given firm may have a 5% increase in number of employees and the CEO has aged one year. However, between different CEOs in any given year, there could be large differences in firm and CEO attributes. One firm may have 100 employees, while another 10 000; one CEO may be 65 years old and another only 35. This results in clustering of data for each given CEO across his/her tenure in their firm. To account for this clustering, we use a mixed multilevel model using STATA 11, since otherwise using an OLS (Ordinary Least Squares) model will result in erroneous regression coefficient results (Rabe-Hesketh & Skrondal, 2005).

## **Sample**

We identified an initial sample of 91 firms in the entire US wireless telecom operator industry between 1991 and 2009 from the US wireless industry association CTIA, and cross-referencing with Standard & Poors, Lexis-Nexis, Bloomberg BusinessWeek company profiles, and company websites. SEC 10-K company data was only available beginning in 1991, thus defining the starting data of the sample. CEO data was collected from SEC DEF14A and 10-K filings, and Bloomberg BusinessWeek executive profiles.

Of the initial sample of 91 firms, 11 firms were acquired or operated as subsidiaries, 47 were private companies with no publicly available data, and another 4 companies had incomplete or missing data. As summarized in Table 1, this resulted in a final sample of 29 companies. Accounting for companies that were founded, acquired or disappeared, the final unbalanced sample consisted of 56 CEOs of 29 companies across a 19-year timespan (1991-2009), resulting in 303 unique CEO-year data cases. Removal of outliers (any variable value extending beyond three standard deviations) reduced the sample size to 265.

The total industry capital, R&D and M&A expenditures between 1991 and 2009 are shown in Figure 1. The year 2001 was tumultuous for this industry. First, the US government issued licences for the third-generation radio spectrum, the "primary resource" required to operate a cellular network. Secondly, the dot-com collapse occurred, sharply reducing available markets

for growth. Sharp discontinuities are evident for both capital and R&D spending in 2001. To account for these effects, we include year control variables (discussed below).

## Variables

**Dependent Variables.** We assume that strategic decisions result in a limited number of M&A, R&D and capital investment decisions (Chatterjee & Hambrick, 2007; Jones, Danbolt, & Hirst, 2004; Palmer & Wiseman, 1999; Sanders & Hambrick, 2007; Woolridge & Snow, 1990). We follow earlier studies (Beckman & Haunschild, 2002; Sanders & Hambrick, 2007) in noting the total M&A, R&D and Capital investment per CEO per year using data from the Thomson Financial SDC Platinum M&A database and COMPUSTAT/Research Insight respectively. We considered using a ratio measure as our DV to account for firm size. However, Wiseman (2009) recently argued that using such a ratio as DV is equivalent to adding firm size as an interaction term, thus confounding the regression results. We follow his prescription to add firm size as a dependent variable in the regression equation instead, as other recent studies have done (Devers, McNamara, Wiseman, & Arrfelt, 2008).

**Independent Variables.** *CEO Prestige* arises from both social capital and human capital sources (Certo, 2003). We follow Finkelstein (1992) and Halebian and Finkelstein (1993) by measuring prestige through four items. To measure social capital aspect of prestige, we use the number of corporate and non-profit board memberships the decision-maker has outside the firm, where the greater number of directorships, the greater the prestige score. The human capital aspect of prestige is measured as the education level and institution affiliation of the CEO. We first note the *highest level of education* (0=no high school, 7=doctorate), and then the *prestige of the academic institution* on a 0-3 scale, following Finkelstein (1992). Data was obtained from 10-K and DEF14A reports available from the SEC EDGAR database, and BusinessWeek Executive Profiles.

**Control Variables.** To ensure that the observed effects are due to the hypothesized relationship, we controlled for alternative explanations based on year-, firm- and individual sources. To account for year effects, evident in Figure 1, we include dummy variables for each two-year period.

At the firm level, we considered prior performance, slack and size. First, *firm performance* in the year prior to the investment accounts for the prospect theory-driven perception of potential gain or loss in risk attitudes of the executive (Wiseman & Gomez-Meija, 1998). *Firm performance* was measured as the firm Return on Assets (ROA). A common gauge of firm profitability, ROA captures the degree to which management has effectively deployed firm assets, thus it is useful in assessing the performance implications of business strategies (Geletkanycz & Hambrick, 1997). Secondly, firm slack affects risk attitudes because of the availability of extra resources in case of surprise opportunities or to react to crises (Bourgeois, 1981). *Available slack* (current assets/current liabilities), readily available resources, can buffer the firm from the short-term consequences of risky decisions (Cyert & March, 1992) and act as an incentive to engage in riskier strategic behaviour (Garud & Van de Ven, 1992; Martinez & Artz, 2006). *Potential slack* captures the ability of a firm to secure resources with debt financing. Since some firms have zero debt, we used the debt-to-equity ratio to measure the inverse of *potential slack*. As Geiger and Cashen (2002) argue, potential slack incurs future expenses (in the form of interest payments), trigger potential changes in analyst opinions, affecting future debt costs and the stock price, and accentuating bold action, such as innovation. Alternatively, the 'hunger-driven view' of potential slack (Hambrick & D'Aveni, 1988) suggests when slack levels fall, executives will act more

boldly in an attempt to restore them (Palmer & Wiseman, 1999), while high-slack firms become complacent.

At the individual level, we note that CEO age and tenure may also affect the tendency to either seek or avoid risk (Barker & Mueller, 2002; Hambrick, Geletkanycz, & Fredrickson, 1993; Miller, 1991). We obtained data for *CEO age*, *firm tenure*, *industry tenure* and *firm performance* from 10K filings, company websites, COMPUSTAT and Business Week Executive Profiles. To account for alternative sources of power beyond prestige power driving risky behaviour (Finkelstein, 1992), we included a dummy variable *Chairman Power* to note whether the CEO also was the firm Chairman and thus, had more formal power. Finally, some studies point to inordinate risk-taking due to executive self-importance, hubris or narcissism (Hayward & Hambrick, 1997; Li & Tang, 2010; Malmendier & Tate, 2005). To account for an extreme executive personality as being the driver for the tendency to take risky strategic action, we consider the unobtrusive measure of CEO *self-importance*, the ratio of total compensation of the CEO relative to that of the next highest paid executive (Chatterjee & Hambrick, 2007; Hayward & Hambrick, 1997). The total compensation was calculated as the sum of salary, bonus, and non-cash compensation (deferred income, stock grants and stock options). Compensation data was obtained from EXECUCOMP and company SEC DEF14A and 10-K filings.

## Results

The statistics and correlations of the variables are listed in Table 3. All independent variables were centred and standardized to reduce the effects of multicollinearity (Jaccard & Turrisi, 2003). Exploratory factor analysis (EFA) revealed a single *CEO prestige* factor (eigenvalue =1.80) explaining 60% of the total variance. Reliability was acceptable ( $\alpha =0.63$ ) (Eisenhardt & Bourgeois, 1988; Finkelstein, 1992). EFA also determined a single *CEO self-importance* factor (eigenvalue =1.58) explaining 79% of total variance. The factor reliability ( $\alpha = 0.71$ ) was deemed satisfactory (Eisenhardt & Bourgeois, 1988; Geletkanycz & Hambrick, 1997).

The first question is whether the sample actually has enough variance between CEOs to justify the use of a multilevel model, or will an OLS (Ordinary Least Squares) regression model suffice? To measure between-CEO variance, we calculated a separate model for each dependent variable without any predictors. These “null” models test the hypothesis that there is no intercept variation due to within-cluster variance, using a likelihood test. As summarized in Table 2, the significant likelihood test results ( $p<0.05$ ) allow us to reject the null hypothesis, and confirm that there is sufficient variance within the CEO clusters for all three dependent variables to warrant the use of multilevel models (Rabe-Hesketh & Skrondal, 2005).

**Capital Risk-Taking.** Next, Model 1 in Table 4 examines the effect of CEO prestige on capital risk-taking. The regression coefficient in Table 4 for *CEO prestige* is positive and significant ( $\beta=0.13$ ,  $p<0.01$ ), supporting Hypothesis 2 and contradicting Hypothesis 1. Several control variables exhibited statistically significant relationships with capital risk-taking, namely *firm size* ( $\beta=1.66$ ,  $p<0.001$ ), *available slack* ( $\beta=0.13$ ,  $p<0.05$ ), and *firm tenure* ( $\beta=0.29$ ,  $p<0.05$ ). The lack of significant year effect suggests the CEO continued with their capital investments as part of long-term commitments unaffected by year-to-year variations in their environment. The significant *firm size* result points to larger firms making larger investments because they have more resources to invest. Capital investments are sensitive to *available slack*, consistent with the idea of “slack search” (Greve, 2003), where liquid assets “may buffer itself from negative

consequences of...risk-taking behaviours” (Martinez & Artz, 2006:21) and thus increase risk-taking. Finally, CEOs with more *firm tenure* bet more with capital spending, perhaps as they consolidate power within the firm (Hambrick & Fukutomi, 1991; Walters, Kroll, & Wright, 2007).

**R&D Risk-Taking.** We next considered R&D investment risk in Model 2. Unlike capital investments, many CEOs chose not to make an R&D investment during their tenure. As a result, there may be unobserved influences on the likelihood that a CEO makes an R&D investment. We therefore compare cases in our sample where an R&D investment was made with the cases where one was not made. In this way, we account for antecedents that affect a CEO’s choice of whether to invest in R&D or not. Heckman’s (1979) two-stage correction method considers the entire sample in the analysis and first calculates the likelihood that an R&D investment was made using a probit regression. Estimates from this model were then included in a second-stage multilevel model as an extra control variable called an Inverse Mills Ratio or *lambda* (Gujarati & Porter, 2009; Higgins & Gulati, 2006).

There is a significant and negative coefficient for *CEO prestige* ( $\beta=-0.17$ ,  $p<0.05$ ), suggesting that prestigious CEOs become more conservative with their R&D spending. This supports Hypothesis 1 and contradicts Hypothesis 2, the opposite relationship measured for capital risk. Several year controls are significant, pointing to a strong influence on R&D risk-taking. Otherwise, *firm size* ( $\beta=4.67$ ,  $p<0.01$ ), *potential slack* ( $\beta=0.56$ ,  $p<0.01$ ), *firm performance* ( $\beta=-1.70$ ,  $p<0.05$ ), *CEO age* ( $\beta=1.31$ ,  $p<0.01$ ), *chairman power* ( $\beta=-0.87$ ,  $p<0.01$ ), and *CEO self-importance* ( $\beta=-0.83$ ,  $p<0.01$ ) also exhibit significant relationships. Since the debt-to-equity ratio is the inverse of *potential slack*, the positive results support the hunger driven view of slack (Hambrick & D’Aveni, 1988; Palmer & Wiseman, 1999). Older CEOs tend to spend more in R&D. This contradicts earlier research suggesting that older executives spend less R&D as they plan for succession and tend to think more short-term (Barker & Mueller, 2002). Perhaps instead, R&D risk-taking is tempered when performance is poor due to R&D risk aversion, arising from threat rigidity behaviour (Pablo, Sitkin, & Jemison, 1996).

**M&A Risk-Taking.** Finally, Model 3 considers M&A investment risk. Again, we use the Heckman two-stage correction procedure to account for the probability that an M&A investment is not made. Surprisingly, there is no significant relationship with *CEO prestige*. Only a single year control was significant, along with *firm size* ( $\beta=10.82$ ,  $p<0.05$ ), and *potential slack* ( $\beta=7.78$ ,  $p<0.05$ ), which exhibited similar relationships as R&D risk-taking.

## Discussion

The primary conclusion from the results is that the prestige of a CEO affects risky investments directed within the firm (capital and R&D) but not investments directed outside the firm (M&A). In other words, we present evidence that CEOs with substantial social networks beyond the firm apparently use this advantage only to direct strategic change within the firm.

Comparing the capital and R&D risk-taking results suggests that in this industry, capital spending is part of a long-term commitment that is little affected by yearly shifts in industry. The firms continue to spend in order to build up their network in order to successfully compete because they have no choice. If they halt network build-out they will lose the race with their competitors to have the most customer coverage. Capital risk-taking increases when there is more available

slack, and for more experienced CEOs. On the other hand, R&D spending appears to be more short-term focused, highly sensitive to yearly changes, curtailed when the firm faces loss of performance, when CEO power is increased, or when there is a need to rebuild potential slack. In this industry, R&D is typically done to develop new features on top of the infrastructure purchased from suppliers. Features may be developed and dropped in a few years. This view is consistent with Souder and Shaver's (2010) study on investment payoff horizon, the timelag between the action and a measurable performance effect. They argue that a more complete characterization of risk requires not only magnitude but also payoff time. Our results support this idea.

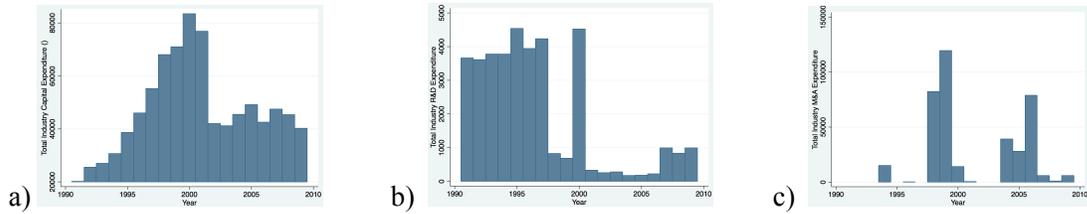
On the other hand, some studies argue that the direction of strategic action depends on whether the firm's environment is considered either as a potential threat or a potential gain in the ability to control the firm's resources (Chattopadhyay, Glick, & Huber, 2001). Control-reducing threats trigger more conservative internally-directed action such as capital or R&D investments aimed at adapting the firm to the expected future environment. On the other hand, potential losses lead to riskier externally-directed action such as M&As, aimed at modifying the environment through, for instance, acquisition of rivals to increase market power. Externally-directed action is riskier because it is more difficult to implement (Dutton & Jackson, 1987). The results of this paper point to a preference for prestigious CEOs using their superior social capital to adapt their firms to the environment rather than attempt to modify the environment through risky externally-directed action.

This study has several limitations. First, considering only a single industry limits its generalizability. The roles of capital, R&D and M&A spending may be unique and not necessarily applicable in other industry contexts. Secondly, our sample only considers public firms due to data availability. However, most firms in the industry began as private entities, and we omit the competitive dynamics of private firms acquiring each other in the early phases of network build-up. Thirdly, our measure of strategic risk does not consider more complex characterizations such as managerial downside risk (Miller & Reuer, 1996), nor more recent views espousing a more socially constructed view that more fully accounts for managerial risk-preferences (Miller, 2009). Fourthly, our measure of CEO prestige is relatively static over the span of the CEO's tenure. To add variation in the model, alternative measures of prestige based on yearly CEO ranking by third-parties (for example CEO of the Year ranking) (Graffin et al., 2008) could expose other relationships with risk-taking beyond those based on education profile, which is relatively fixed at the beginning of a career, and board memberships, which evolve very slowly. Finally, our sample size is relatively small and this study would certainly benefit from sampling another industry with recognizably different characteristics, such as one with less dependency on physical infrastructure and faster time-to-cash, for example iPhone application developers.

## **Conclusion**

Boards of directors attempting to trigger organizational change face a difficult challenge in selecting an outside CEO. With little relevant firm or industry experience offered by candidate CEOs, sometimes the board must rely on other proxy signals of quality such as prestige. However, to avoid the "illusion of competence and control" (D'Aveni 1990:21) offered by high prestige CEOs, the results from this study suggest that prestigious CEOs in the US wireless telecom operator industry tended to drive change through risky capital risk-taking, "played it safe" with R&D, and had no discernable effect on M&A risk-taking.

**Figure 1: Total Industry Expenditures (1991-2009) a) Capital b) R&D c) M&A**



**Table 1: Determining the Final Sample**

	Number of companies
Initial list from multiple sources	91
- Acquired or operated as subsidiary	11
- Private company (no data available)	47
- Missing data from public company	4
= Final sample	29

**Table 2: Likelihood Tests of Null Models**

Dependent Variable	$\chi^2$	Sig.
Capital Expenditure	302.94	0.000
R&D Expenditure	280.71	0.000
M&A Expenditure	11.42	0.000

**Table 3: Variable Statistics and Correlations**  
**(correlation values > 0.13 are significant to p<0.05)**

	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Capital Exp (Ln)	7.05	1.89	1														
R&D Exp (Ln)	0.87	2.15	0.26	1													
M&A Exp (Ln)	1.33	2.85	0.23	0.20	1												
Years from 2001	1.61	4.91	-0.02	0.15	0.03	1											
Firm Size (Ln)	0.12	0.96	0.83	0.43	0.24	0.12	1										
Potential Slack	0.01	0.75	0.00	0.00	0.10	0.08	-0.06	1									
Firm Performance	0.09	0.32	0.29	0.04	0.08	0.06	0.21	0.09	1								
Available Slack	-0.08	0.74	-0.08	-0.09	-0.04	-0.21	-0.22	0.21	0.08	1							
CEO Age	0.07	0.93	0.25	0.09	0.08	0.08	0.24	-0.09	0.09	-0.10	1						
CEO Tenure (Ln)	0.08	0.97	0.07	-0.05	-0.01	0.01	0.09	-0.00	0.07	-0.06	0.40	1					
Firm Tenure (Ln)	0.02	0.98	0.11	0.06	0.03	0.19	0.12	-0.03	0.16	-0.07	0.10	0.55	1				
Industry Tenure	0.00	1.02	0.19	0.07	0.09	-0.04	0.16	-0.09	-0.01	-0.11	0.25	0.12	0.23	1			
Chairman	0.80	0.40	0.04	0.03	0.07	0.29	0.08	0.06	-0.08	-0.21	0.10	0.18	0.08	0.17	1		
Self-Importance	0.07	1.80	0.13	-0.06	0.04	0.07	0.21	-0.03	0.07	-0.04	0.17	0.14	-0.10	-0.11	-0.04	1	
Prestige	-0.05	2.62	0.30	0.14	-0.00	0.01	0.23	0.11	0.02	-0.14	0.31	-0.05	-0.05	0.17	0.13	-0.23	1

**Table 4: Multilevel Regression Models of Three Kinds of Strategic Risk**

Variable	Model 1 Capital Expenditures		Model 2 R&D Expenditures		Model 3 M&A Expenditures	
	Estimate	S.Err.	Estimate	S.Err.	Estimate	S.Err.
Constant	7.03***	0.31	-17.04**	5.68	-52.50*	23.27
Lambda (extra factor to correct for selection bias)	-	-	2.52**	0.95	36.48*	15.69
Year Controls						
1991-1992	-0.46	0.39	<b>3.80**</b>	1.26	-0.65	1.18
1993-1994	-0.39	0.36	<b>3.49**</b>	1.26	1.43	1.12
1995-1996	-0.9	0.15	<b>1.29*</b>	0.55	<b>-2.30***</b>	0.64
1997-1998	0.03	0.31	<b>2.24*</b>	0.94	-0.14	1.10
1999-2000	-0.03	0.30	<b>2.77**</b>	1.07	1.21	1.09
2001-2002	0.15	0.28	0.80	0.59	-0.99	1.09
2003-2004	-0.11	0.26	1.38+	0.71	-0.85	1.06
2005-2006	-0.01	0.24	<b>2.73**</b>	0.91	0.76	1.05
2007-2008	0.10	0.21	<b>-1.62*</b>	0.75	-0.14	1.07
Firm-Level Controls						
Firm Size	<b>1.66***</b>	0.11	<b>4.67**</b>	1.48	<b>10.82*</b>	4.32
Potential Slack	0.10	0.06	<b>0.56**</b>	0.21	<b>7.78*</b>	3.08
Firm Performance	0.03	0.12	<b>-1.70*</b>	0.69	-0.07	0.55
Available Slack	<b>0.13*</b>	0.06	0.35+	0.19	-0.03	0.26
Individual-Level Controls						
CEO Age	-0.12	0.12	<b>1.31**</b>	0.45	0.32	0.26
CEO Tenure	0.01	0.09	-0.52+	0.31	-0.31	0.27
Firm Tenure	<b>0.29*</b>	0.12	0.03	0.23	0.29	0.27
Industry Tenure	-0.01	0.13	-0.24	0.27	0.08	0.22
Chairman Power	-0.05	0.13	<b>-0.87**</b>	0.31	-0.02	0.50
Self-Importance	-0.02	0.09	<b>-0.83**</b>	0.30	-0.03	0.14
Hypothesized Relationship						
Prestige	<b>0.13**</b>	0.04	<b>-0.17*</b>	0.08	-0.12	0.10
Log-Likelihood						
	-252.09		-416.79		-618.85	
Sqrt(sigma u)						
	1.06 (0.12)		1.69 (0.19)		1.05 (0.26)	
Sqrt(sigma e)						
	0.45 (0.02)		0.88 (0.04)		2.34 (0.12)	
No of cases						
	265		265		265	
No of clusters						
	54		54		54	

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