

Letter from the Editor

BY ALBERT J. MILLS

Welcome to the fifth ASB issue of the *Workplace Review* based on papers presented at the annual conference of the Atlantic Schools of Business in Halifax (hosted by Dalhousie School of Management). Papers chosen from the annual conference are selected for three main reasons. Firstly, for their ability to reflect the best of research across the Atlantic region – particularly leading-edge research; secondly, because of their local appeal, practical application, and their ability to speak to a broad audience; and thirdly because they have already undergone a process of peer evaluation. In the latter regard we try to select from those papers that are including in the conference proceedings. Above all else we remain committed to make the *Workplace Review* dedicated to better workplace practices, devoted to discussing issues of practical concern to businesses throughout Atlantic Canada. In this issue ethics and social responsibility are very much to the fore.

Our opening article is by Elsie Henderson from Mount Saint Vincent University reports on 'a comparison of common traits in Canada's Nortel fraud to US companies.' Through an examination of financial reporting of frauds in Canadian and US companies in recent times, the paper's findings indicate that corporate cultures are an important factor in shaping fraudulent behaviours. Other mitigating factors include company pressures to commit fraud and the extent to which employees have not been exposed to ethical consideration in higher education.

The second article – by John Ross and Cathy Driscoll (Saint Mary's University) – continues our theme of fraud. In this paper Ross and Driscoll examine the links between various Canadian agencies that are charged with anti-money laundering to assess their effectiveness. Drawing "tentative" conclusion, the paper contends that there is "room for improvement in communication and information sharing between some of the partners in the Canadian" bureaucracies involved in anti-money laundering.

The third article shifts attention to issues of family and peer influences on youth gambling. Authored by a team of researchers from Mount St. Vincent University (Karen Blotnicky, Malika Das, Carmel and Fred French, Peter Mombourquette, and Deborah Norris), the paper makes a preliminary link between family and peer effects on the shaping of gambling behaviour and the subsequent negative effects on youth gamblers. They caution that "marketers should be circumspect about what they promote, how they promote it, and who is likely to respond to the appeal," especially in cases such as youth gambling because of the "potential harm to children and youth."

The fourth of our themed articles examines "risk and charitable organizations." In this paper Kirk A. Collins, Johathan Rosborough, and Joshua Sim (of St. Francis Xavier University) examine the extent to which charitable organizations can expose themselves to risk through diversification strategies. The paper notes that "unlike their American counterparts,

concentration ratios of Canadian and Atlantic Canada charitable organizations indicate that diversification in revenue streams is actually detrimental to risk mitigation; the exception is for financial disruption, where the sign is positive for all of Canada and insignificant for Atlantic Canada.”

The fifth paper – by Bobbi Morrison of St. Francis Xavier University – examines the social network users literacy in terms of privacy issues and concludes that there are differences, based on age and gender, which can be identified and improved. Morrison suggests that despite age and gender differences privacy literacy was generally not high and leave users open to potential abuse.

Our sixth and final paper is part of our regular teaching practice focus. The article by Hesham Allam (Dalhousie University) explore the value of using Web 2.0 technologies to promote collaboration in online courses. The paper goes on to evaluate several technologies and their potential for student collaboration.

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A COMPARISON OF COMMON TRAITS IN CANADA'S NORTEL FRAUD TO THOSE IN US COMPANIES AND A DISCUSSION OF THE UNDERLYING ETHICAL ISSUES

This paper will use literature in presenting a comparison of the common traits in one of the largest financial reporting frauds in Canadian history to those that occurred in US companies. In part two, the underlying ethical issues surrounding the fraud will be discussed and consideration will be given to the ethical standards of decision makers and whether regulation alone is what is needed.

INTRODUCTION

Investor confidence has been rocked by fraudulent financial reporting activity over the past decade. One just needs to look at large business failures such as Enron, Health South or WorldCom in the United States (US). In Canada one of the largest accounting frauds occurred in Nortel. Encompassed within these business failures are traits that will serve to identify the possibility of such occurrences in the future. There have been significant studies performed on these US companies and on Nortel independently. Part one of this paper will use the literature to identify the similarities between the circumstances within the US entities to Canada-headquartered Nortel.

The response to fraudulent activity in the past has been increased regulation. The effectiveness of these responses is only measurable after they have been in place and subjected to subsequent review. Hindsight provides ease of evaluation after the fact. A key component underlying all fraudulent activities are the ethical standards of the decision makers involved which make up the corporate governance within these organizations. When considering the ethical component, the heart of the problem may be much deeper than regulation can effectively address. Part two of this paper will discuss the ethical standards of decision makers, elements that are present in a fraud and consider whether regulation alone will solve the problem.

BRIEF OVERVIEW OF COMPANIES

The past decade was fraught with business failures which resulted in extensive investor financial losses and eroded investor confidence. Fraudulent activities were present in failed companies such as Nortel, Enron, Health South, and WorldCom.

Nortel. Nortel originally operated in telecommunications equipment and in 1998 in efforts to remain competitive the company expanded into net gear (Weber & Reinhardt, 2009). The company was at its peak in July 2000 when it represented more than 37% of the Toronto Stock Exchange (Fogarthy, Magnan, Markarian & Bohdjalian, 2009). Nortel grew through aggressive acquisitions and analysts promoted the company as being sustainable (Fogarthy et al., 2009). In short Nortel was hailed as a great Canadian company. By 2001 Nortel stock trading was suspended as the stock prices fell enormously due to Nortel's now known accounting irregularities (Fogarthy et al., 2009).

Enron. Enron operated in the energy sector as a natural gas provider and by 2001 was touted as one of the best companies to work for (Jennings, 2003). The company had expanded through diversification into natural gas trading and added "electric power, coal, steel, paper and pulp, water and broadband fiber optic cable capacity" as well as construction and management of energy facilities (Healy & Palepu, 2003, p. 5). Enron's stock increased significantly in 1999 and 2000 yet analysts did not question this (Healy & Palepu, 2003). Further, Enron was rated one of the most innovative companies but by December 2001 Enron had filed for bankruptcy (Healy & Palepu, 2003).

WorldCom. WorldCom operated in the telecommunications sector. The company used an aggressive acquisition strategy to achieve superior growth (Zekany, Braun, Warder, 2004). In 2001 Worldcom was the largest internet carrier and the second largest long-distance carrier with a market value of \$180 billion (Akhigbe, Martin & Whyte, 2004). Fortune magazine placed the executives of WorldCom on the list of "People to watch in 2001" (Zekany et al. 2004). All of this recognition and within months it was evident the company had been on the slope to failure (Zekany et al. 2004). Aggressive revenue reporting had been used by WorldCom which resulted in accounting irregularities that would ultimately lead to the demise of the company (Akhigbe et al. 2004).

HealthSouth. HealthSouth operated hospitals and rehabilitation centers that were seen as the cream of the industry (Jennings, 2003). The company grew at a fast pace and reached its peak in 1998 (Jennings 2003). From its humble beginnings in 1984, it had grown to be the largest provider of outpatient and rehabilitative services (Johnson, G. & Johnson, M., 2005). HealthSouth began its fall from glory in 1998 when its forecasted earnings were reduced (Jennings, 2003). The company continued its dissent as it became clear that revenue had been overstated in efforts to continue to show aggressive growth (Jennings, 2003).

Common Traits

Common traits have been identified related to the failed companies:

- Pressure to maintain the numbers and performance
- Fear and silence
- Senior Managers with very young direct reports
- Weak board of directors or external supervision
- Conflicts of interest
- Innovative culture
- Culture that promotes social responsibility (Jennings, 2004, p.13).

Several of these factors will be used in a comparison of Canada's Nortel to the US's Enron, Health South and WorldCom.

Pressure to Maintain the Numbers and Performance

Henry (2008) performed a study to assess the impact of earnings press releases on investors. Results of the study showed that investors are influenced by the tone of reports (Henry, 2008). Further, it was found that longer reports reduce the effect of negative results. It is common knowledge that investors look for a strong return on their investments. Essentially, they want the value of their investments to increase and / or to receive returns through interest or dividends. Earnings reports that indicate high earnings per share will retain and draw more investors. Companies use earnings reports both to promote and report on the organization's results (Henry, 2008). "Executives of Enron, WorldCom, Tyco, Adelphia, Health South and other companies felt tremendous pressure to meet the numbers" (Jennings, 2004). DeGeorge, Patel & Zeckhauser (1999) indicated that executives want to report positive profits, sustain recent performance and meet analysts' expectations. Evidence of this pressure existed in Nortel, Enron, WorldCom and HealthSouth.

Nortel. Canada took pride in Nortel which made up 37% of the Toronto Stock Exchange in 2000 (Fogarthy, Magnan, Markarian & Bohdjalian, 2009). Nortel under new leadership in 1997 expanded from exclusively being in the telephone industry into also providing internet equipment (Weber, J., Reinhardt, A. & Burrows, P. (1999). Further, the writers highlight Nortel's growth through the acquisitions of companies such as Bay Networks, Clarify, Periphonics, Shasta networks and Cambrian Systems (Weber et al., 1999). Fogarthy et al. (2009) indicate that other Telecom firms were experiencing large fluctuations in earnings but Nortel exceeded expectations consistently for 16 quarters. Analysts did not question this but accredited this to the expertise of the company's CEO and the business strategy that Nortel had adopted (Fogarthy et al., 2009). The Financial Times are referenced by Fogarthy et al. (2009) when stating that analysts believed Nortel had "solid, sustainable growth" and "perpetual surpassing of earnings expectations"(p.167) . Clearly, there was pressure to maintain the numbers and performance.

Enron. Enron started out as an energy company that was created as a result of a merger between Houston Natural Gas and Internorth natural gas companies (Healy & Palepu, 2003; Jennings, M. 2003). Enron realized double digit growth during the late eighties and to achieve further growth it expanded into natural gas trading, construction and management of energy facilities (Healy & Palepu, 2003). Share prices of Enron increased by 56 and 87 percent in 1999 and 2000 whereas the index increased by just 20 and 10 percent in those years (Healy & Palepu, 2003). Further, Healy and Palepu (2003) indicate market capitalization of Enron exceeded \$60 billion which was 6 times the book value and was a strong indication of the market's expectations for Enron. Enron was identified as the "seventh largest capitalized company in the USA" (Chatzkel, J., 2003, p. 127).

Worldcom. Worldcom was a leader in the telecommunications industry that achieved its growth through 65 successful acquisitions (Norwani, N., Mohamad, Z. & Chek, I., 2011). These acquisitions included companies such as MFS Communications, UUNet and MCI Communications (Norwani et al., 2011). Zekany, Braun and Warder,(2001) quoted the CEO, Ebbers, saying to a *Fortune* reporter that the company's goal was not to simply increase market

share but to be number 1 on Wall Street. WorldCom's attempt to continue its growth through acquisitions was stymied when it failed to merge with Sprint in 2000 (Norwani et al., 2011). In an attempt to meet the market's target, management resorted to false reporting (Norwani et al., 2011). Share values fell from \$6.97 in February 2002 to \$0.83 on July 19, 2002 when WorldCom filed for bankruptcy (Akhibe, A., Martin, A. & White, A., 2004).

Health South. HealthSouth was started in 1984 by the CEO with just \$55,000 in capital and by 1998 stock had increased from the 1986 \$1 per share value to \$31 per share (Jennings, 2003). At that point the CEO was boastful that the company had met or beat earnings expectations in 47 consecutive quarters (Jennings, 2003). The CEO was caught on wire telling employees "to get the numbers where we want them to be. You're my guy. You have the technology and know-how" (Jennings, 2003, p. 45). Weld, Bergevin and Magrath (2004) state that companies are under intense pressure to meet analysts' expectations. Further, the writers suggest that this may be the factor that leads to such corporate fraud as occurred at Enron, World Com and HealthSouth (Weld, Bergevin & Magrath, 2004).

Conflicts of Interest

Nortel. Executive compensation created a conflict of interest at Nortel since, for example, the CEO received bonuses that were based on revenue and operating earnings per share with less weight on the earnings per share (Fogarty et al., 2009). Nortel's business acquisition strategy resulted in an increase in revenue which led to increased bonuses. Thus there was motivation for the CEO to continue with the acquisition strategy (Fogarty et al., 2009). In addition to the bonuses the company compensated executives with stock options. Fogarty et al. (2009) identify that stock options may provide incentive for executives to create short term increases in the value of stock.

Enron. Stock options were a key component of management compensation in Enron (Healy & Palepu, 2003). The holding of stock options could explain why Enron's management focused on projecting great expectations for the company and presentation of inflated earnings to meet analyst projections. (Healy & Palepu, 2003). Enron's board of Directors was riddled with conflicts. Jennings (2004) notes that a board member was receiving large donations from Enron, another board member had business relations with Enron's subsidiaries, others were consultants and / or held shares in Enron. These conflicts of interest could potentially effect board decisions in favor of board members personal gain.

WorldCom. The CEO of WorldCom held stock options that added to over \$100 million (Skeel, 2005). Further, Skeel (2005) writes that stock options are opportunities for gains with no exposure to loss for CEOs. If the value of the stock increases the holder will exercise and have recognized the gain; however, if the price falls the holder will not exercise (Skeel, 2005). Skeel indicates that part of the reform as a result of the large business failures such as WorldCom should have been an adjustment in the accounting for stock options. Notably, in Canada the accounting for stock options was changed in 2002 such that the values impacted the bottom line whereas in the US they were not changed and did not impact the company's earnings (Skeel, 2005; CICA, 2012). As Skeel (2005) states the incentive to drive up stock prices is enormous for holders of stock options. Magnan and Tebourbi (2009) identify that management can increase the value of their stock option earnings without maximizing shareholder value through choices of disclosure and accounting manipulation.

HealthSouth. Richard Scrushy was the founder and CEO of HealthSouth and a shareholder of the company (Jennings, 2003). Executive officers including Scrushy began selling their shares in 1998 when the company's shares were at their peak (Jennings, 2003). Numerous members of the board of directors had personal interests in HealthSouth (Jennings, 2003). Jennings (2003) identified conflicts of interest from the top down. The Board of Directors were not independent as is evident from the conflicts of interest that were present. Further, Jennings (2003) identifies that one director held a consulting contract with HealthSouth that paid \$250,000 per year for seven years. Yet another director's company was paid \$5.6 million to install glass at one of HealthSouth's new hospitals. A hospital supply company who serviced HealthSouth was partly owned by Mr. Scrushy, six directors and their wives. Three of these directors were on the audit committee. Two directors had served on the board for eighteen years. Eight of the board members were company officers (Jennings, 2003).

In addition, to the conflict of interest related to the Board of Directors, managers also had conflicts of interest. Jennings (2003) writes that the executives were young and the salaries and bonuses grew exponentially. Jennings (2003) writes that key executives "owed significant amounts of money that they had borrowed in order to exercise their stock options" (p.47). These conflicts had created self-interest for these managers. Mr. Scrushy, CEO, had personal companies that benefited through business with HealthSouth (Jennings, 2003). In addition, Scrushy used the company's assets for his own benefit. HealthSouth had allowed Scrushy to live a lavish lifestyle that created a significant conflict of interest.

Weak Board of Directors and External Supervision

There is a significant amount of literature available on Corporate Governance that has been developed since the corporate scandals of the last decade. Prior to this literature Yermack (1996) through research had found that companies with small boards of directors had higher market value. Further, the writer indicates that large boards become unwieldy and an obstacle to efficient performance (Yermack, 1996).

Nortel. Nortel's Board of Directors was recognized as one of the best (Thain, 2004). The New York Times indicated the board consisted of the "cream of Canada's business community" (Thain, 2004, p. 2). Thain (2004) also quotes a well known expert in the field of corporate governance as saying, "Who would they recruit that was any better?"(p. 2). Although, the expectation was that Nortel's board was superior, in fact it demonstrated many weaknesses that are common to the boards of other failed companies as identified in Jennings (2003). Thain (2004) writes that an informed observer indicated that the board did not understand the intensity of Nortel's business nor did they understand the company's operations and how they generated profits. Further this board did not provide any consideration to internal controls through an internal audit function or through the external auditors (Thain, 2004). The separateness of the board is evidenced by Thain when he writes that the board was "viewing the company from its exalted and removed position" (Thain, 2004, p. 2). Thain recognizes that the stock options that were discussed previously should never have been approved by the board as the compensation created incentive for the executives to place their self interest above that of the stakeholders. Finally, Thain (2004) identifies that the numerous other commitments that the board members had would erode their ability to contribute as they should to Nortel's board.

Enron. Independence is required of boards of directors in order that members are not influenced by self interest. Jennings (2004) writes that Enron's board members received \$380,000 in retainers. In addition, the board members were reluctant to challenge the company on any areas of operations or financial reporting (Jennings, 2004). Enron's board of directors failed in this regard given the numerous conflicts of interest that were present and its failure to actively review and challenge the operations of the company. The primary purpose of the board is to represent the shareholders interests (Dossani & Hoje, 2010). The boards of directors have the responsibility of hiring senior management. Dossani & Hoje (2010) recognized that the board of directors for Enron did not approve in the hiring of the general manager. This is an example of the inactivity of the board in its role. The board of directors also failed to provide oversight of the auditing firm Arthur Anderson (Dossani & Hoje, 2010). Dossani and Hoje (2010) report that Enron's board did put in place a set of controls for one area of transactions; however, they did nothing to establish the controls were working but relied on their belief in management.

WorldCom. "WorldCom's board was referred to as "Bernie's board" because there were few outsiders and those who were outsiders were personally and financially obligated to Ebbers" (Jennings, 2004, p. 16). Zekany et al. (2001) indicate that Ebbers (WorldCom CEO) attracted admirers to the board of directors. The culture at WorldCom was one in which decisions of executives were not questioned or refused even by the board (Zekany et al, 2001). Further the writers indicate that *Business Week* suspected the board members received many benefits and that resulted in their loyalty to Ebbers (Zehany et al., 2001).

HealthSouth. Jennings (2003) indicates one expert noted, "There has been so much sleeping on the job at HealthSouth board that it could rise to gross negligence" (p.47). One of the directors commented that the directors really did not know a lot about what was occurring at the company (Jennings, 2003). Clearly this is an indication of the passive nature of the board and not the necessary active oversight that is required. The board was slight on external members. In addition to the conflicts of interest previously mentioned, Jennings (2003) writes that in 1996, eight of the 14 board members were company officers, although this improved in later years.

OVERALL COMPARISON

The following table summarizes the above discussion and demonstrates the similarities in traits of Canadian-headquartered Nortel and the US companies. It shows that the characteristics prevalent in the US companies were also present in Nortel.

Situation	Nortel	Enron	WorldCom	HealthSouth
Pressure to Maintain the Numbers	Exceeded analysts' expectation for 16 quarters running while other companies in similar industries were experiencing large fluctuations.	Share prices increased by 56 and 87 percent when the index only increased by 20 and 10 percent. Enron became the seventh largest capitalized company in The USA.	Goal was to be number one on Wall Street. Resorted to false reporting to do this.	Met or beat the numbers in 47 consecutive quarters. CEO noted as saying "Get the numbers where they need to be."
Conflict of Interest	Bonuses based on revenues and operating earnings. Executives were compensated with stock options.	Executives were compensated with stock options. Board members had ties with the company.	Executives were compensated with stock options.	Executives were compensated with stock options. Board members had ties with the company.
Weak Board of Directors and External Supervision	Board did not understand the company operations and how they generated profits. Board gave no consideration of internal controls. Board members had numerous other commitments which limited them from providing sufficient oversight of Nortel.	Board members received retainers. Board members did not challenge management and failed to provide oversight.	Board did not question management decisions. Board members were not external from the company or had obligations to the CEO.	Board members did not know a lot about what was occurring at the company. Majority of board members on the board, initially, were internal.

Regulation

Regulation of the trading of securities did not occur until the Securities Exchange Act of 1934 in the US. Prior to this the NYSE was aware of manipulation and lack of controls surrounding these practices (Jennings, 1964). Discussions of wrongdoings within the markets had been occurring before 1909 but until the Exchange Act the industry was self-regulated (Jennings, 1964). As North America became more industrialized during the 1920s, stock prices increased and the unregulated environment was ripe with unethical behavior. Fraud including fraudulent financial reporting and overstated market values contributed to the market crash of 1929 (Rockness & Rockness, 2005). From this we see that since incorporations and the holding of investments by individuals who relied on others to manage the companies in which they

invested there has been the issue of self interest over the needs of shareholders. There has been other legislation such as the Investment Company Act of 1940 and the Foreign Corrupt Practice Act of 1977 which legislates behavior (Rockness & Rockness, 2005).

The business failures of Enron led to the passing of the Sarbanes Oxley Act (SOX) of 2002 in the US. SOX “legislated ethical behavior for publicly traded companies and their auditor firms” (Rockness & Rockness, 2005, p. 31). This legislation requires companies to have audits of the internal controls and have management sign off on the financial reports (Rockness & Rockness, 2005). Significant to the US accounting body, Sox removed the oversight of accounting from FASB (Financial Accounting Standards Board) to an independent external body called PCAOB (Public Company Accounting Oversight Board) (Rockness & Rockness, 2005). In Canada, there were no significant changes in the oversight of accounting. As a result of the changes in the US, the Canadian Public Accountability Board (CPAB) was created to provide oversight through inspections of firms that provide audits of public companies. Unlike the US PCAOB the CPAB did not remove any authority from the CICA (Arens, Elder, Beasley & Spletstoeser-Hogeterp, 2011).

HealthSouth served as a test of the impact that SOX might have on fraudulent behavior of executive officers. Most of the charges against Scrushy of HealthSouth occurred prior to the Sarbanes Oxley legislation (Johnson & Johnson, 2005). However, according to Johnson & Johnson (2005) the certification of financial reports for several quarters did fall under Sarbanes Oxley and was one of the first major cases to have been tried in court which served as a test of the 2002 act. The charges laid were much less than the maximums that were legislated in SOX (Johnson & Johnson, 2005). Whether the law had demonstrated that it would deter such fraudulent activity in the future is questionable, in the writer’s view.

The Underlying Problem

Business Ethics. The accounting improprieties that occurred in Nortel, Enron, WorldCom and HealthSouth are examples of decisions that crossed the line of ethical behavior. This writer believes that it was not the initial intent of the parties in these companies to behave unethically. Some of the reasons that may have led to this were presented in the comparison of each of these companies in the first section of this paper. One of the items discussed was pressure to maintain the numbers. Research related to fraud identifies that in order for fraud to occur three things are present: pressure, opportunity and rationalization (Dorminey, Fleming, Kranacher & Riley, 2012). This research is based on the premise that an otherwise ethical individual when faced with what is perceived as an insurmountable problem aligned with opportunity and rationalization will bend under the pressure and commit the unethical act of fraud.

Drucker (1981) in a discussion of business ethics writes that all authorities of the Western tradition – from the Old Testament prophets all the way to Spinoza in the 17th century, to Kant in the 18th century, Kierkegaard in the 19th century and, in this century, the Englishman F.H. Bradley (*Ethical Studies*) or the American Edmond Cahn (*The Moral Decision*) – are, however, in complete agreement on one point: there is only one ethics, one set of rules of morality, one code, that of *individual* behavior in which the same rules apply to everyone alike (p. 2). Thus in the writer’s view we cannot justify that our actions are warranted because we are in a business. There is no separation of us the individual and us the individual in business. If we

choose to be unethical in business it is an individual action that we are individually responsible for. Drucker discussed ethical behavior in shades of gray. The answers are not always black and white. For example, a mother who steals to feed her children, Drucker writes, may justify the stealing. However, if the mother asked for food, she may not have to steal (Drucker, 1981).

Plinio et al. (2010) referenced research of The Rutgers Institute for Ethical Leadership which studied employees and students. The results indicate that there was a lack of ethical behavior and ethical leadership, in an economic downturn the situation is worse, there is a fear of reporting misconduct and trust of leaders is lower. Education has been identified as making a difference. Bernet and Getzen (2007) indicate that a 2003 survey found that 30 percent of those surveyed did not trust corporate earnings reports. Plinio, Young and McCormack (2010) referenced studies performed by KPMG that found that education results in higher ethical values. It follows then, in the writer's view, that increased ethical education from early in life onwards would increase the threshold at which a person might succumb to pressure and commit fraud.

Ethical versus Legal. Historically legislation and ethics were not considered separately (Shaffer, T. 2002). It was not until the late eighteen hundreds that the two began to be seen as distinct (Shaffer, T. 2002). Shaffer (2002) refers to the separation as regulation without conscience. Further, the work explains how initially law and morals were cohesive, moved to a process where they were seen as entirely separate and now consideration is being given to the thought that they cannot be separate.

Jennings (2005) writes that just because it is legal does not mean it is ethical. It is common knowledge under our legal system that individuals are innocent until proven guilty. In the HealthSouth, Scrushy trial, a juror was looking for evidence and it just was not there (Jennings, 2005). Sarbanes Oxley was legislated to ensure transparency in financial statements. Jennings (2005) states "we cannot write laws to cover every possible situation or nuance of accounting, financial reporting, trading, or the handling of documents" (p.43). Further the work indicates trust is a key element within the workings of the initiatives. The writer believes that individuals in these roles must be trustworthy and to be trustworthy implies an ethical standard. The Enron failure is an example of operating within the realms of the law yet the substance of what occurred was deceiving and hence unethical. Enron remained in compliance with generally accepted accounting principles in their reporting of special purposed entities used to obtain gas reserves (Healey & Palepu, 2003). This resulted in Enron keeping significant debt off its balance sheet leading investors to believe the company was in a better position than it actually was. Enron used present value concepts called "mark to market" which were within the accounting rules to account for future contracts (Healey & Palepu, 2003; Jennings, 2003). The recognition of revenue from these future contracts served to increase earnings. Nortel and WorldCom, on the other hand, violated generally accepted accounting principles through the improper treatment of revenues and expenses (Norwani et al., 2011; Fogarthy et al., 2009).

Jennings (2005) identifies that employees and executives must abide by the law and employ high ethical standards. Further Jennings (2005) references past SEC chairman William H. Donaldson who stated that the most surprising aspect of his role as government's chief regulator of capital markets was "The constant enforcement actions undertaken against investor bilking, fraud schemes. We beat one and another one pops up" (p.47). The writer considers the resources that are being utilized to combat this unethical behavior and the good for which those resources might otherwise be used. As Guynn (2005) indicated though we will always have

those players that place their self interest before others. Specific to accounting, a study by Shaub, Collins, Holzmann & Lowensohn (2005) considered factors that might lead them to participate in unethical behavior. The study looked at the management accountant's self interest and concern for others. The results showed that the greater the self interest the more likely the accountant might choose the unethical and the more concern the accountant had for others the less likely it was that this choice would be made.

Individual decisions. Maslow's theory of self actualization was based on a pyramid of needs (Certo & Certo, 2009). The theory is based on the premise that as humans fulfill their basic needs of food, water and safety, they strive to fulfill higher needs up to self actualization. Based on this theory, it follows that humans will strive to continue to improve in areas that they feel are important to them. There remains the question as to whether individuals will achieve this in an ethical manner or succumb to some pressure, fear or conflict. Guynn (2005) indicates that greed and arrogance are human flaws that have been with us forever. This self interest may lead an individual into making unethical choices. Using the results from Shaub et al. (2005), a question then comes to mind: If individuals are taught a concern for others will this need then promote the achieving of self actualization in a manner that does not harm others so it is ethical?

The Solution. If there were a simple solution, the problem would not be ongoing. Plinio, Young and McCormack (2010) and Brooks (2010) identify the importance of educating our youth in sound moral conduct. Their work identifies that education improves ethical behavior and that education starts at home and throughout school years. The research shows that individuals who have been exposed to ethical programs were less likely to perform unethical behavior. Studies also show that as unethical behavior is performed it becomes more accepted as the norm. Guynn (2005) identified the need to instill strong ethical standards within our youth. "In the era of Enron, WorldCom, and the rest, the lapses were great, the conflicts many, and the cost in terms of investor trust, nearly unspeakable. More than the reforms we have seen are needed: True reform must come from leaders with a strong moral compass" (Jennings, 2005, p.45). Jennings (2005) writes that we should consider how we would feel if we were the client. This then comes back to Drucker's writings where he identifies there is no difference in our religious background. The underlying concept in Jennings statement can fall within the beliefs of many and stems from ones moral fabric. It is this writer's view that it is human nature to strive for more, whether we use unethical means to achieve this can be impacted by the strength of our ethical background and beliefs. Shaub et al. (2005) previously discussed shows that a higher concern for others reduces the likelihood of unethical choices.

Regulation is an important aspect; however, we have often heard the comment, it will only stop the honest thief. Put another way if an individual is intent on committing a fraud for personal gain they will find a way to circumvent the control. Conflicts of interest serve to create a situation in which players might strive to serve their self interest over their concern for others. Disclosure of self interest in corporate environments is required to be disclosed. Legislation has moved to require that these be presented in simple language. Jennings (2004) identifies that government should create a culture that is based on ethics versus legislation. This is in line with previous comments indicating that the law is moving to more cohesiveness in regards to ethics and law.

CONCLUSION

In part one of this paper, the comparison of Canada-headquartered Nortel to US Enron, WorldCom and HealthSouth shows there are similar characteristics of the Canadian Nortel and US companies fraud. The comparison discussed the common traits within the corporate culture of these companies that allowed these corporate frauds to rob investors of their wealth. Although, these traits may serve as signs that would allow opportunists to fulfill their self interest, there will likely be new schemes developed that would facilitate future fraudulent activity.

Regulation has been implemented to serve as preventative measures to reduce fraud. Although, regulation is necessary, it needs to include consideration of ethical behavior. In earlier years law gave consideration to ethics but then moved to a separation of law and ethics. Within the current environment there is more cohesiveness between law and ethics. Fraud has been a part of the capital markets since the concept of incorporation and the separation of ownership and management. Ideally there would be no fraud; however, this concept given human nature is likely unrealistic.

Part two of this paper attempts to address the underlying problem related to the unethical behavior that led to losses of millions. Pressure and education are identified as key factors. Pressure is one of the elements that are present when an individual makes a decision to commit a fraud. Studies show that increasing education in ethics serves to improve ethical behavior of participants. It may then take more pressure before an individual moves toward fraudulent behavior. Based on this increased ethical education is recommended. There will always be individuals that behave unethically. Regulation has been used and will likely continue to be a resource as prevention against those who choose to behave unethically. Early introduction to a strong ethical base for our youth and education will serve to reduce the occurrence of unethical behavior.

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AN EXPLORATION OF INFORMATION SHARING IN THE CANADIAN ANTI-MONEY LAUNDERING/COUNTER – THREAT FINANCING REGIME

Network theory was used to develop a theoretical framework to study the links (relationships or ties) between the various departments and agencies involved in the Canadian anti - money laundering / counter - threat financing regime. Content analysis was used to assess various pieces of legislation, as well as agency annual reports. The results indicate possible room for improvement in communication and information sharing between some of the partners in the Canadian AML/CTF regime.

INTRODUCTION

The Canadian anti - money laundering / counter - threat financing (AML/CTF) regime represents the federal Government of Canada's response to illicit acts of money laundering, terrorist financing, and associated crimes. Although the AML/CTF regime is principally coordinated by federal departments and agencies, many public and private organizations participate in the regime. Without the various public and private organizations' due diligence, adherence to the laws governing their responsibilities as financial institutions, and countless professionals who ensure our financial system is protected from abuse – Canada's economy and reputation would suffer significantly. In this paper, we explore the communication and information sharing relationships of the AML/CTF partners. These partners collectively monitor, analyze, and disseminate advice to government, and enforce the laws associated with the Canadian AML/CTF regime.

This research is relevant and timely for a number of reasons. First, three significantly important reports relating to the AML/CTF regime in Canada have recently been released; the Final Report of the Air India disaster; the Treasury Board mandated 10 Year review of Canada's Anti-Money Laundering / Anti-Terrorist Financing Regime (fiscal year 2010/2011); and the Interim Report of the Special Senate Committee on Anti-terrorism – Security, Freedom And The Complex Terrorist Threat: Positive Steps Ahead. These reports explain the AML/CTF regime, identify current concerns, and suggest recommendations to improve among other things – communication and information sharing. These reports helped to direct this study, by identifying key legislation, protocols, agreements, and regime participants' mandates.

The media has recently described how the perpetrators of money laundering and terrorist financing “remain largely unknown and unpunished” (Sher, *Globe and Mail*, 2011). Another article states, “communication and feedback between the [AML/CTF] regime’s partners [should] be improved” (Staff report, *Canadian Press*, 2011). This study may contribute to understanding and addressing these reported deficiencies. Finally, this study provides a valuable resource to those individuals who work within the AML/CTF regime, and to academics and members of the general public who take an interest in this aspect of public policy, and public safety.

The AML/CTF Regime

As one of the wealthiest countries, a population of over 34 million people, and one of the most advanced financial services industries in the world – Canada is an attractive locale for business and investment, by individuals, entities and groups who may want to take advantage of this prosperity – through both legal and illegal methods. Financial institutions in general are designed to move large quantities of funds between individuals and entities, often in and through various foreign jurisdictions. The complex web of banks, money service businesses, correspondent banks, alternative remittance companies, etcetera, complicates the AML/CTF regime. In addition to banks, there are various money service businesses (e.g. Western Union), credit card companies (e.g. Visa), credit unions (e.g. Desjardins Group), and debit card companies (e.g. Interac) in Canada. Each type of financial institution quite often provides different, yet often complimentary, financial services. And each has legislated responsibilities under the AML/CTF regime in Canada, which often involve reporting certain transactions to the proper authorities, and “know your client” (KYC) requirements.

The AML/CTF regime is composed of several departments and agencies at the federal, provincial, and municipal levels, as well as numerous organizations (e.g. public and private companies, such as reporting entities, and national as well as provincial regulators). The federal Department of Finance is the lead agency charged with the mandate of protecting the Canadian financial system. Several key agencies report to the Minister of Finance or report to Parliament through the Department of Finance including the Financial Transactions and Reports Analysis Centre, and the Office of the Superintendent of Financial Institutions of Canada. Moreover, the Department of Public Safety houses several government agencies who contribute and fulfill roles related to the AML/CTF regime - namely, the Royal Canadian Mounted Police, the Canadian Security Intelligence Service, and the Canada Border Services Agency. And finally, the Canada Revenue Agency contributes to the AML/CFT regime through a variety of facets associated with its administration of the Income Tax Act. In-depth discussion of each partner and their specific mandate and priorities is outside the scope of this paper. International non-governmental organizations such as The United Nations, The International Monetary Fund, and The World Bank contribute to, or affect the AML/CTF regime in Canada as well.

THEORETICAL FRAMEWORK AND RELEVANT ASSUMPTIONS

Network Theory (e.g., Granovetter, 1973; Snijdersy, van de Buntz, and Steglich, 2010; Wasserman & Faust, 1994) examines the links or relationships between actors. Actors could be any number of things, such as individuals, organizations, countries etc – depending on what is

being studied. For our purposes, the departments and agencies involved in the AML/CTF regime in Canada are the actors, and the formal and informal associations, connections, legislated mandates and processes through which they interact are the links or relationships between those actors. The work of Dr. Stephen Schneider, particularly his article on Money Laundering in Canada: A Quantitative Analysis of Royal Canadian Mounted Police Cases in the *Journal of Financial Crime* (2004, p.282) also guided the proposed framework for evaluating the relationships between the partner agencies within the AML/CTF regime.

Granovetter (1973, p.1361) defined “the strength of a tie as a combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterize the tie.” Similarly we will use the notions of time (e.g. time spent working with or for colleagues from across the AML/CTF regime), intimacy (e.g. the extent of working relationships with colleagues from across the AML/CTF regime), and reciprocal services (e.g. mandates to assist domestic agencies involved with the AML/CTF regime), to examine the strength of the ties between those departments and agencies. Our study also focuses on notions of legality (e.g. legal frameworks, legislated mandates) and privacy, and how these notions interact with the communication and information sharing between partners.

The assessments of time and intimacy in the context of interagency and interdepartmental cooperation and communication are based on whether joint management meetings, interdepartmental expert groups (IEGs), strategic level exchanges of personnel (secondments), tactical level exchanges of personnel, or Mutual Legal Assistance Treaties (MLATs) are in place. More specifically, relating to time, are these meetings scheduled regularly? Are these secondments ongoing? An overall assessment (strong, weak, or absent) is provided. Adding to the complexity of the notion of time are the concepts of intimacy and reciprocal services – which are anticipated to be more difficult to measure. The following questions will be used to help assess the intimacy and level of reciprocal services. How well do the individuals meeting one another (joint management meetings, IEGs) know each other? Do they communicate only through formal channels, or is it possible for them to make informal disclosures and / or informal requests? Are there mutual training opportunities? At what level does communication occur (executive level, managerial level, analyst level)?

Guiding Assumptions

Following Snijdersy, van de Buntz, and Steglich (2010), the ties (links) discussed throughout this paper are assumed to be static relationships that have and will endure over time. These ties exist beyond the current government, beyond the state of the current political environment, and beyond those public servants who are currently employed within the framework of the AML/CTF regime. This will avoid an assessment based on relationships between friends or colleagues who happen to currently get along well. Snijdersy et al. (2010, p. 46) also assume that “actors control their outgoing ties.” We similarly assume that the various agencies and departments (the actors) involved with the AML/CTF regime control the communication and ultimately the information passed between them. In other words, this communication is based on their legislated mandates (attributes and position), and the status of cases and/or investigations (perceptions).

Only legislation, official statements or information sheets will be assessed. This study does not examine strategic exchanges of information, though this level of exchange is considered

important. Instead, we will only assess tactical information exchanges as these have the most immediate effect on individuals and groups. For example, a tactical level exchange of information may lead to an enforcement action, such as charges being laid against an individual, or have immigration implications, such as the refusal of immigration visas etc. Finally, this report will also only examine domestic exchanges of information. Although international information exchange is vital, and undoubtedly ongoing, this research will not extend beyond Canadian borders.

METHODS AND ANALYSIS

Agencies and Documents Examined

Purposive sampling was used to determine appropriate units to include in the study (Neuendorf, 2002). As such, not all domestic departments and agencies involved in the AML/CTF regime in Canada were studied. Moreover, not all relevant documents were coded. The list of agencies examined included Canadian Security Intelligence Service (CSIS), Royal Canadian Mounted Police (RCMP), Financial Transactions and Reports Analysis Centre of Canada (FINTRAC), Canada Border Services Agency (CBSA), and Canada Revenue Agency (CRA). The documents examined included FINTRAC Annual Report 2011, CSIS Public Report 2009-2010, CSIS Act (C-23), Criminal Code (C-46), Proceeds of Crime (Money Laundering) Terrorist Financing Act, FINTRAC Pamphlets (Sharing Intelligence – Making The Links and Connecting the Money to the Crime). Once all the relevant documents were located, they were saved in digital format (PDF format). Text content analysis was used (Holsti, 1969; Neuendorf, 1969).

Coding

The first author was the “active coder”, utilizing digitized documents and the imbedded search / find features of computer programs. Coding forms were separated into positive terms (suggest a strong information sharing relationship between AML/CTF regime partners), quasi-positive terms (suggest a weak information sharing relationship), and negative terms (suggest a negative information sharing relationship). Terms associated with a strong indication of information sharing were Disclosure, Disclose, Advice, Advise, Recommendation, Suggestion, Direction, Cooperation, Formal, Partnership, Relationship, Memorandum of Understanding, Mandate, Lawful, Query, Involuntary (disclosure...), Report, Provide, Agreement, Share, Guidance, and Sharing. Terms associated with a weak indication of information sharing were Mutual (training, management), Informal, Collaborate, Voluntary disclosure, Choice, Option, Ability, Joint (training, management), and Meeting. Terms associated with a negative indication of information sharing were Prohibited, Not allowed, Discouraged, Illegal, Unconstitutional, Unlawful, Discourage, Arms length, Privacy, and Non-disclosure. For each document, the terms were searched, located, documented, and counted. The coding forms contain references such as P4Pg6L3 which corresponds to: page 4, paragraph 6, and line 3. The assessment for the CSIS Act is documented on a “coding form” in Appendix 1 (space limitations do not allow us to include our analysis for all of the documents in our sample).

Following this part of the analysis, a more detailed qualitative analysis of the information sharing links was carried out. For each of the documents examined, each quality was assessed against the parameters of strong ties, weak ties, absent ties, or unknown ties. The coding legend (Neuendorf, 2002) is presented in Figure 1 and the “Code Book” (Neuendorf, 2002) is found in Appendix 2.

The Results

The “coding” totals for the first part of the analysis are presented in Table 1. These totals were tallied from the individual coding forms described above. To interpret the information, the first number is: terms present / total number. For example, under the positive category, out of the twenty-two (22) terms identified as positive examples of information sharing, nine (9) are located within the Criminal Code of Canada. The second number is: the total number of instances those nine (9) positive terms are located within the Criminal Code of Canada.

Table 1 - Coding Forms Totals

Criminal Code of Canada	9 / 22 ; 66	1 / 9 ; 6	3 / 10 ; 12
CSIS Act	10 / 22 ; 61	0 / 9 ; 0	3 / 10 ; 3
CSIS Public Report 2009/2010	16 / 22 ; 84	3 / 9 ; 6	2 / 10 ; 7
FINTRAC Annual Report 2011	16 / 22 ; 141	4 / 9 ; 5	3 / 10 ; 12
FINTRAC - Connecting Money to the Crime pamphlet	5 / 22 ; 23	2 / 9 ; 2	4 / 10 ; 5
FINTRAC - Law Enforcement and Intelligence Partners: Sharing Intelligence, Making the Links	12 / 22 ; 52	0 / 9 ; 0	1 / 10 ; 1
PC(ML)TFA	14 / 22 ; 191	0 / 9 ; 0	2 / 10 ; 13
	Positive	Quasi-Positive	Negative

There are significantly higher frequencies of positive information sharing terms compared to quasi-positive and negative terms. The results also show significantly higher instances of these positive terms when compared to the total number of quasi-positive and negative terms within the documents examined. It should be noted, however, that the total

number of positive information terms searched for (22) is higher than quasi-positive terms (9) and negative terms (10). At the same time, when the results of quasi-positive and negative terms are combined, the total number of positive terms found within these documents still significantly outnumbers that of the former. Of the documents examined, therefore, the impression is that there is a strong propensity or a strong requirement to share information. However, the presence of quasi-positive and negative terms indicates that there are likely limits on the extent of allowable information sharing, or that information sharing can only occur under certain situations or when certain requirements are satisfied. To confirm this assessment, as mentioned above, a more detailed qualitative analysis was carried out. First, we provide a detailed analysis for the CSIS Act. Due to space limitations, we cannot provide this level of detail for all of the documents.

There are numerous sections of the CSIS Act which pertain to the sharing of information related to the contribution of the CSIS to the AML/CTF regime in Canada, namely Sections 12 to 14, Section 17 and Section 19. More specifically, Section 12 sets out the general information sharing protocols of the CSIS mandate as stated by “[T]he Service shall...report to and advise the Government of Canada.” The CSIS Act requires that the CSIS can only enter into an arrangement with a province with the approval of the Federal Minister responsible for the CSIS and if the CSIS is providing security assessments to any police force in a province, the approval of the provincial Minister responsible for police forces is required. Section 14 states that the CSIS may advise any Minister on matters related to the security of Canada which would include money laundering and terrorist financing. Furthermore, Section 14 also states that the CSIS may provide any Minister with information relating to security matters or criminal activities. The limit established by Section 14 is that this information sharing can only occur “related to the exercise of any power or the performance of any duty or function under the Citizenship Act or the Immigration and Refugee Protection Act”. Much like Section 13, Section 17 states that the CSIS may cooperate with any province of Canada, however the approval of the Minister is required. And again the same as Section 13, if the CSIS wants to cooperate with any police force within a province, the approval of the provincial Minister responsible for police forces is also required. And finally, Section 19 discusses the authorized disclosure of information. Interestingly, Section 19 states that “information obtained by the Service shall not be disclosed except in accordance with this section”. This is an interesting approach, as it dictates strict guidance describing the circumstances under which disclosure is allowed. This section does not direct or proscribe the CSIS to disclose; rather it gives the CSIS the authority to disclose should it choose to do so.

Analysis of Information Sharing

In Table 2 below, the letter refers to the assessment of the strength of the link from an information sharing perspective, strong, weak, absent, or unknown and the numbering refers to the item from the coding legend in Figure 1. For example, in the first completed cell in the first row, the S-2,6,7 indicates that CSIS and the RCMP have strong ties under mandate, process, and threshold. In other words, information sharing is directly linked to their primary mandates, they have strategically established information sharing as a process, and they have a formal test (threshold) that must be met to share information. Details for all assessments are found in the code book in Appendix 2.

Figure 1 - Coding Legend

Items

1 = Legislation; 2 = Mandate; 3 = Priorities; 4 = Inter-Governmental Working Groups (IGWGs), 5 = Inter-Governmental Expert Groups (IGEGs), Joint Management Groups (JMG), and Joint Intelligence Groups (JIGs); 6 = Working level collaboration; 7 = Process; 8 = Threshold; 9 = Secondment(s); 10 = Liaison(s); 11 = Educational exchanges; 12 = Memorandum of Understanding

Assessment - S = Strong Tie or Link; W = Weak Link; A = Absent Link; U = Unknown Link

Table 2 – Assessment of Information Sharing

From

CSIS		S-2,6,7 W-1,3 U-4,5,8, 9,10,11	S-2,6,7 W-1,3 U-4,5,8,9, 10,11	S-2,6,7 W-1,3 U-4,5,8, 9,10,11	S-2,6,7 W-1,3 U-4,5,8, 9,10,11
RCMP	S-7 W-2,6 U-1,3,4,5, 8,9,10,11		S-6,7 W-1,2,3 U-4,5,8,9, 10,11	S-7, U-1,2,3, 4,5,6,7, 8,9,10,11	S-7 U-1,2,3, 4,5,6,8, 9,10,11
FINTRAC	S-2,3,6,7 W-1 U-4,5,8,9 10,11	S-2,3,6,7 W-1 U-4,5,8, 9,10,11		S-2,3,6,7 W-1 U-4,5,8, 9,10,11	S-2,3,6,7 W-1 U-4,5,8, 9,10,11
CBSA	W-1,2,6 U-3,4,5,7,8, 9,10,11	W-1,2,6 U-3,4,5, 7,8,9,10, 11	S-2,6,7 W-1,3 U-4,5,8,9, 10,11		U-1,2,3, 4,5,6,7,8, 9,10,11
CRA	S-6,7 W-1,2,3 U-4,5,8,9, 10,11	S-6,7 W-1,2,3 U-4,5,8, 9,10,11	S-6,7 W-1,2,3,4, 5,8,9,10,11	W-1 U-2,3,4, 5,6,7,8, 9,10,11	
	CSIS	RCMP	FINTRAC	CBSA	CRA

To

DISCUSSION AND IMPLICATIONS

Our results indicate that there might be room for improvement in communication and information sharing between some of the partners in the Canadian AML/CTF regime. This research should be considered exploratory in scope for a number of reasons. Under the Access to Information Act regime, additional information may be available concerning memoranda of understanding, secondments, etcetera that may facilitate information sharing between departments and agencies. Expanding this research, choosing different assumptions, and sending key departments and agencies ATIP requests may shed light on, or reveal enhanced and/or limited relationships.

An effective AML/CTF regime is one in which the various departments and agencies of government mandated to prevent, detect, and deter money laundering and terrorist (or “threat”) financing also work with the private sector and educate the public writ large. Numerous entities, for example banks and financial institutions have a legal responsibility under Canadian law to help in the prevention, detection, and deterrence of ML and TF. A transparent dialogue between all stakeholders can only help to improve the AML/CTF regime in Canada.

Overall, Canada is mostly compliant with the recommendations offered by the Financial Action Task Force (FATF) (FATF, 2008). The Canadian AML/CTF regime has the legislation in place to effectively share information. However, without detailed information concerning the implementation and use of that legislation, it is impossible to absolutely confirm the AML/CTF regimes’ information sharing effectiveness. More research and analysis would be beneficial in that regard.

An issue with the FATF, and more specifically concerning the 49 recommendations to combat money laundering and terrorist financing, is that no member of the FATF is fully compliant with all the recommendations; this includes the founding members of FATF (of which Canada is one). Many of these recommendations concern the sharing of information. Is this simply hypocritical? Or is FATF setting the ideal example for countries to strive for? It seems this is a complicated, and often political, issue that goes beyond simple hypocrisy. Consider that the legislative and legal environments vary considerably from country to country. For example, Canada has taken a strong stance protecting individual rights and freedoms, as enshrined in the Constitution and the Charter of Rights and Freedoms. Not all countries share these type of documents nor collective values. Again, we illustrate this using the case of CSIS.

CSIS has the authority to disclose or share information with a variety of government departments and agencies at both the federal and provincial levels. The CSIS is not obliged to share information. There is a review body (the Security Intelligence Review Committee and possibly other internal mechanisms yet to be identified) that is charged with ensuring the CSIS acts in accordance with all applicable laws and directs its activities to fulfill government and Ministerial direction. The CSIS is an integral component of the AML/CTF regime in Canada and, although outside of the scope of this research, plays a role in Canada’s international commitments in tackling the world wide concerns of money laundering and terrorist financing. It seems the government of Canada is attempting to strike a balance between the constitutionally and legislatively protected privacy afforded to individuals against the mandated duties of law enforcement and intelligence services to protect Canadians, Canadian interests, and Canadian society writ large. For example, the FINTRAC has an important role in the detection of money

laundering, terrorist financing, and threat resourcing. However, the Centre is bound by legislation and privacy constraints, to only disclose information when it is suspected that it might assist a designated law enforcement or intelligence service in them fulfilling their mandates. And only certain information (designated information) will be disclosed.

An educated public debate on security issues and the stability of our financial system is important to all Canadians, but particularly important to many business people in many sectors. As highlighted by the Proceeds of Crime (Money Laundering) and Terrorist Financing Act, as well as the many public documents released by FINTRAC, there are many sections that have reporting requirements, notably the financial services industry, the real estate industry, and the gambling industry to name just a few.

As this research and analysis is exploratory in scope, numerous outstanding questions remain that may be answered with further study. For example: What is potentially contained in a security assessment? Could money laundering and terrorist financing be components of these security assessments? Future research could consider expanded examination of secondary and tertiary departments and agencies involved in the AML/CTF regime in Canada. Another potential area of study would be information sharing from a strategic perspective between Canadian domestic departments and agencies involved in the AML/CTF regime, as well as information sharing with foreign governments and non-governmental organizations, at either the tactical or the strategic level.

Canada's obligations under numerous international agreements and treaties call for a strong AML/CTF regime of which information sharing and communication are integral components. The AML/CTF regime partners need to act in accordance with the new realities of the global financial system and be prepared to defend against the threats posed by corrupt regimes, terrorists and criminals, as well as to ensure all applicable Canadian law is upheld and enforced. Increased awareness will help facilitate a public debate, ultimately assisting in bringing these issues and concerns into the public sphere for discussion. This discussion will then hopefully encourage the implementation of improvements (if necessary) of the government's response to money laundering and terrorist resourcing, ultimately in line with the Canadian public's expectations.

Appendix 1 – Coding Form for CSIS Act

Positive

Document: Canadian Security Intelligence Service Act

Date: Dec 05, 2011

Coder: John A. W. Ross

Positive terms (allowing information sharing)	Is the searched term present? Y or N	Reference: Section, page number, paragraph etc...
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Disclosure	Y	Sections 19, 19(2)(d), 19(3), 25(a), 25(b)
Disclose	Y	Sections 18(1), 18(2), 19(1), 19(2), OATH OF SECRECY
Advice	Y	Sections 7(3), 14, 15
Advise	Y	Sections 7(3), 12, 14(a)
Recommendation	Y	Sections 52(1)(a), 52(2)
Suggestion	N	N/A
Direction	Y	Sections 6(1), 6(2), 6(3), 7(1)(a), 7(3), 33(2)(a), 38(a)(ii), 40
Cooperation	Y	Section 17
Formal	N	N/A
Partnership	N	N/A
Relationship	N	N/A
Memorandum of Understanding	N	N/A
Mandate	N	N/A
Lawful	Y	Section 2(d)(note)
Query	N	N/A
Involuntary (disclosure...)	N	N/A
Report	Y	Sections 12, 19(3), 20(2), 20(3), 31, 33(1), 33(2), 33(3), 38(a)(i), 38(a)(iv), 38(c)(ii), 39(2)(a), 40(a), 52(1)(a), 52(1)(b), 52(2), 53, 54, 55(b), 56(2),
Provide	Y	Sections 5(2), 8(1)(a), 13(1), 13(2)(b), 13(3), 14(b), 16(2), 40(a), 42(2), 42(3)(b), 52(1)(a), 52(1)(b), 52(2),
Agreement	N	N/A
Share	N	N/A

Guidance	N	N/A
Sharing	N	N/A

Quasi-Positive

Document: Canadian Security Intelligence Service Act

Date: 2011 12 05

Coder: John A.W. Ross

Quasi positive terms (allowing information sharing under certain circumstances) Is the searched term present? Y or N Reference: Section, page number, paragraph etc...

Mutual (training, management)	N	N/A
Informal	N	N/A
Collaborate	N	N/A
Voluntary disclosure	N	N/A
Choice	N	N/A
Option	N	N/A
Ability	N	N/A
Joint (training, management)	N	N/A
Meeting	N	N/A

Negative

Document: Canadian Security Intelligence Service Act

Date: Dec 05, 2011

Coder: John A.W. Ross

Negative terms (prohibiting information sharing) Is the searched term present? Y or N Reference: Section, page number, paragraph etc...

Prohibited		N	N/A
Not allowed		Y	Section 42(4)
Discourage		N	N/A
Illegal		N	N/A
Unconstitutional		N	N/A
Unlawful		Y	Sections 2("threats")(d), 20(2)
Discourage		N	N/A
Arms length		N	N/A
Privacy		Y	Section 19(2)(d)
Non-disclosure		N	N/A

Appendix 2: Code Book

Strong Ties

- 1-S = Yes, the departments or agencies (hereafter D or A) are formally allowed to share information (by legislation).
- 2-S = Yes, D or A are formally mandated (must) to share information (by legislation).
- 3-S = Yes, D or A have formally stated information sharing is a top priority.
- 4-S = Yes, D or A have formal IGWGs, IGEGs, JMGs, and JIGs.
- 5-S = Yes, D or A allow formal working level collaboration.
- 6-S = Yes, D or A have strategically established information sharing as a process.
- 7-S = Yes, D or A have a formal test (threshold) that must be met to share information.
- 8-S = Yes, D or A have a formal secondment currently staffed.
- 9-S = Yes, D or A have a formal liaison relationship currently staffed.
- 10-S = Yes, D or A engage in formal exchanges of expertise (e.g. training courses offered to partner agencies and departments).
- 11-S = Yes, D or A have a formal MOU in place which formalizes the relationship (information sharing must be a component) between signatory departments or agencies.

Weak Ties

- 1-W = D or A legislation allows, even directs that department or agency to share information, however that information sharing can only be done under strict conditions and circumstances (by legislation).
- 2-W = D or A are formally allowed (can) to share information (by legislation).
- 3-W = D or A have formally stated information sharing is a secondary or tertiary priority, perhaps not directly linked to their primary mandate.
- 4-W = D or A have formal IGWGs, IGEGs, JMGs, and JIGs - however they meet irregularly, inconsistently, or perhaps on a case by case basis.

5-W = D or A allow formal working level collaboration, however these relationships are not necessarily encouraged.

6-W = D or A have strategically established information sharing as a process, however this is a possible component or outcome to their overall mandate.

7-W = D or A require a judicial order (warrant) that must be provided to share information.

8-W = D or A have a formal secondment, but this position is not currently staffed.

9-W = D or A have a formal liaison relationship, but this position is not currently staffed.

10-W = D or A engage in formal exchanges of expertise, however these exchanges exist only as an exception.

11-W = D or A have a formal MOU in place which formalizes the relationship between signatory departments or agencies.

Absent Ties

1-A = D or A are have no legislated provision allowing them to share information (by legislation).

2-A = D or A are formally prohibited to share information (by legislation).

3-A = D or A have formally stated information sharing is not a top priority.

4-A = D or A are prohibited from, or do not engage in, IGWGs, IGEGs, JMGs, and JIGs.

5-A = D or A prohibit formal working level collaboration, or it does not occur.

6-A = D or A do not have strategically established information sharing protocols as a process.

7-A = D or A do not have a formal test (threshold) because they are prohibited from sharing information.

8-A = D or A do not have a formal secondment provision.

9-A = D or A do not have a formal liaison provision.

10-A = D or A do not engage in formal exchanges of expertise.

11-A = D or A do not have a formal MOU in place.

Unknown Ties

1-U = There is not sufficient information to determine whether D or A are formally allowed to share information (by legislation).

2-U = There is not sufficient information to determine whether D or A are formally mandated to share information (by legislation).

3-U = There is not sufficient information to determine whether D or A have formally stated information sharing is a top priority.

4-U = There is not sufficient information to determine whether D or A have formal IGWGs, IGEGs, JMGs, and JIGs.

5-U = There is not sufficient information to determine whether D or A allow formal working level collaboration.

6-U = There is not sufficient information to determine whether D or A have strategically established information sharing in process.

7-U = There is not sufficient information to determine whether D or A have a formal test (threshold) that must be met to share information.

8-U = There is not sufficient information to determine whether D or A have a formal secondment currently staffed.

9-U = There is not sufficient information to determine whether D or A have a formal liaison relationship currently staffed.

10-U = There is not sufficient information to determine whether D or A engage in formal exchanges of expertise

11-U = There is not sufficient information to determine whether D or A have a formal MOU in place which formalizes the relationship between signatory departments or agencies.

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THE RELATIVE INFLUENCE OF PROMOTION, PEER AND FAMILY INFLUENCES ON YOUTH GAMBLING IN NOVA SCOTIA¹

This exploratory research investigated the relative influence on youth gambling behaviour attributed to family and peer influencers and gambling promotion. Analyzing data collected from Nova Scotia public school students in grades 7 through 9, researchers determined that when subjected to a stepwise regression analysis, peers provide statistically significant influence on youth gambling activity, rendering the student's exposure to gambling promotion and family influence insignificant as factors in gambling behaviour. Future research is recommended to further examine these relationships using larger samples of boys and girls.

INTRODUCTION

Gambling is a thriving global industry. Governments are becoming increasingly dependent on gaming revenues, and despite attempts to restrict legal gambling to those of legal age, concern has been expressed in recent years about the prevalence of gambling among youth. Previous research determined that 80% of teens had gambled (Messerlian, Derevensky, & Gupta, 2005). There is also ample evidence that boys are more inclined to gamble than girls are, often starting at a younger age (Blotnicky, Das, Fitzgerald, French, Norris, & Perrier, 2008; Potenza, Maciejewski, & Mazure, 2006; Toneatto & Boughton, 2002).

There has been great speculation as to what the major influencers are for youth gambling behaviour. Is it family influence? Are young people more likely to gamble if their family members engage in gambling related activities? Do peers have an influence on gambling behaviour? Or can unhealthy influences on youth behaviour be blamed on more aggressive attempts to advertise games of chance?

¹ This research was funded by a grant from the Nova Scotia Gaming Corporation. Recognition is also given to Dr. Michael Fitzgerald (Mount Saint Vincent University) and Dr. David Perrier (Saint Mary's University), retired members of the research team, who were involved in the data collection and initial data analysis for this project.

Moscovitch (2006) determined that gambling within the family unit, a concept he termed as the family enterprise, was central to the gambling experience of children. He maintained that in families, gambling activities are enshrined in culture and tradition, and are frequently passed down through generations. Raylu and Oei (2004) reported that gambling activities may be culturally rooted. However, most of the relevant research has been based in North America and more research should be done in other cultures to better understand the acculturation of gambling activities.

Many families consider gambling behaviour to be less alarming than other behaviours that teenage children may engage in, leading some researchers to believe that gambling has become “normalized” by families and children (Campbell, Derevensky, Meerkamper, Cutajar, 2011). Children are exposed to scratch tickets in restaurants and corner stores. They are also exposed to lottery ticket purchases, card games, and other gambling-type behaviours in the home. And while children may not be admitted to casinos, they are aware of many casino games. Research has shown that parental consumption of lottery tickets introduces that activity to children, creating behaviour patterns that last into adulthood (Felsher, Derevensky, & Gupta, 2003).

Peers have long been known to influence adolescent behaviour, but the actual influence of peers on youth gambling is not clear. While there appears to be an influence, it is difficult to partial peer influences out from other factors. In addition, the apparent normalization of gambling as a social activity may account for the fact that fewer parents are tuned into peer gambling behaviours and the influence of such behaviours on their children’s activities. Haroon and Derevensky (2001) revealed that peer influence impacts gambling activities and the amount wagered, but that there were differences based on gender and mixed gender groups. Females seemed to wager more when playing with boys and girls, or female pairs, while boys tended to bet more regardless of who they were gambling with. Chalmers and Willoughby (2006) arrived at similar conclusions in their research, also postulating that female’s gambling behaviours were more heavily impacted by family and peer influences than were gambling behaviours among male youths.

Some critics blame marketers for encouraging gambling among youth. Friend and Ladd (2009) expressed concern that the growing investment in gambling related advertising campaigns may influence the minds of adolescents, encouraging them to engage in gambling behaviours even though they are not of legal gambling age. The researchers relate the impacts of gambling advertising to society’s experiences with tobacco advertising, concluding that it has a demonstrable impact on the behaviour of youth between the ages of 12 and 17 (p.286). These concerns were also expressed by Monaghan, Derevensky and Sklar (2008) in a review of gambling marketing activities in Canada and their potential impact on youth. Their premise, that ads are designed to be interesting and alluring to young people, is based upon the body of evidence created in the analysis of liquor and tobacco advertising and its impact on youth. However, unlike tobacco and liquor ads, no regulatory guidelines exist to control ads for gambling activities and products.

RESEARCH GOALS

The purpose of this paper was threefold: to examine the relative impact of family influence, peer influence, and promotion influence, on youth gambling activity. This research is part of a larger project that deals with a broad range of issues relative to youth gambling. The scope of the empirical, exploratory study reported in this paper, was to test three hypotheses regarding influences on youth gambling behaviour. The following research hypotheses were developed based on previous research in the field:

1. Family members who gamble influence their children to gamble as well. Therefore, children who have more family members who gamble will be likely to engage in gambling behaviour.
2. Peers who gamble will influence other youth to engage in gambling behaviours. Therefore, children who have peers who gamble will be likely to engage in gambling behaviour.
3. Gambling promotion influences youth to gamble. Therefore, youth who have been exposed to more gambling promotions will be likely to engage in gambling behaviour.

METHODOLOGY

A random sample of middle and high school students was drawn from school boards in Nova Scotia. The specific school boards that participated in this project were kept confidential to protect the privacy of students and their families. Ethics approval was obtained from the school boards and from the University Review Ethics Board of Mount Saint Vincent University. A random sample of students was drawn across grade levels and schools in school board areas.

Students were required to obtain parental consent before they could participate in the study. Students who were given permission to participate completed a paper-based questionnaire during class time. The surveys took up to 40 minutes to complete. The data was collected during the spring and fall of 2007. While data was collected from grades 7, 9, 10, 11 and 12, only grades 7 and 9 were included in the final analysis due to low response rates from the higher grades. A total of 192 useable responses were obtained from grades 7 and 9. Data was weighted by grade distribution prior to each analysis to compensate for any response bias across grade levels.

Researchers included a variety of potential familial, peer, and advertising influencers on youth gambling behaviour in the questionnaire. It should be noted that some forms of gambling may be considered less harmful than others. However, youth gambling research has not rated gambling activities based on their level of engagement or severity. Therefore, in keeping with previous research in youth gambling, all forms of gambling, from scratch tickets to casino-style gaming, were considered to be gambling activity in this research. After exploring what students considered to be gambling activity, as well as having students list different types of gambling activities, the students were asked if they gambled.

Drawing on the same definition of gambling and gambling-related activities, students were asked whether or not various family members gambled. Family members studied included mothers, fathers, siblings, step-parents, step-siblings, foster parents, grandparents, and other relatives. They were asked about their peers' gambling behaviour, including classmates or other

friends. Finally, respondents were asked if they had seen ads for gambling in various media. Media listed included television ads, billboards, magazine and newspaper ads.

Three influence scores were created for further analysis by summing the total number of family, peer and promotional influencers. Once summed, the three influence scores were subjected to a stepwise regression analysis to reveal which was the most significant influencer of adolescent gambling behaviour.

Prior to conducting the regression analysis, variables were checked for correlation and normality. There was a weak, positive, statistically significant correlation between peer and family influence scores. To evaluate the impact of the correlation between the two independent variables, collinearity diagnostics were examined in the multiple regression analysis.

All three influence scores were non-normally distributed. Family and peer influence scores were moderately positively skewed, while the promotion influence score was moderately negatively skewed. Positively skewed distributions were subjected to a square root transformation to normalize the distributions, while the negatively skewed distribution was subjected to a squared term transformation. None of the transformations were effective in normalizing the distributions. Since normality could not be created for any of the influence scores and the deviation from normality was not severe for any of the scores, the original variables were maintained for the stepwise regression analysis.

RESULTS AND DISCUSSION

The students in this study ranged in age from 12 to 16 years. The sample was almost equally split male/female (50.3% vs. 49.7%). Sixty-one percent of respondents indicated that they had gambled in the past year (Blotnicky, Das, Fitzgerald et al, 2008). Most of those who had gambled were males (75% vs. 47.3%). This is consistent with findings in the literature.

The students surveyed reported that some had family members who gambled. Overall, students had from none to five relatives who gambled. The highest frequency was reported for gambling mothers with 20.6% of responses. This was followed by a generic group of “other relatives” with 20.3%. Fathers were third in gambling frequency, with 17.7%. All of the remaining relative categories had 7.0% or fewer listings. The results are summarized in Table 1

Table 1 Family Members Who Gambled*

	Number	Percent
Mother	40	20.6
Father	34	17.7
Stepmother	1	0.3
Stepfather	3	1.7
Sister	7	3.8
Brother	13	7.0
Other relative	39	20.3

*Sample size = 192.

The family influence score was determined by summing up all of the relatives who respondents indicated were gambling. This additive score ranged from 0 to 5, with an average of 0.72, and a standard deviation of 1.11. This single numerical score allowed for all of the familial influencers to be included in a regression analysis as a single construct.

Two peer influence measures were used to determine the extent to which respondents were being influenced by peers who gambled. Students were asked if they had classmates who gambled, or other friends who gambled. Forty-four students (23.2%) reported having classmates who gambled, while 33 (17.2%) reported having other friends who gambled.

These two peer influences were added together to create a single peer influence score. The score ranged from 0 to 2, with an average of 0.40, and standard deviation of 0.69. A sample size of 192 responded to the peer influence questions and were included in the peer influence score. The creation of a single numerical score for peer influence allowed these factors to be included in a regression analysis as a single construct.

Four gambling promotion vehicles were included in the analysis. The extent to which students recalled having seen each type of gambling ad is shown in Table 2. The results showed that television and billboards were more likely to be recalled by the respondents, followed closely newspaper ads. Magazine ads were less likely to be seen by students, probably because they do not read magazines that contain gambling ads.

Table 2 Gambling Ad Exposure among Youth*

	Number	Percent
Television ad	182	95.2
Newspaper ad	149	77.9
Magazine ad	111	57.8
Billboard	162	84.8

*Sample size = 192.

The promotion influence score was determined by summing up all of the advertising sources who respondents indicated they had been exposed to. This additive score ranged from 0 to 4, with an average of 3.16, and a standard deviation of 0.95. This single numerical score

allowed for all advertising influencers to be included in a regression analysis as a single construct.

The correlation analysis between the three influence scores is shown in Table 3. The results reveal that there is a weak, positive statistically significant relationship between the peer and family influence scores ($r=.275$, $p=.000$, $n=192$). The correlations between the family influence score and the promotion influence score, and between the peer influence score and the promotion influence score, were not statistically significant.

Table 3 Pearson Correlation between Influence Scores*

	Family Influence Score	Peer Influence Score	Promotion Influence Score
Family Influence Score	X	.275**	-.055
Peer Influence Score		X	.097
Promotion Influence Score			X

*Sample size = 192. ** Statistically significant at the .01-level.

The regression analysis was completed using a stepwise approach. The three influence scores (family, peer and promotion) were regressed against whether or not the student had gambled. The gambling variable was dummy coded, so that a measure of zero meant that the student had not engaged in gambling behaviours, and a measure of one meant that they had gambled. The resulting model went through two iterations before finalizing the analysis.

The stepwise regression model was statistically significant ($F=24.774$, $df=1/187$, $p=.000$), but weak in explanatory power with an R^2 of only 11.7 and an adjusted R^2 of 11.2. Given that less than 12% of the variation in gambling behaviour was explained by the regression, it indicates that there are many other contributing factors to youth gambling. In the final analysis the only influence factor remaining in the model was peer influence, resulting in the following regression equation:

$$\text{Gambled} = .515 + .241(\text{Peer Influence Score}) \quad (1)$$

The family influence score was excluded from the analysis in Step 1, while the promotion influence score was eliminated from the analysis in Step 2. The variance inflation factors (VIF) ranged from 1.01 to 1.09. A VIF of 1.0 indicates a complete lack of collinearity. Therefore, the reasonable VIF measures show that the slight, positive correlation between peer and family influence scores did not cause a multicollinearity problem in the regression analysis. The analysis is shown in Table 4.

Table 4 Stepwise Regression Analysis*

Variable	Step 1		Step 2	
	Coefficient	t-statistic	Coefficient	t-statistic
Constant	.270	2.361**	.515	13.271***
Peer Influence Score	.230	4.776***	.241	4.977***
Promotion Influence Score	.079	2.277**		

*Sample size = 192. ** Statistically significant at the .05-level. ***Statistically significant at the .01-level.

These results are intriguing and they contradict the expectations of many critics who argue that any kind of promotion for products that can be individually or socially harmful should be regulated, particularly where youth may be impacted. The analysis does not mean that gambling promotion has no influence, but it does reveal that when considered alongside other predictors of gambling behaviour, it simply doesn't have enough power to make a major contribution. Given that gambling behaviour takes place within a broad and varied social milieu, promotional influences will always be subject to other factors that shape and direct human experience. This exploratory analysis provides evidence that when stacked up against role models and human interaction, promotion has little influence on such gambling behaviour.

CONCLUSIONS AND RECOMMENDATIONS

Family and peer influences may be considered as “givens” when examining social influences on youth behaviour of all kinds, not just gambling behaviour. The problem with youth gambling in particular is that it can be extremely detrimental if it leads to long term social or family problems, or addiction. Gambling has been associated with many social and family ills, which is why there is a movement to reduce youth involvement in gambling activities. The move to facilitate change by criticizing the roles marketers play in shaping public opinion and cultural norms is not new. However, when it is related to potential harm to children and youth, the public pays attention. That is the situation that marketers have been facing when advertising anything that can be considered a social harm, such as tobacco, liquor, and gambling products.

While the relative influence of a jumble of promotional messages about gambling does have an effect, it appears that such influences are being mediated to some extent by other influencers. This should not be interpreted as giving free reign to marketers to advertise such products. Rather, marketers should be circumspect about what they promote, how they promote it, and who is likely to respond to the appeal.

There are a number of limitations to this research. The sample size of less than 200 Nova Scotia middle school students is relatively small. The sample size limitation prevented

researchers from using more sophisticated multivariate research methods, such as logistic regression with multiple independent variables for family, peer and marketing influences.

This research used a survey methodology. Given that surveys measure correlation and not causation, the resulting analysis provides food for thought, but stops short at delivering hard evidence of causality.

As previously described, there are limitations in the distribution of the independent variables in this analysis that could confound the regression approach. Also, some statisticians criticize the use of stepwise regression to test theoretical models, because the technique is built upon the data that is present. Using a stepwise method forces the technique to eliminate factors which could still have explanatory value. This is particularly true of the analysis done in this research. Therefore, it is important to consider this research exploratory and to look towards more rigorous future research to further test the hypotheses and related assumptions noted in this research.

The sample in this research focused only on middle school students. By enlarging the sample to recruit more high school students, researchers could collect information that would further qualify these results. Does marketing influence change with age? Do family and peer influences change with age? All of these factors are important considerations when dealing with problems caused by youth gambling, or when trying to develop a policy to educate youth about gambling. Therefore, further research is required to help develop policy decisions or to further engage in theory building around peer, family and advertising influences on youth gambling.

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RISK AND CHARITABLE ORGANIZATIONS: THE CASE OF ATLANTIC CANADA

Using panel data from 2003-2010 on charitable organizations in Canada we explore the implications that exposure to risk, in various guises, has on organizations' ability to meet their mandate. We run a random effects panel estimation focusing our attention on the case of Atlantic Canada in an effort to explore the idiosyncrasies that make it an interesting case study, and a microcosm of sorts for producing risk metrics in general. A comparative analysis is provided with the Canadian charitable sector as a whole to contrast the results and afford a context for discussion. Results suggest that diversification in revenue streams may in fact increase risk for charitable firms; and comprehensive modeling techniques, which categorize the entire Canadian market quite well, lead to increased noise in estimating exposure to risk for Atlantic Canada firms. The latter seem somewhat more sensitive to exogenous economic changes, when compared to the entire marketplace.

INTRODUCTION

To the extent that organizations can mitigate risk through prudent financial planning there is wide-held belief that such behavior should be seriously considered, if not inevitably enacted. From a normative perspective, mitigating downside risk can often be seen as a first-best response to the uncertainty of, e.g., market fluctuations, cost considerations notwithstanding. However, a problem with this discussion, as previous literature has shown, is that such behavior is often confined to the corporate sector since such firms are assumed to be operating under the auspices of profit maximization. In the world of not-for-profits, the question of risk management falls under a different tenant. What that tenant is precisely depends on the nature of the question being explored; for instance, maximizing services might be seen as the appropriate objective function under certain circumstances, while stakeholder satisfaction, or a subset therein, might be seen as a more appropriate measure in others. This difficulty may help explain why there has yet to be a systematic study on risk for this socially and economically important segment of the Canadian economy. In an effort to deal with, at least in part, this shortcoming, we examine the implications of risk, in various guises, on charitable organizations in Atlantic Canada and compare the results to the broader charitable sector in Canada.

To explore the implications of risk on charitable organizations we rely on the T3010, Registered Charity Information Return, forms for the years 2003-2010. These forms are required to be filed by all charitable organizations in Canada and contain a wealth of financial, and non-

financial, information.¹ We use the seminal work on financial vulnerability of not-for-profit organizations in the United States as a starting point for the formation of our empirical framework (see, e.g., Trussel and Greenlee, 2000; Tuckman and Chang, 1991). The unifying measures of these studies are four financial ratios (equity, revenue concentration, administrative cost, and surplus margin), designed to explore the impact on the level of services delivered by the respective organizations. Additional work by Keating et al. (2005) expands on the number of variables, but still relies on financial statements for the requisite data; for instance, the authors now include, e.g., total debt and current ratios, dummies for insolvency risk, financial and funding disruption risk, etc., with the ultimately goal of predicting which firms will be/are financially vulnerable and those likely to experience financial distress.

The timeline for our study is chosen, in part, because of the rather dramatic market downturn in 2008 as a result of the subprime crisis. The downturn affords us the opportunity to examine firm behavior as a result of a rather significant, and systematic, negative externality. Likewise, the start date is sufficiently clear of any market implications of the internet bubble bursting in 2000-2001. Thus, 2003 should provide a sufficient proxy for normal operations and financing activity, such that any change in subsequent years is likely to be internally driven, rather than market-recovery driven; although, the latter will undoubtedly play some inevitable (supporting) role. Put simply, the timeline approximates a full business cycle and, as such, provides a nice window for exploring the implications of our study.

Findings reveal a number of interesting aspects to the charitable landscape that in some instances seem to run counter to their for-profit brethren. For starters, it appears that diversification in revenue streams, as illustrated by concentration ratios, does not typically help mitigate exposure to risk. While this goes against general convention where diversification is concerned, what is of further interest is that this tends to go against previous findings on not-for-profits in the United States, where greater concentration of revenues lead to an increase in financial vulnerability or distress. What's more, this finding also affords an interesting commentary with respect to sectoral differences as well. Results suggest religious organizations may find themselves in a unique diversification dilemma, if you will, that may otherwise be muted for other sectors, such as education and health. While this undoubtedly provides some evidence on the idiosyncrasies of risk exposure in charitable organizations it could also lend itself to an argument of crowding out of revenue streams as some authors have suggested (see, e.g., Andreoni and Payne, 2003, 2011a/b).

With respect to Atlantic Canada in particular, of the five models we ran, the ones that performed the best for Canada as a whole did rather poorly at explaining the charitable landscape for the four provinces that make up the region. A finding that may lend support for developing models with firm or location specific risk factors, rather than a "catch all" model for analytical ease; the latter may also cast doubt on any policy recommendations that claim to limit risk exposure to particular organizations as a means with which to protect the funding donation of voter-contributors. This is particularly noteworthy given the recent interest by the federal government in overhauling the funding formula for charitable organizations in Canada. Results show that Atlantic Canada is below the national average for insolvency risk and financial

¹ Andreoni and Payne, 2011a provide an excellent discussion of the disclosure requirements for the interested reader.

disruption; this is largely driven by changes within Newfoundland and Labrador, while the region is above average for both funding and program disruption, with the increased exposure being largely driven by the province of Nova Scotia. In fact, Nova Scotia often leads the way in terms of our risk metrics within the region. Finally, when the modeling is broken down between financial statement variables (ratios), sector, age and year effects, it is variables found on financial statements that often best categorize Atlantic Canada charities in terms of their exposure to risk. While this is somewhat consistent with the majority of the modeling for Canada, findings also suggest a great deal of significance in the comprehensive models that include these additional aspects, whereas for Atlantic Canada they just appear to increase noise.

The rest of the paper is organized as follows. First, we provide a brief background into the literature, before moving on to discuss the data. Our model and results are provided in the subsequent section, followed by some concluding remarks.

BACKGROUND

As a general overview, Anheier (2005) outlines many of the theoretical approaches taken to explain the existence and behaviour of nonprofit organizations. List (2011) also provides an excellent survey of charitable market research, running the gamut from tax incentives, crowding out, experimental evidence, etc., and their impact on donations, demand, and giving. As a subset of this larger body, financial vulnerability and risk fall within two broadly defined categories of for-profit and not-for-profit (charitable), with the former making up the bulk of the research and being largely confined to the study of the United States. The empirical work on Canadian charitable organizations is somewhat in its infancy, but nonetheless headlined by some excellent recent work by Andreoni and Payne (2011a/b, 2003) that looks at various characteristics of crowding out of charitable contributions, which, while sharing a data source, is confined to a different research question than the one being proposed here.

The work on financial vulnerability of not-for-profit organizations was brought to the forefront by Tuckman and Chang (1991). While some work in this area had been done previously, Tuckman and Chang were the first to design a methodology to resolve the question of which not-for-profits in the United States were most likely to find themselves compromised financially. They did this by considering four operational criteria in their logit estimation: inadequate equity balances, revenue concentration, administrative costs and operating margins, and used data found on the annual Form 990. Their findings suggest that, while there are substantial differences depending upon how one categorizes or subcategorizes organizations, only a small percentage of not-for-profits are at risk to economic downturns; the group most at risk appearing to be health care and support categories. Unfortunately, their empirical findings were only calculated for one year (1983), so are somewhat limited in scope.

Using the work of Tuckman and Chang as a springboard, research on not-for-profits has turned its attention to developing testable models of vulnerability (Greenlee and Trussel, 2000, 2001; Trussel, 2002). The work, which is largely consistent, relies on the methodology of Gilbert, Menon and Schwartz (1990) as a starting point and the National Center for Charitable Statistics (NCCS) for data. Greenlee and Trussel (2000) estimate a logit model with the latent dependent variable being equal to one if the organization is financially vulnerable and zero if it is

not. Similarly, Trussel (2002) expands on this approach to include a measure of size and controls for sector. Independent variables, with their expected signs in brackets, are financial ratios for equity (negative), revenue concentration (positive), administrative costs (negative), and surplus margin (negative), with equity being found to be the only ratio that does not contribute significantly to a reduction in program expenditures (as a percentage of total revenues).

Finally, Keating et al. (2005) abandon the single-period logit approach of its predecessors in favor of using the discrete hazard model of Shumway (2001) and Hillegeist et al. (2004), which allows for multiple observations for each organization. They also introduce new variables, such as, e.g., total debt and current ratios, dummies for insolvency risk, financial and funding disruption risk, etc., with the ultimately goal of predicting which firms will be financially vulnerable and those likely to experience financial distress. Their model ends up performing better at predicting financial vulnerability and financial distress when compared to the works of Ohlson (1980), Altman (1968) and Tuckman and Chang (1991). However, whether the results are time dependent or not is difficult to assess, given the rather short timeline (1999-2000).

DATA

Our data differ from previous studies in several important ways. First, the richness and completeness of the Canadian data is superior to that of the United States (Andreoni and Payne, 2011a). Second, the breadth of coverage and, in particular, the ability to formulate a longitudinal subset is something which U.S. studies have failed to replicate; the latter being important if we are to understand (and measure) an organizations vulnerability to adverse economic conditions. Finally, in addition to the systematic implications of risk, there are idiosyncratic, firm-specific decisions with respect to, e.g., operations that can mitigate or exacerbate exposure to certain types of risk.² The T3010 forms filed in Canada allow us to extend existing research in this direction.

The result of these differences is a much more detailed and comprehensive picture of risk in charitable organizations. As discussion in prior work has conveyed, studies in the United States have been subject to limitations on data quality and coverage. Our data affords, if you will, a more appropriate or full treatment of these models. A condition that up until this point has been, at best, only partly satisfied. For instance, while Greenlee and Trussel (2000) have NCSS data for 1982-1983 and 1985 through 1995, they end up having to merge the data for each year in order to develop and test their logit model forgoing the benefits that a panel would have afforded. Keating et al. (2005) end up only having data for 1999/2000 and admit that such a relatively small timeframe is a detriment to testing their longitudinal methodology. The relative dichotomy that exists in the NCSS data, between those organizations with more than \$10 million in assets and those that are considerably smaller, is also a shortcoming. Specifically, the NCSS data has a reporting bias towards those organizations above \$10 million in assets, due to the regulations in the United States.³ Given that smaller organizations dominate the charitable landscape, this is particularly problematic in testing the efficacy of the models. No such issue

² This also provides a reason for choosing a random effects model over the alternative fixed effects.

³ For a more in-depth discussion of the limitations of using NCSS data see Gordon, Greenlee and Nitterhouse (1999).

exists with the Canadian data, which from an Atlantic Canada perspective is particularly important, given that most of the organizations are quite small.

We use data from 2003-2010 on charitable organizations in Canada. The data is taken from the T3010, Registered Charity Information Return, forms. These forms must be filed annually with Canada Revenue Agency (CRA) by all registered charities as part of the requirements of maintaining charitable (tax-exempt) status. As such, the data provide a comprehensive picture of all Canadian charities that we are able to track over a number of years. As mentioned above, the fact that our data coverage includes the rather dramatic market downturn in 2008 affords us the opportunity to examine firm behavior in response to a significant and systemic negative externality. Likewise, the start date of 2003 is sufficiently clear of any market implications of the internet bubble bursting in 2000-2001. As such, the window chosen should provide a sufficient proxy for normal operations and financing activity, such that any change in subsequent years is likely to be driven more by internal processes, rather than market recovery.⁴ In short, the timeline approximates a full business cycle and, as such, provides a nice window for exploring the implications of our study.

The entire data set consists of over 75 thousand charities for each of the years 2003-2009, and around 58 thousand in 2010.⁵ Charities run the gamut from small community organizations to large international ones. Table 1 shows the breakdown of revenue, with small firms being designated as those with annual revenue less than or equal to \$100,000, which signifies the hurdle point that exists between those that have to fill out section D of the T3010 and those that have to fill out the more detailed Section 6.

Table 1
Analysis of Total Revenue for Charitable Organization in Canada, 2003-2010

Year	Negative	Less than \$100,000	Total Reporting	% Small
2003	182	41,797	75,261	55.4%
2004	84	41,810	76,645	54.5%
2005	70	41,986	77,905	53.9%
2006	55	41,829	78,969	52.9%
2007	65	41,510	79,436	52.2%
2008	499	41,511	79,754	51.7%
2009	441	39,768	78,089	50.6%
2010	96	28,421	58,219	48.7%

Note: Columns represent the number of firms falling into the respective category

It should be noted that our sample for the 2010 reporting year is smaller than in preceding years. This is due to the fact that, at the time of data collection, a number of the returns had not yet been compiled by CRA's Charities Directorate. That being said, we feel that the sample of reporting charities in this filing year is large enough and representative enough in terms of sectoral coverage to be included in this study without fear of introducing bias. It may also seem

⁴ We acknowledge that, undoubtedly, market recovery will play some inevitable role. Nevertheless, the point is that the role should nonetheless be muted, given the timeline.

⁵ At the time of data collection, not all T3010 filings for 2010 had been received and processed by CRA. The details of the incomplete coverage for this one year are discussed below.

in the table above that our sample for 2010 is slightly weighted towards larger charities. However, it is interesting to note that prior to even 2008, where there clearly was an externality introduced into the equation, the percentage of smaller institutions was steadily declining. This could be because the growth in revenues of those located close to the \$100,000 threshold resulted in the organizations being pushed into the higher category. It could also be due to the attrition of organizations at the lower revenue levels outpacing those at the upper level (or the entrance at the lower level) or some combination therein.⁶

As one might expect, inequitable revenue distribution abounds between the provinces. This point is illustrated in Table 2, along with the percentage of charitable organizations found within the respective province (or group of provinces). As can be seen, Atlantic Canada contains approximately 10.5 percent of the charitable organizations (in total, 7,933) in Canada in 2008, with a little over 5.5 percent of the total revenue. Ontario by comparison, the province with the largest share of the charitable market, contains over three times as many organizations (26,060) and over 41 percent of the total revenue.

Table 2
Percentage of Total Revenues and Charitable Organizations by Region, 2008

Province	Organizations (%)	Revenue (%)
Alberta	10.62	12.87
British Columbia	13.47	13.59
Manitoba	5.45	4.16
Ontario	34.59	41.15
Quebec	19.19	19.05
Saskatchewan	5.78	3.19
Atlantic Canada	10.53	5.70

Disaggregating revenue in Atlantic Canada further, Figure 1 shows that the organizations that have been around for more than 30 years, roughly 37 percent, control about 80 percent of the revenues within the represented provinces. Furthermore, it is interesting to note the somewhat uniform distribution of remaining organizations; when broken down into 5-year intervals, each contains roughly 10 percent of the organizations with a marginal share of revenues (the largest has roughly 6 percent). Finally, in terms of sectoral influence, education (35%) and health (46%) have the majority of the revenue in Atlantic Canada, while religion dominates the landscape in terms of sheer numbers (41%), with groups falling under the auspices of benefiting the community (22%) coming in a distant second. Figure 2 shows the breakdown of the respective categories.

⁶ While it is not of paramount importance here that firms are experiencing negative revenues in certain instances, for a discussion on the phenomenon, the interested reader is directed to, John Daly, “Less than Zero: How Companies can end up with Negative Revenues,” <http://www.theglobeandmail.com/report-on-business/rob-magazine/top-1000/less-than-zero-how-companies-can-end-up-with-negative-revenues/article2122112/>. [Accessed 1 August 2012]

Figure 1
Percentage of Organizations and Total Revenue, Atlantic Canada, by Longevity, 2008

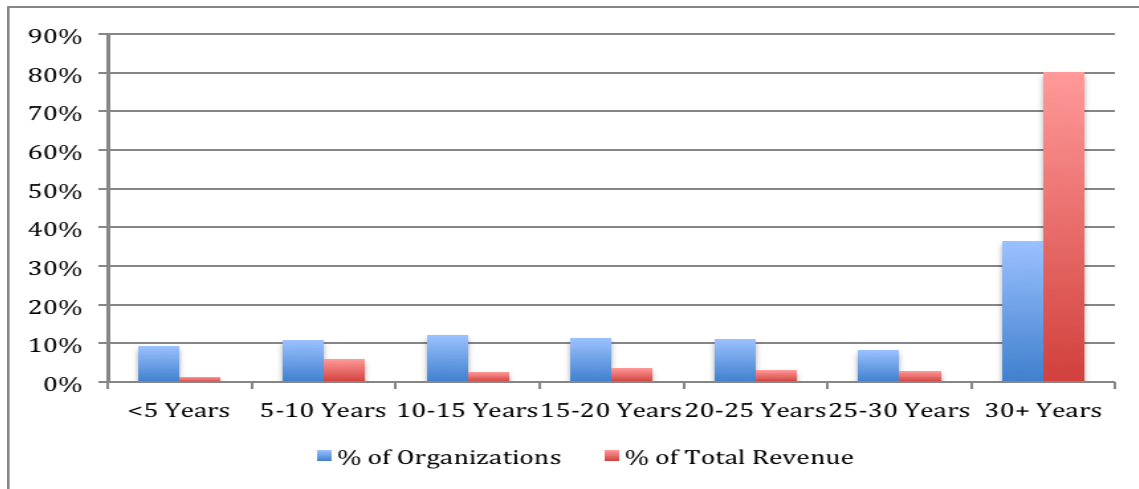
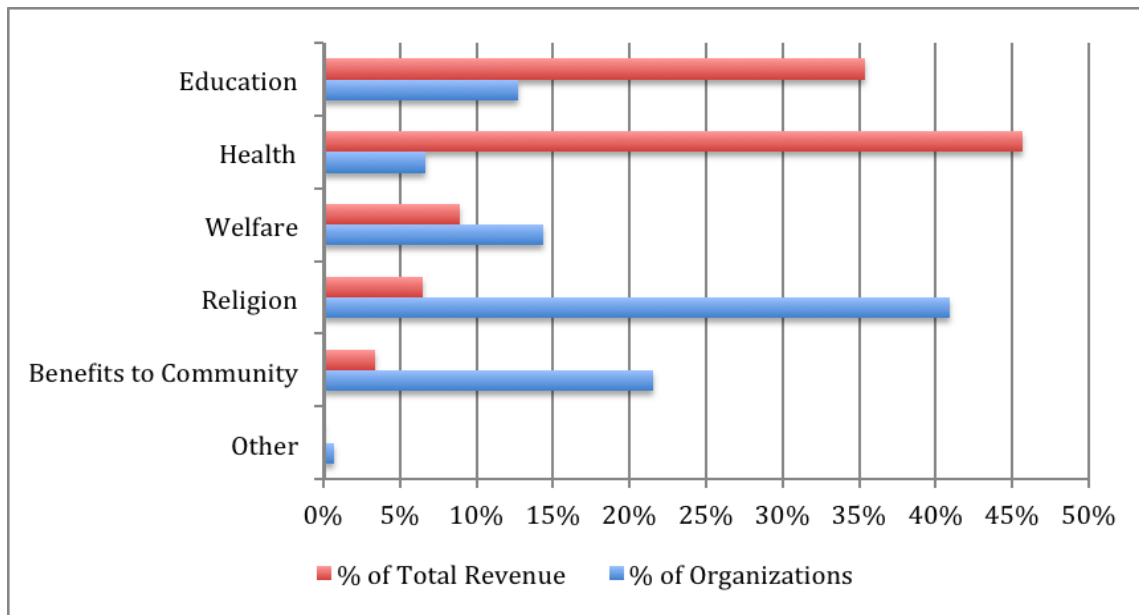


Figure 2
Percentage of Organizations and Revenues, Atlantic Canada, by Sector, 2008



MODEL AND RESULTS

To explore the concept of risk in charitable organizations we run a random effects panel estimation for years 2003-2009.⁷ Consistent with previous literature, we use financial statement information to compute various ratios as a proxy for the overall sustainability of the

⁷ We leave out 2010 because our predicting variables end in 2009 (as they predict the following year). Given the number of observations in our sample, the random effects model was chosen over the fixed effects model to conserve degrees of freedom and to permit the use of time-invariant factors such as sector.

organization. For instance, the first four variables in our estimations in Table 3, respectively, can be seen as an overall proxy for financial health, a measure of diversification, a measure of surplus and cost cutting possibilities. The remaining ones, with the exception of size, are standard assessments in ratio analysis. To measure liquidity, we include current liabilities-to-current assets (CL/CA) as well as working capital-to-total assets (WC/TA). We also include net assets-to-total assets (NA/TA), total revenue-to-total assets (TR/TA) and net income-to-total assets to represent solvency, asset turnover and "profitability", respectively. Given the detail of our data, we are able to expand on previous studies to focus on the impact of sectoral distinction, year and age effects, as well. It is necessary to define these latter categories relative to a "base group" for each variable. As such, we define the impact of the sectors listed in relation to religion, the largest sector in terms of organizational numbers; year effects are defined in relation to the base year, 2003; and age effects are in relation to the largest group of charities in Atlantic Canada, which are those with a lifespan of greater than 30 years.

The specified models are designed to estimate different aspects of risk to charitable organizations and are consistent with previous studies on for-profit, as well as not-for-profit firms.⁸ Program disruption looks at organizations experiencing a 25 percent drop in program expenditures year-over-year and is designed to expose firms realizing negative, and statistically significant, impacts in their ability to meet their mandate (i.e. provide expressed services). Insolvency risk examines those firms whose total liabilities are greater than total assets in the subsequent year, while financial and funding disruption are measured as a 25 percent drop in net assets and total revenues year-over-year, respectively. Finally, financial vulnerability is defined as firms experiencing two consecutive reductions in annual program expenditures.

RESULTS

Findings show that, in terms of rank order significance for all of Canada, the model for financial disruption performed the best, followed by the models for financial vulnerability, funding and program disruptions. Insolvency risk performed the worst. That said, outside of perhaps insolvency risk, each of the models performed quite well in predicting the desired independent variable. The case for Atlantic Canada is somewhat different and tells an interesting story about the make up of the charitable market in that part of the country.

For starters, the comprehensive models appear, in part, to increase the noise of the overall estimation for Atlantic Canada. This could indicate sensitivity to the measurement of risk being examined. For instance, it seems clear that sector and age effects matter little when, e.g., examining insolvency risk and financial disruption, but that year effects matter a great deal. As it is for Canada as a whole, it may be the case that technical insolvency is independent of sector. This combined with the insignificance of age for Atlantic Canada organizations (recall that the majority of organizations in that part of the country have been in business for more than 30 years), result in year effects, which can be thought of as a proxy for market performance, driving the results. Given the inherent link between the latter and the size and composition of net assets,

⁸ Keating et al. (2005) provide a nice summary of the available models and their use in measuring aspects of financial distress and vulnerability, insolvency, bankruptcy, etc.

which determine both insolvency risk and financial disruption, this seems to make anecdotal sense. Of course, where program revenues and expenditures are concerned, matters differ.

The revenue and expenditure results seem somewhat akin to the relationship between Canada and the United States where economic shocks are often mirrored to a certain degree in the former, as a result of the latter. As such, the east coast of Canada may in fact feel certain economic shocks to a (largely, but not exclusively) greater extent than the rest of Canada. For instance, a systemic shock to the Canadian market could have spillover effects independent of sector in Atlantic Canada; it may be that when organizations are forced to scramble after dealing with an exogenous shock in that part of country that the market is simply too small for organizations to rely on, say, community partners or independent donations to fill the void. Thought of differently, organizations, regardless of sector, could be seen to face limited prospects for funding alternatives and may in fact crowd out one another through their fundraising activities, resulting in revenues being impacted differentially. This would be an interesting avenue to explore and we encourage it for further research.

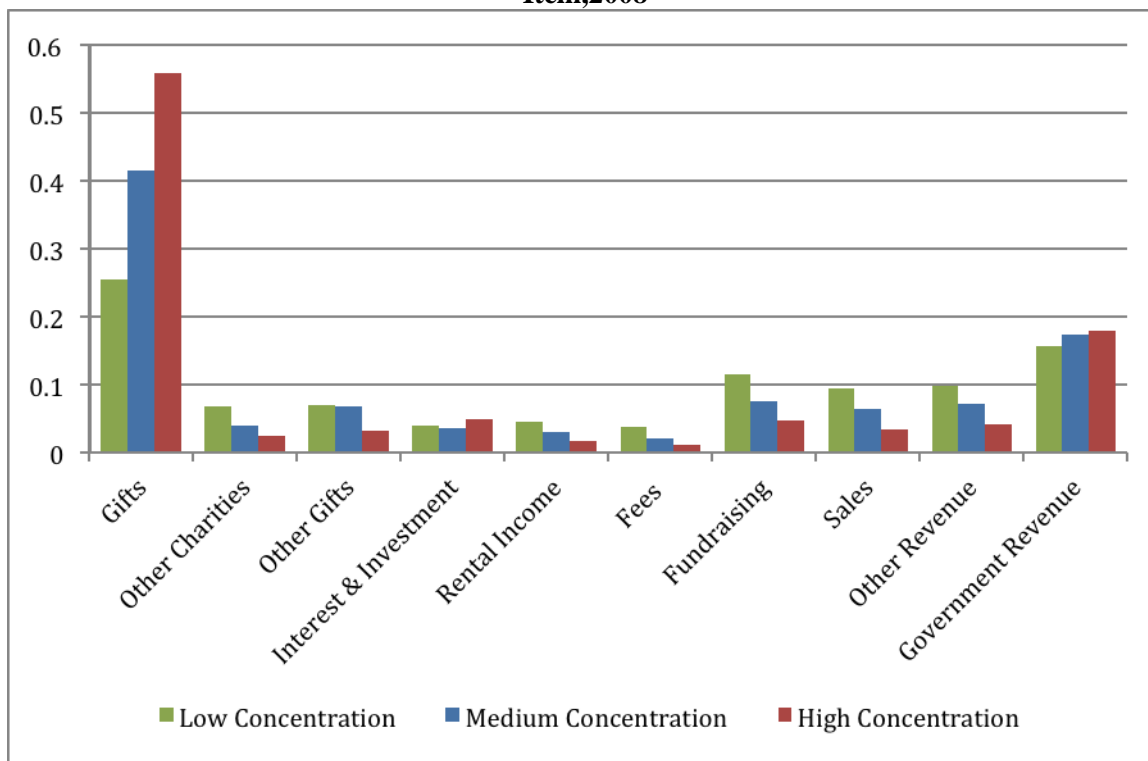
Staying with revenue for a moment, it is interesting to note that unlike their American counterparts, concentration ratios of Canadian and Atlantic Canada charitable organizations indicate that diversification in revenue streams is actually detrimental to risk mitigation; the exception is for financial disruption, where the sign is positive for all of Canada and insignificant for Atlantic Canada. As Table 3 shows, the detrimental effects of diversification appear larger for Atlantic Canada, as well. To explore this phenomenon further, we disaggregate revenue streams for 2008 and separate organizations into three groups: low, medium, and high concentration ratios, where low indicates concentration ratios less than 0.5, medium 0.5 to 0.75 and high 0.75 to 1. This separation leaves the groups roughly symmetrical with 21,139, 20,024, and 20,934 organizations, respectively. The results are displayed in Figure 3.

Table 3
Random Effects Panel Estimation, Atlantic Canada versus All of Canada

VARIABLES	Program Disruption		Insolvency Risk		Funding Disruption		Financial Disruption		Financial Vulnerability	
	Canada	Atlantic	Canada	Atlantic	Canada	Atlantic	Canada	Atlantic	Canada	Atlantic
EQUITY	0.00216***	-0.00164	-0.0741***	-0.142***	0.00279***	0.00367	-0.0183***	-0.00952***	-0.0273***	-0.0285***
CONCEN	-0.261***	-0.388***	-0.198***	-0.995***	-0.575***	-0.716***	0.194***	-0.0464	-0.451***	-0.541***
MARGIN	-0.716***	-0.734***	-0.517***	-0.652***	1.088***	1.218***	-0.118***	-0.0867*	-0.966***	-0.967***
ADMIN	0.0573**	0.233***	0.327***	-0.044	-0.734***	-0.694***	0.214***	0.200*	-0.607***	-0.586***
WC/TA	-0.143***	-0.178***	0.187***	0.524***	-0.00459	-0.156**	0.765***	0.977***	-0.200***	-0.263***
NA/TA	0.155***	0.051	-2.469***	-2.217***	0.349***	0.217***	0.849***	0.601***	0.107***	-0.00745
TR/TA	-0.00384***	-0.0106**	0.0462***	0.0598***	-0.0158***	-0.0266***	-0.00401***	0.00502	0.0239***	0.0219***
SIZE	-0.167***	-0.148***	-0.0144	0.101***	-0.186***	-0.230***	-0.141***	-0.109***	-0.0044	0.00568
CL/CA	0.0279***	0.00196	0.180***	0.227***	-0.00594	-0.0535*	0.122***	0.0512*	0.0311***	0.00234
NI/TA	0.0163***	0.00308	0.00316	0.0316	-0.0468***	-0.0385**	0.0123***	0.00246	0.00947***	0.00403
community	-0.0652***	-0.0808*	-0.0589	-0.0591	0.487***	0.691***	0.0491***	-0.03	-0.338***	-0.460***
education	-0.131***	-0.189***	0.268***	0.155	0.397***	0.568***	0.200***	0.0685	-0.370***	-0.430***
health	-0.0727***	0.0215	-0.152**	-0.0752	0.223***	0.302***	0.193***	0.0918	-0.495***	-0.410***
welfare	-0.365***	-0.400***	-0.0675	0.0195	-0.173***	-0.0499	0.160***	0.082	-0.480***	-0.487***
other	0.188***	0.528**	0.00382	0.336	0.436***	0.642**	0.185***	0.161	-0.148*	0.244
y2004	-0.0659***	-0.0189	-0.110**	-0.18	-0.0000607	0.0227	-0.0483**	-0.107*	0.0850***	0.107*
y2005	-0.00838	0.0211	-0.113***	-0.359***	-0.0134	0.028	-0.147***	-0.295***	0.172***	0.213***
y2006	0.0823***	0.0652	-0.189***	-0.391***	0.140***	0.0762	-0.139***	-0.236***	0.0885***	0.0801
y2007	-0.0385**	-0.0056	-0.106**	-0.354**	0.0366*	0.00756	-0.107***	-0.303***	0.255***	0.306***
y2008	0.409***	0.568***	-0.0559	-0.353**	0.370***	0.377***	0.384***	0.224***	-0.144***	-0.150**
y2009	0.206***	0.341***	-0.227***	-0.493***	0.217***	0.385***	0.0648***	-0.225***		
Age 0-5	0.111***	0.200***	0.316***	-0.143	0.450***	0.488***	0.206***	0.126*	-0.0266	0.158**
Age 5-10	0.120***	0.0775	0.128***	-0.24	0.374***	0.218***	0.149***	0.0565	0.103***	0.205***
Age 10-15	0.0727***	-0.0169	0.0519	-0.0956	0.227***	0.127**	0.0963***	0.0484	0.0576***	-0.00521
Age 15-20	-0.0137	-0.0069	-0.005	-0.158	0.102***	0.0571	0.00214	0.0262	0.0793***	0.165**
Age 20-25	-0.022	-0.0743	0.0651	0.199	0.0577***	0.0905	-0.00251	0.0398	0.0415*	0.00452
Constant	0.464***	0.404**	-2.852***	-3.388***	-0.175***	0.516**	-1.690***	-1.673***	-1.611***	-1.478***
Observations	330,346	33,638	330,627	33,661	330,168	33,620	314,929	32,173	307,823	31,615
# of Charities	68,606	7,247	68,609	7,247	68,603	7,246	67,157	7,108	69,434	7,327

*** p<0.01, ** p<0.05, * p<0.10

Figure 3
Revenue Concentration in Canada, by Type and
Item, 2008

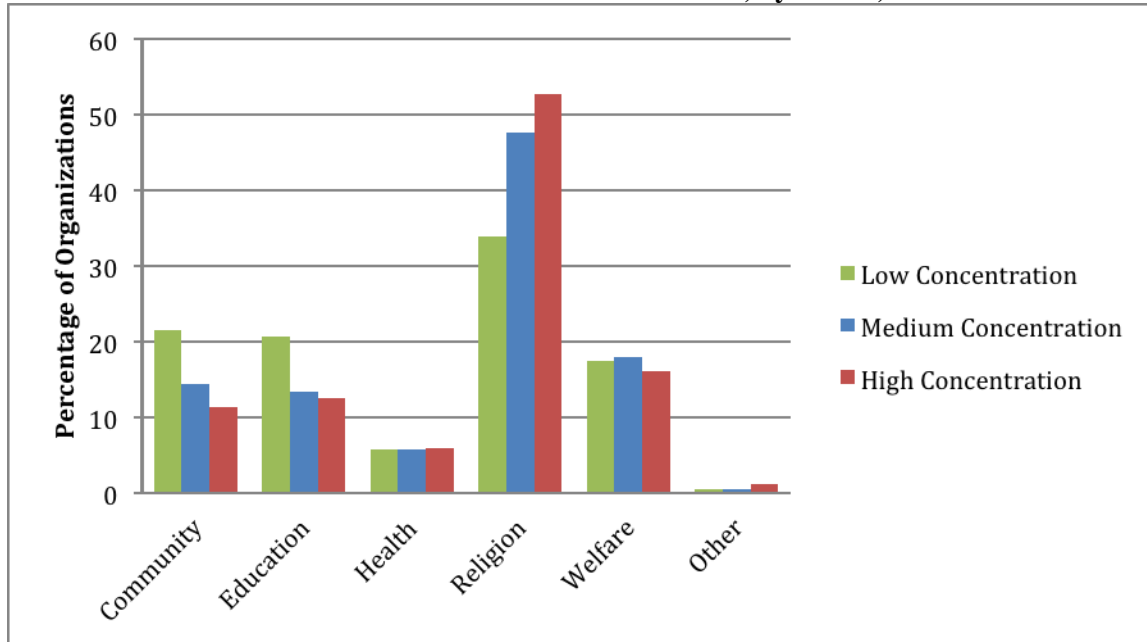


While all organizations rely predominantly on gifts, it is clear that organizations with greater concentration in revenue streams rely on them to a larger extent. Such organizations also rely on interest and investments more, as well as government revenue. Furthermore, there are large sectoral differences by revenue concentration, with religion leading the way by a significant margin (Figure 4). Putting the pieces of the puzzle together where Atlantic Canada is concerned would seem to imply the lack of risk-mitigating diversification manifesting as a result of the relative overrepresentation of religious organizations in the area, which rely on a fairly large pool of potential donors that are aggregated into the catch-all category of gifts. Therefore, while it should be clear that, *ceteris paribus*, a higher concentration of revenue sources is associated with greater risk than one that is more diversified, there are two main reasons why such an effect may not be observed empirically.

First, as we increase the measure of revenue concentration the composition of the set of charities we are looking at changes. Among charities with the highest levels of revenue concentration, we observe an overrepresentation of Religious organizations (that are fairly stable); religious groups have a lower variance across all revenue sources, when compared to the other categories. Second, some sources of revenue are much more stable and diversified in and of themselves. For instance, rental income or government grants may come from only a handful of sources while tax-receipted gifts may come from hundreds or thousands of donors. The implication, of course, being that while concentration ratios appear to tell a story of anti-diversification, the moral may indeed be one of diversification within the categorical streams themselves. Furthermore, while this undoubtedly provides a commentary on the idiosyncrasies of

risk exposure in charitable organizations it also may reveal that there is indeed some crowding out of revenue streams as some authors have suggested (see, e.g., Andreoni and Payne, 2003).

Figure 4
Revenue Concentration in Canada, by Sector, 2008



In an effort to get a better sense of the evolution of the results, we now turn to treating individual years as steady states, if you will, and examine the trend in funding, program and financing disruptions, as well as insolvency risk, for individual provinces in Atlantic Canada. The results are reported in Table 4. Findings show very few firms in fact find themselves in a position of having negative net assets; Newfoundland and Labrador led the way in 2003 with roughly 6.91 percent of organizations being found as technically insolvent, but go through a regression to the mean of sorts over the timeline explored and come to approximate the other three provinces in the region at the end. What is difficult to determine and would be an interesting exercise for further research is whether the reduction was from attrition, either normal (in terms of the charitable organization running out its mandate) or situational, or if it occurred as a result of good financial management.

Table 4
Percentage of Atlantic Canada Charitable Organizations falling under the respective Risk Measurements, by Year

Risk Measurement	2003	2004	2005	2006	2007	2008	2009
<u>Insolvency Risk</u>							
New Brunswick	3.91	4.14	3.54	2.95	3.45	3.41	3.93
Nfld and Labrador	6.91	6.94	6.84	6.67	4.94	3.86	3.53
Nova Scotia	3.29	3.10	3.88	2.63	2.67	3.08	3.31
PEI	4.69	3.91	3.88	4.05	4.66	2.93	3.89
<u>Financial Disruption</u>							
New Brunswick	16.03	16.23	13.84	12.86	13.67	16.90	12.92
Nfld and Labrador	22.04	17.77	16.67	16.42	15.69	14.84	12.01
Nova Scotia	14.67	14.13	12.59	12.90	11.64	15.48	12.20
PEI	16.74	13.17	16.42	15.48	16.70	13.87	13.21
<u>Funding Disruption</u>							
New Brunswick	12.78	12.56	12.97	13.04	12.41	14.56	14.76
Nfld and Labrador	11.38	12.05	10.09	11.42	11.79	11.49	11.96
Nova Scotia	15.50	15.53	15.00	16.34	15.68	18.75	17.60
PEI	14.09	16.74	15.31	15.16	15.31	17.08	16.72
<u>Program Disruption</u>							
New Brunswick	18.21	16.69	15.93	17.34	15.76	22.78	18.56
Nfld and Labrador	16.24	17.16	14.32	15.84	14.81	22.92	19.65
Nova Scotia	17.84	19.74	19.78	17.57	18.59	23.39	19.76
PEI	20.87	17.59	16.41	19.48	16.03	22.16	15.11

Closely related to the issue of attrition is the nature of the systematic shock in the form of the credit crisis on firms in our sample. While it is clear that charitable organizations in large part realize an adverse spike to their financial health, as it were, and as such an increase in risk, in whatever guise, what is not clear is whether we are witnessing a transitory increase brought about by well-managed or healthy firms capable of carrying, e.g., the requisite increase in leverage, and unhealthy firms ceasing to exist, which might cause the results in Table 4 to be downwardly biased, or whether the spike is the catalyst for (future) business failures. If the latter is the truth of the matter, then the recovery in 2009 may be the result of attrition and not a return to business as usual. Discovering the true nature of the findings is an interesting avenue for future work once data for years beyond 2010 become available.

Finally, the idiosyncratic nature of the findings in Table 4 would seem to provide fodder for developing models with firm (and, perhaps, geographically) specific risk factors, rather than one particular “catch all” model for analytical ease; the latter may also cast doubt on any policy recommendations that claim to limit risk exposure to particular organizations as a means with which to protect the funding donation of voter-contributors. This is particularly interesting given the recent interest by the federal government in overhauling the funding formula to not-for-profit organizations in Canada.⁹

CONCLUDING REMARKS

We have attempted to shed light on an important and underrepresented, at least in terms of academic research, part of the Canadian economy by exploring the implications of risk on charitable organizations. Our focus has been on contrasting the case of Atlantic Canada with the entire nation to get a better sense of what risk, in various guises, looks like and ultimately means for the organizations in that part of the country. While more work is needed, the findings suggest a microcosm of sorts for research on risk, in general; namely, that the idiosyncratic nature of, e.g., shocks and corporate governance make assessing risk, whether financial, operational, etc. a difficult proposition with a single overarching model. What is more, policies designed to mitigate exposure to risk or ensure better management of “other people’s money” as those being suggested by the federal government are fraught with inherent difficulties and seem ultimately to be piecemeal, at best. For instance, the stretch-tax credit, the notion that subsequent donations on a year-over-year basis should qualify for greater relief at tax time, is a policy that given the findings above could result in further crowding out of competing donations in Atlantic Canada, particularly if such policy is enacted with subsequent cuts to funding, as is being suggested.

Results suggest an Atlantic Canada market where risk, independent of the different ways we define it in the paper, can be characterized reasonably well by ratio analysis, but where comprehensive models incorporating the likes of age, year and sectoral effects become less reliable; it is important to note that the latter occurs despite the fact that these additional explanatory variables do a good job characterizing the Canadian market as a whole. Furthermore, we saw that high level results suggested a counterintuitive finding with respect to diversification being risk enhancing, but when we disaggregated the components of that finding; namely, revenue streams, the result appeared largely driven by the nature of the categorical differences in those streams. On this latter point, it is interesting to note that should the government successfully implement something like the stretch-tax credit while cutting funding, subsequent empirical results could easily show universal increases in concentration ratios that could, particularly if the resulting increase in year-over-year gifts does not manifest, lead to sign change in the longitudinal analysis; that is, high concentration ratios could indeed be associated with greater risk, as a result of the suggested policy.

⁹ See, e.g., Jennifer Ditchburn, “Government Committee to examine Charitable Giving,” <http://www.thestar.com/article/1115840--government-committee-to-examine-charitable-giving> [Accessed 1 August 2012]

While we have endeavored to provide as complete an analysis as possible, there are some interesting questions that remain to be explored. For instance, it would be interesting to see how the models suggested in the paper do at forecasting the financial health of charitable organizations. It would also be interesting to do an analysis similar to the above of the firms that cease operations in an effort to determine the implications that lead to their ultimate demise and see whether or not the suggested variables above would have provided the requisite clues for such an end. This latter suggestion would likely require a careful mining of the data, since it is not readily apparent whether a firm ceased operations as a normal course of running out their mandate or whether they were indeed forced out before they were able to reach their ultimate goals. And, if the latter, whether it was a function of external conditions, such as market externalities, or whether it was the result of poor financial management. If it could be assessed systematically, the role of financial management in itself would also, undoubtedly, have interesting implications for the corporate governance literature.

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DO WE KNOW WHAT WE THINK WE KNOW? AN EXPLORATION OF ONLINE SOCIAL NETWORK USERS' PRIVACY LITERACY¹

Online social networks have increased in popularity and users continue to share abundant information in these sites, despite reported privacy concerns. Although knowledge is recognized as impactful in consumer decision making, privacy knowledge has essentially been ignored in investigations of information disclosure on OSNs. As such, the purpose of this paper was to explore the privacy literacy of Canadian OSN users in terms of subjective and objective privacy knowledge. Exploratory results suggest some privacy literacy differences based upon age and gender and areas where privacy knowledge could be improved.

INTRODUCTION

Online social networks (OSNs) such as Facebook, Twitter and LinkedIn have gained worldwide acceptance and continue to grow. Approximately 20% of the global population is predicted to use a social networking site in 2012 and participation should reach 25% by 2014 (eMarketer, 2012). Facebook is clearly the dominant OSN globally, boasting over 845 million members at the time of its IPO in May, 2012. In Canada, Facebook is not only the most dominant OSN, it is the most used website in the country, capturing the highest share of visits (Experian Hitwise, 2012). More than half of Canadians are members of an OSN and among OSN users, almost all (95.2%) have Facebook accounts (Oliveira, 2012).

Online social networks are defined as “web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system” (Boyd and Ellison, 2007, 211). Clearly then, personal information disclosure is a requisite part of OSN participation. The amount of information disclosed in one’s personal profile is normally left to the discretion of the user, but personally identifiable information including the user’s name (or pseudonym), birthday (but not necessarily

¹ The author would like to thank Dr. Alan Wilson, Dr. Todd Boyle and Randy Delorey for the guidance and many helpful comments offered in preparation of this paper.

birth year), and email address are typically required. The discretionary elements in a personal profile might include information pertaining to education, employment, activities, interests, hobbies, relationship status, sexual orientation, birth year, or favourite quotes. Depending upon the website's functionality, other data including private messages, public comments, photos, videos, tags, preferences, groups and behavioural data may be exchanged as well (Boyd and Ellison, 2007; Beyé et al 2010). Further, depending upon the privacy controls offered by the OSN and one's ability and choice to use such controls, the information shared can be viewed by OSN members' friends, friends of friends, open to the public and/or collected and used by the OSN company and/or its corporate clients.

The immense popularity of OSNs has been driven by individuals' social motivations. Specifically, social capital (Pfeil, Arjan and Zaphiris, 2009; Steinfield, Ellison and Lampe, 2008; Valenzuela, Park and Kim, 2009), relationship maintenance, popularity, self-presentation, social surveillance and information exchange have been variously cited as motivations for participation in OSNs (Acquisti and Gross, 2006; Boyd, 2007; Hoadley et al 2010; Lee et al 2008; Livingstone, 2008; Subrahmanyam et al, 2008; Young, 2009). However, despite the many benefits sought, there are inherent risks in OSN participation including cyber-bullying, defamation, identity theft and general loss of privacy (Debatin, Lovejoy, Horn and Hughes, 2009; PureSight, 2011; Rashid, 2012). As Andrew Keen (2012) laments, "privacy - that condition essential to our happiness as human beings - is being dumped into the dustbin of history".

Individuals share abundant personal information in these 'permanent self-exhibition zones' (Keen, 2012) thereby potentially contributing to their own loss of privacy. Paradoxically, many Canadians reported having privacy concerns about the Internet (Statistics Canada, 2010) and a vast majority (88%) explicitly expressed privacy concerns about OSNs (Harris Decima, 2011). Although this privacy paradox (Norberg, Horne and Horne, 2007) has prompted many investigations into the privacy calculus that explains information disclosure (Brandimarte, Acquisti and Loewenstein, 2010; Dinev and Hart, 2006a; Dinev and Hart, 2006b; Li, Sarathy, and Xu, 2010; Krasnova and Veltri, 2010; Xu et al 2008), little research into what consumers actually know about privacy has been undertaken despite speculation that a lack of awareness might be contributing to voluminous information sharing in OSNs (Boyd, 2007; Buchanan et al 2007).

As it is well established that knowledge affects consumer decision making (Chi, 1983; Chartrand, 2005; Raju, Lonial and Mangold, 1995), it is logical to also include privacy knowledge in privacy calculus investigations. However, the impact of privacy knowledge on OSN information disclosure is a question beyond the scope of this investigation. The purpose of this paper was to first investigate what people actually know about privacy from a Canadian perspective in order to enrich understanding of an understudied topic relevant to other investigations of OSN participation. Specifically, descriptive statistics about what individuals objectively know about privacy, what they think they know about privacy and the calibration between these two constructs will be presented herein. An exploration of differences in privacy knowledge based upon demographic characteristics will also be provided.

LITERATURE REVIEW

Privacy Literacy

Consumers clearly possess privacy concerns, however, it is important to recognize that these attitudinal observations are ‘only reliable and valid to the extent that consumers are knowledgeable and well-informed’ about which they are concerned (Nowak and Phelps, 1992, 30). In the context of privacy, this knowledge may be referred to as ‘privacy literacy’, or ‘the understanding that consumers have of the information landscape with which they interact and their responsibilities within that landscape (Langenderfer and Miyazaki, 2009, 383). Knowledge provides decision making control (Ajzen and Driver, 1991; Armitage and Conner, 1999; Awad and Krishnan, 2006; Chartrand, 2005) and affects individuals’ behaviour (Buchanan et al 2007) which could be thought to include information sharing in OSNs. As such, privacy literacy becomes an increasingly critical asset for consumers in an information landscape where the burden of privacy protection rests heavily in their hands (Langenderfer and Miyazaki, 2009; Nehf, 2007).

The concept of privacy literacy can be examined with constructs used within consumer knowledge literature. Essentially, consumer knowledge is comprised of subjective knowledge (SK) and objective knowledge (OK) (Alhabeeb, 2007; Brucks, 1985; Park and Lessig, 1981; Spreng, Divine and Page, 1990; Sujun, 1985). Subjective knowledge is what one thinks they know about something, or the confidence one has in their knowledge about a subject, whereas objective knowledge is the accuracy of one’s knowledge – what the individual actually knows about the subject - and can be objectively measured. While SK and OK should be related in some way and have been shown to be correlated to varying degrees (Ellen, 1994; Carlson et al 2009, 2007; Moorman et al 2004; Park Mothersbaugh and Feick, 1994), it has also been concluded that they are distinct constructs that impact consumer behavior differently (Brucks 1985; Carlson et al 2009; Park et al, 1994) and as such, should be treated separately.

Subjective Knowledge and Privacy

Notwithstanding the attention placed upon understanding the role of SK and OK in consumer behaviour (Carlson et al 2009), little academic attention has been paid to these measures in the context of privacy. The significance of the relationship between privacy knowledge and privacy concern was suggested when Malhotra et al (2004) concluded that privacy awareness was one dimension of internet users’ privacy concern. However, the ‘awareness’ measured by Malhotra et al was neither SK nor OK, but rather a measure of the perceived importance one places on corporate information handling transparency. Likewise, privacy ‘awareness’ was again used to represent the value consumers placed upon corporate information transparency by Awad and Krishnan (2006), and used to represent SK of information handling transparency by Facebook by Krasnova and Veltri (2010). Dinev and Hart (2006b) collected subjective self-assessments of social awareness as an indicator for privacy awareness, but SK about privacy was not measured explicitly. Notably, two studies did effectively measure privacy SK as it has been explained herein, although it was not referred to as such (Lawler, 2012; Xu et al 2008). Lawler (2012) noted poor privacy confidence (SK) among study participants whereas Xu et al (2008) did not report nor draw conclusions about SK levels.

Various public opinion polls do shed light on what consumers think they know about privacy. In most of this research, consumers are asked to indicate how much they know about website privacy policies, privacy settings, privacy regulations or even rate their self-efficacy in protecting their privacy. Together, these measures of individuals' knowledge beliefs provide an indication of the SK component of privacy literacy, but whether SK is high or low among OSN users remains unclear.

As one indication of high SK, it was reported that more Canadians (43%) than not (31%) felt confident they had enough information to know how new technologies might affect their personal privacy (Harris Decima, 2011). Further, eight in ten people in the UK expressed high levels of confidence as an Internet user, another two thirds felt confident about active content generation online (Ofcom, 2008) and only 21% believed they did not possess the requisite skills to protect their privacy online (Office of National Statistics, 2011). Conversely, indications of low SK were found in a U.S. study reporting a majority (60%) of respondents admitted their own lack of confidence in understanding who had access to their personal information via friends' networks (Business Wire 2010). Similarly, a majority of Canadians felt that explanations about what could be done with their personal information were vague (Harris Decima, 2011). Individuals in the U.K. also cited difficulties understanding and manipulating privacy settings in OSNs (Ofcom, 2008). And, of particular relevance, most Canadians felt their knowledge of personal privacy rights under the laws protecting personal information was either poor (36%) or neutral (33%) (Harris Decima, 2011).

Given the conflicting suggestions cited here, further exploration into subjective privacy knowledge was clearly warranted and thus gave rise to the first research question of this study:

RQ1: How much do OSN users think they know about privacy?

Objective Knowledge and Privacy

In 2002, Cavoukian and Hamilton remarked that 'many consumers are in the dark with respect to how some marketers use their data' (207). A decade later, there is a sense that people remain unaware that their behaviour on OSNs could be putting them at risk (Ofcom, 2008; Office of the Privacy Commissioner of Canada, 2011). Yet, as with subjective privacy knowledge, there are few empirical studies that assess what people know about their personal information privacy.

Early investigation into consumers' objective privacy knowledge tended to be focused within direct marketing contexts (Culnan, 1995; Foxman and Kilcoyne, 1993; Graeff and Harmon, 2002; Nowak and Phelps, 1992; Milne and Rohm, 2000) in which it was revealed that consumer OK of marketing practices pertaining to the acquisition and use of personal information and strategies available for opting out of contact were generally low. (Although, Dommeyer and Gross (2003) did find awareness of opt-out strategies to be high.) In online contexts, OK about website privacy policies (Acquisti and Grossklags, 2005; Hoofnagle and King, 2008; Turow et al 2005) and technical and legal privacy protections (Acquisti and Grossklags, 2005) was similarly revealed to be low among U.S. respondents. In fact, Hoofnagle et al (2010) concluded that the majority of Americans were 'privacy illiterate'. The only available explicit empirical indication of objective privacy knowledge among Canadians

revealed that just three in ten Canadians were aware of a federal institution that helps them with their privacy and protection of their personal information (Harris Decima, 2011).

Despite the shortage of precise measures of OK, there are other indications that consumer privacy OK is low. First, possibly because the length and complexity of many online privacy policies requires patience most consumers do not have (Krashinsky and El Akkad, 2010), people do not read them (BusinessWire, 2010; Lawler, Molluzzo and Doshi, 2012; Winkler, 2001) or fail to read them thoroughly (Office of National Statistics 2011). As a result, many people agree to the policy terms without genuinely knowing to what they have consented. To that end, Facebook users have regularly reported poor understanding of that site's privacy policies (Acquisti and Gross, 2006; Govani and Pashley, 2005; Gross and Acquisti, 2005) and erroneous assumptions (Ofcom, 2008) and clear misinterpretations (Turow, Hennessey and Bleakley, 2008) about the scope of privacy policies have been observed. Second, most OSN users neglect to make use of available privacy settings (Gjoka et al 2011; Govani and Pashley, 2005). And, even in instances where respondents claimed to understand the privacy policies of Facebook and make use of the privacy settings, researchers speculated that the weak criteria many use to accept 'friends' into their networks (which in turn allows information to be shared beyond one's assumed control) further signified poor privacy knowledge accuracy (OK) (Debatin et al 2009).

It appeared from these insights that privacy OK of OSN users should be low, however, it remained unclear what constituted 'low' or 'poor' awareness and specific observations about what OSN users accurately knew about privacy was notably absent from the literature. As the purpose of this study was exploratory, the second research question aimed to address some of these literature gaps and was expressed as follows:

RQ2: What do OSN users accurately know about privacy?

Calibration of Privacy Knowledge

Calibration between SK and OK is an important consideration in consumer knowledge and critical to decision making because it allows consumers to cope with situations of incomplete and errorful information (Alba and Hutchinson, 2000). It is meant to represent the agreement between objective and subjective knowledge assessments of the validity of information, but does not refer to the accuracy of information itself. When there is lack of agreement between OK and SK, a miscalibration is noted. If the SK is higher than the OK, a consumer is referred to as overconfident, while if SK is lower than OK, the consumer is classified as underconfident. Empirical contexts are rarely expected to achieve a high level of calibration, and some degree of over-confidence or under-confidence is more likely to occur.

Within the privacy literature there are suggestions of miscalibration among OSN users (Boyd, 2007; Debatin et al 2009; Livingstone 2008; Youn 2009) though few explicit investigations exist (excepting Acquisti & Grossklags 2005; Acquisti and Gross 2006). In all instances, researchers investigated samples of either college students or adolescents and surmised that individuals had a greater confidence in their privacy knowledge than their objective knowledge might reveal, thus suggesting that first, a miscalibration in privacy knowledge likely existed and second, the miscalibration was in the direction of overconfidence.

Thus, research questions consistent with these suggestions were:

RQ3a: Is there a miscalibration between what OSN users think they know (SK) and that they accurately know (OK)?

RQ3b: If a miscalibration among OSN users exists, is it in the direction of overconfidence or underconfidence?

Impact of Demographic Characteristics

Observations pertaining to consumer knowledge have typically been derived from samples of younger individuals and group differences rarely distinguished. While that may have been appropriate when early OSN users shared common demographic characteristics including age and socioeconomic status, the virtual ubiquity of OSN usage today suggests that demographic variables need also be examined with respect to privacy knowledge. Review of relevant literature suggests that age and gender are areas where variations might be expected to occur.

Age. In offline consumer research, age was found to be positively related to OK (Carlson et al, 2007). Online, privacy concerns have alternatively been found to vary with age (Zukowski and Brown, 2007) and show no variation (Hoofnagle, King, Li and Turow 2010). Younger individuals have a familiarity with the Internet and OSNs that might increase their confidence in their knowledge (SK) of privacy policies, privacy risks and/or privacy protection abilities (Youn 2009). But contradictory reports show younger people being more (Harris Decima, 2011) and less (Office of National Statistics, 2011) likely to read privacy policies than their older counterparts. Further, in one study, 18-24 year olds were shown to objectively know less about online privacy regulations than their older counterparts (Hoofnagle, King, Li and Turow, 2010) and in another shown to have lower SK (CBC, 2011).

Gender. Gender differences have also been found in offline privacy research (Dommeyer and Gross, 2003; Sheehan 1999). Women have been observed to possess higher levels of privacy concern (Dommeyer and Gross, 2003), read more privacy policies and have a better understanding of them (Harris Decima, 2011), and engage in use more privacy settings in OSNs (Madden, 2012) than their male counterparts. However, women are also less confident in their online self-efficacy compared with men (Lawler et al 2012).

Again, with few concrete consistent conclusions about variations in OK, SK or Calibration based upon demographic characteristics, formulation of well supported hypotheses was not possible. The lack of stable findings based upon age and gender clearly justified further exploration of these variables on privacy literacy which led to the third research question posed in this study: *RQ4: Are there differences in OSN users' privacy literacy based upon age and/or gender?*

METHODOLOGY

Data Collection

An online survey, conducted in Fall 2011, was administered using an initial convenience sample with a snowball technique. These non-probability sampling techniques were considered

appropriate because data is notably difficult to obtain in the context of OSNs (Debatin et al 2009), because self-selection mechanisms make random sampling difficult (Riffe, Lacy & Fico, 1998) and these techniques proved most cost effective in achieving a large sample. Due to the nature of the snowball technique, it was impossible to discern the response rate as the number of people contacted was unknown and was thus not reported.

An email invitation was sent to 719 undergraduate business students at a small Canadian university with two subsequent reminder emails. A total of 183 completed surveys were returned through this mechanism (71.5% completion rate) with a 35.6% initial response rate and a 25.5% effective response rate. A total of 475 email invitations were circulated to this researcher's Facebook and LinkedIn contact lists. Contacts were requested to share the survey link among friends and colleagues. One reminder email was circulated to these contacts and Facebook status updates were used as additional reminders. Through this mechanism, 539 completed questionnaires were collected (69.4% completion rate). To attract additional respondents, a group of online advertisements limited to Canadians between the ages of 18-64 were also created and placed on Google and two popular OSNs. Ninety-one completed surveys were returned (30.7% completion rate). Using the snowball technique, all survey respondents were requested to provide the email addresses of individuals they felt would be interested in completing the survey. Via this mechanism, 150 usable email addresses were acquired. Email invitations distributed to this group resulted in 28 completed surveys being returned (71.8% completion rate). A random prize draw for one iPad 2 was offered as incentive.

Sample

Three screening questions were used to ensure responses were only collected from adults between the ages of 18 and 64, who were permanent Canadian residents with online social network experience. After removing observations with missing information, a total sample size of 825 was achieved.

Consistent with OSN memberships, the sample was more heavily female (65.7%) and somewhat young (18 – 24 yrs = 32.5%; 25 – 34 yrs = 21.3%; 35 – 44 yrs = 25.7%; 45 – 54 yrs. = 11.6%; 55 – 64 years = 8.8%). A vast majority (91.2%) of respondents used Facebook as their favoured OSN and were heavy OSN users (85.5%), logging into their accounts at least once a day, with most (70.1%) claiming to visit their favoured OSN more than once per day. The majority of respondents were Caucasian (90.8%) whose first language was English (93.0%) and the majority of respondents lived in Nova Scotia (57%). A small proportion of respondents (1.7%) did not complete high school, 26% reported high school as the highest level of education achieved, 17.3% completed college, 35.3% held Bachelor's degrees, 10.9% held Master's degrees, 2.8% had doctoral degrees, and 5.4% declined to provide educational attainment. Total household income under \$20,000 was reported by 11.5% of respondents, 11.5% reported \$20,000 - \$39,999, 14.7% were in the \$40,000 - \$59,999 range, 13.1% reported \$60,000 - \$79,999, 11.6% were in the range of \$80,000 - \$99,000, 23.3% had household incomes above \$100,000 and 14.3% declined to provide this information. Most respondents connected to the Internet via more than one device (81.7%), with approximately one quarter (26.4%) of the sample using four or more devices.

Measures

Subjective knowledge (SK). The SK scale consisted of three items modified from Carlson et al (2007) to reflect the context of privacy. On a 7-point Likert scale, respondents rated their perceived subjective privacy knowledge to three questions: ‘Compared with most people you know, how would you rate your knowledge about how organizations collect and manage your personal information?’ (1=One of the least knowledgeable to 7 = One of the most knowledgeable); ‘In general, I am quite knowledgeable about how organizations collect and manage my personal information.’ (1 = Strongly Disagree to 7 = Strongly Agree); and ‘I am quite knowledgeable about how the information I provide in my online social network is collected and managed by companies.’ (1 = Strongly Disagree to 7 = Strongly Agree). An SK score was computed as the average of the three subjective knowledge variables (min = 1, max = 7). To prevent bias, SK items were administered before OK items. The scale was determined to be internally consistent as Chronbach’s α ($\alpha = 0.855$) exceeded the acceptable minimum of 0.7 (Nunnally, 1978).

Objective knowledge (OK). The OK measure was comprised of 10 True/False questions constructed from a privacy quiz posted on the website of the Office of the Privacy Commissioner (OPC) of Canada. Eleven unique questions were extracted from the OPC quiz, two were deleted and a new question was created from the answer feedback offered on the OPC original quiz. Questions were subsequently modified into a consistent true/false/don’t know answer format. The quiz was determined to be internally consistent as Chronbach’s α ($\alpha = 0.789$) exceeded the acceptable minimum of 0.7 (Nunnally, 1978). Correct answers on the privacy quiz were summed in one test score variable to provide an OK measure ranging from 0-10.

Calibration. Calibration scores were not directly observed, but instead calculated as the difference between SK and OK. As different scales were employed for the base measures, conversion of OK and SK values were required to enable comparison. The lowest SK score possible, reflecting a perfect lack of subjective knowledge, was 1 whereas the lowest OK score was 0. The calibration measure was thus calculated by first recoding SK scores to a range from 0-6, OK scores were subsequently converted to a scale ranging from 0 to 6 (test score/10*6) and the converted OK was then subtracted from the converted SK.

RESULTS

Subjective Knowledge

To answer RQ1, a review of SK descriptive statistics revealed that respondents perceived their knowledge about personal information privacy to be neutral ($M = 3.99$, $SD = 1.28$). Examination of frequency distributions revealed that the majority of respondents had either low SK (41% had SK scores between 1 and 3) or neutral SK (33% had SK scores = 4). Only 26% rated their knowledge at the higher end of the scale (scores of 5, 6 or 7). These results revealed that, for the sample, SK was not high.

Objective Knowledge

Descriptive statistics relative to RQ2 were also examined. The average score on the OK test was $M = 4.94$ ($SD = 2.35$). Reasoning that test grades of 50% or more are often considered a passing grade in academic environments, the same criterion was applied to respondents' OK scores. As such, a majority of respondents (62.2%) passed the OK test. Of the 37.8% of respondents who failed the quiz, 6.7% ($N=55$) achieved scores of 0, indicating a complete lack of accurate OK. Four percent of respondents ($N=33$) achieved a score of 1, 5% ($N=41$) scored 2, 9.1% ($N=75$) scored 3, and 13.1% ($N=108$) answered four of ten questions correctly. At the opposite end of the spectrum, only 0.6% ($N=5$) achieved a score of 10, indicating perfectly accurate privacy OK. A small percentage (3.3%, $N=28$) scored 9, 9.8% ($N=81$) scored 8, 14.3% scored 7 ($N=115$), and 16.2% ($N=134$) scored 6. The largest percentage of the sample (18.1%) answered exactly half of the questions correctly.

Upon inspection of individual quiz questions, it was revealed that there were certain items that many respondents were aware about, but others that demonstrated a very low level of objective knowledge among the collective sample. As shown in Table 1, most respondents knew what constituted a privacy breach (74.8%), were aware that one's Social Insurance Number cannot be collected by all organizations with which one interacts (71.9%) and recognised that law enforcement officials have the ability to access one's personal information held with organisations without consent (63.5%). Slightly more than half of respondents were aware that they may complain to the Office of the Privacy Commissioner when denied access to their personal information (57.5%) and were familiar with the disclosure procedure associated with recorded telephone calls (56.4%). However, the majority of respondents answered five questions incorrectly. Generally speaking, respondents were unfamiliar with the general areas of personal information coverage offered by PIPEDA (Q4), the protections associated with video surveillance (Q6) and photocopying personally identifiable documentation (Q3), and the particulars of informed consent (Q1 and Q2).

Other notable results from the OK quiz were the instances in which respondents selected 'Don't Know' as an answer. Providing an option to admit not knowing an answer should have prevented the likelihood of respondent guessing. As such, correct answers should have more closely reflected genuine accuracy of OK while incorrect answers and admissions of ignorance combined should have reflected authentic lack of knowledge. From these results, a majority of respondents (57.2%) were observed to admit not knowing about video surveillance protections under PIPEDA (Q6). Other questions for which the largest proportions of the sample not knowing answers were observed included: Q4 (47.8%) pertaining to the scope of PIPEDA, Q3 (37.7%) pertaining to photocopying personally identifiable documentation, and Q8 (34.9%) which asked about the proper privacy complaint channel. Further, sizeable proportions of respondents demonstrated clear inaccuracy in responses to Q1 (47.7% incorrect), Q2 (41.2% incorrect), Q3 (27.6% incorrect) and Q10 (26.2% incorrect).

Table 1. Objective Knowledge Scores by Question

Correct Response (%N)	'Don't Know' (%N)	Question (Correct Answer)
25.9%	26.4%	1. To get your permission to capture your personal information, an organization only needs to tell you the purposes for which the information will be used. (False)
33.8%	25.0%	2. Organizations can always refuse to supply a product or service if you won't give permission to the collection, use or disclosure of your personal information. (False)
34.7%	37.7%	3. If an organization is required by law to record an identity document number, like a driver's license number, the document should always be photocopied by the organization. (False)
43.6%	47.8%	4. Canada's Personal Information Protection and Electronics Documents Act (PIPEDA) covers the collection, use or disclosure of personal information by organizations in the course of commercial activity. (True)
71.9%	16.4%	5. All Canadian organizations can collect your Social Insurance Number so they can identify you. (False)
32.0%	57.2%	6. An organization, which is subject to PIPEDA, uses overt video surveillance for justified security and crime prevention reasons but does not record any images. Since no images are recorded, compliance with PIPEDA is not an issue. (False)
74.8%	19.3%	7. A privacy breach has occurred when there is unauthorized access to, or collection, use, or disclosure of personal information. (True)
57.5%	34.9%	8. An individual can make a complaint to the Office of the Privacy Commissioner of Canada against an organization if an organization denies them access to their personal information. (True)
63.5%	24.2%	9. Under certain circumstances, an organization can disclose their customer's personal information to law enforcement officials without their customer's consent. (True)
56.4%	17.5%	10. When recording customer telephone calls, organizations must inform the individual that the call may be recorded but not the purposes for which the information will be used. (False)

Calibration

Calibration of privacy knowledge (RQ3a and RQ3b) was also assessed via examination of descriptive statistics. Recall that a Calibration above zero reflected one's overconfidence in privacy literacy and measures below zero reflected underconfidence in the same. Descriptive statistics showed Calibration ranged from a minimum of -4.2 to a maximum of 5.3, with 96% (N= 795) miscalibrating privacy knowledge, however the sample mean ($M = 0.024$, $SD = 1.73$) suggested that privacy literacy was essentially calibrated for the entire sample. Frequency

distributions of Calibration revealed that an approximately equal proportion of respondents had calibration scores below zero (48.8%, $N = 403$) and above zero (47.5%, $N = 392$), while 3.6% ($N=30$) had perfectly calibrated privacy literacy. These results suggest that miscalibration of privacy knowledge clearly occurred, but was neither consistently optimistic nor pessimistic.

Differences Based upon Demographic Characteristics

To explore whether group differences in privacy literacy existed based upon demographic characteristics (RQ4), a two-way between subjects multivariate analysis of variance (MANOVA) was conducted on three dependent variables: objective privacy knowledge (OK), subjective privacy knowledge (SK) and calibration using SPSS Version 19. The independent variables were respondent age and gender.

No statistical assumption violations were noted in the present data. Because multivariate normality is difficult to assess, normality of the dependent variables was used to indicate multivariate normality (Field 2005; Hair et al 2010) and was confirmed via visual inspection of Normal Q-Q plots. Sufficient correlation between dependent variables was established via a significant Bartlett's test of sphericity (approximate chi-square = 11124.427, $p < 0.000$) and Pearson correlations which revealed a statistically significant negative correlation between OK and Calibration ($r(823) = -.685$, $p < .001$), and statistically significant positive correlations between SK and Calibration ($r(823) = .597$, $p < .001$) and OK and SK ($r(823) = .176$, $p < .001$). As the minimum cell size in the data was $n=23$, the data exceeded the minimum cell size threshold of 20 suggested by Hair et al (2010). A statistically nonsignificant Box's M test ($F(54, 138380) = 69.94$, $p = 0.09$) indicated equality of variance-covariance matrices of the dependent variables across levels of independent variables.

Given unequal group sizes, Pillai's Trace test statistic is notably more robust (Hair et al 2010; Field 2005; Tabachnick & Fidell 2007) and was therefore used to assess multivariate main effects in the present study. Privacy literacy was significantly affected by the main effects of gender (Pillai's trace = 0.023, $F(3, 813) = 6.327$, $p < .001$, partial $\eta^2 = 0.023$) and age (Pillai's trace = 0.05, $F(12, 2445) = 3.448$, $p < .001$, partial $\eta^2 = 0.017$). The multivariate interaction effect of Gender x Age was not statistically significant, $F < 1.0$.

Univariate ANOVAs, commonly recommended follow-up tests to MANOVA (Hair et al 2010; Meyers 2006), were conducted on each dependent measure separately to determine the origin of these main effects. Levene's test confirmed homogeneity of variance for both the subjective knowledge ($F(9,815) = 1.814$, $p < 0.062$) and calibration measures ($F(9,815) = 1.836$, $p < 0.058$), however, the result for the objective knowledge measure was significant ($F(9,815) = 1.938$, $p < 0.044$) indicating heterogeneity of variance. While this assumption violation for the OK measure need be noted, Hair et al (2010) suggest that with sufficient sample sizes and an observed violation on only one dependent variable, as were both observed in this data, analysis can proceed. However, given that unequal group sizes coupled with violations of the homogeneity assumption can have serious consequences and the Welch statistic is capable of handling such cases while retaining power (Field 2005), the Welch statistic was analyzed for univariate ANOVAS. A Bonferroni correction of $\alpha = 0.016$ ($\alpha = 0.05/3$) was used to assess significance (Hair et al 2010; Meyers 2006). As no interaction effects were observed between independent variables in the multivariate main effects, univariate results are not reported for Gender x Age.

From Table 2, we can see that gender significantly affected SK ($F(1,511) = 22.668, p < 0.001, \eta^2 = 0.029$) and calibration ($F(1,507) = 13.817, p < 0.001, \eta^2 = 0.018$) but not objective knowledge ($F < 1.0$). An inspection of the gender group means showed that male respondents had a significantly higher subjective knowledge ($M = 4.29, SD = 1.37$) than female respondents ($M = 3.83, SE = 1.20$) and male respondents had a significantly more optimistic calibration than women ($M = 0.345, SE = 1.87$ vs. $M = -0.144, SE = 1.63$). Age significantly affected all privacy literacy measures – objective knowledge ($F(4,303) = 3.464, p = 0.009, \eta^2 = .014$), subjective knowledge ($F(4, 291) = 5.558, p < 0.000, \eta^2 = 0.026$) and calibration ($F(4, 297) = 10.229, p < 0.000, \eta^2 = 0.037$). These results should be interpreted with caution as η^2 explained only a small proportion of the variance in all instances (Ferguson 2009).

Table 2. Multivariate and Univariate Analyses of Variance for Privacy Literacy

	Multivariate	Univariate		
	F ^a	OK ^b	SK ^b	CALIBRATION ^b
Gender	6.327***	0.082	22.668***	13.817***
Age	3.448***	3.464*	5.558***	10.229***
Gender x Age	0.842			

Note: Multivariate F-ratios were generated from Pillai's trace criterion; Univariate F ratios are Welch statistics.

- Multivariate df = 3, 813 (gender), 12, 2445 (age)
 - Univariate df = 1, 569 (gender OK), 1,511 (gender SK), 1, 507 (gender calibration) 4, 303 (age OK), 4, 291 (age SK), 4, 297 (age calibration)
- ** $p < 0.01$, *** $p < 0.001$

Given unequal group sizes in the sample, heterogeneity of variance noted in the OK measure and the desire to retain power in the analysis, the Games Howell statistic and the more conservative Tamhane's T2 are recommended post hoc tests (Field 2005; Meyers 2006). As such, both statistics were analyzed for age against the dependent variables (see Table 3). Post hoc tests suggested that the oldest respondents had significantly lower privacy SK scores ($M = 3.42, SD = 1.240$) than each of the youngest three age groups (18-24 years $M = 4.08, SD = 1.295$; 25 – 34 years $M = 4.07, SE = 1.290$; 35-44 years $M = 4.10, SE = 1.223$). Further, the oldest age group had significantly different privacy literacy calibration scores ($M = -0.838, SE = 1.335$) than the youngest three age groups (18-24 years $M = 0.260, SE = 1.836$; 25 – 34 years $M = 0.265, SE = 1.657$; 35-44 years $M = -0.027, SE = 1.595$) and the miscalibration for the oldest group was in the direction of under-confidence. No statistically significant differences were found for OK based upon age.

DISCUSSION

This study examined online social network users' subjective and objective privacy knowledge, calibration of privacy knowledge and the differences observed in privacy literacy based upon age and gender groups within a sample of adult Canadian online social network users.

Table 3. Mean Scores and Standard Deviations for OK, SK and Calibration by Age

Age	OK		SK		CALIBRATION		
	N	Mean	SD	Mean	SD	Mean	SD
18-24	268	4.71 ^b	2.426	4.08 ^b	1.295	0.260 ^b	1.836
25-34	176	4.68 ^b	2.426	4.07 ^b	1.290	0.265 ^b	1.657
35-44	212	5.21	2.321	4.10 ^b	1.223	-	1.595
						0.027 ^b	
45-54	96	5.10	2.404	3.75	1.251	-0.309	1.860
55-64	73	5.44 ^a	1.658	3.42 ^a	1.240	-0.838 ^a	1.335
TOTAL	825	4.94	2.349	3.99	1.280	0.024	1.729

Note: Means with different superscripted letters were significantly different at the 0.05 level by means of Games-Howell and Tamhane's T2 post hoc tests.

Descriptive statistics revealed that while SK for the sample was approximately neutral, most respondents were not confident in their privacy knowledge, although there was a reasonable proportion of the sample that considered their privacy knowledge to be better than average. Analysis of group differences for SK revealed that those 55-64 years of age thought they knew significantly less than each of the youngest three age groups. It is possible the age differences observed in SK could be a result of experience with OSNs and other electronic communication. Younger people, as early adopters of OSNs, have had more experience in these environments and potentially more exposure to the extant privacy policies and practices, thus may feel more confident in what they know about privacy. However, naivety with requests for sensitive information in other environments (i.e. medical or financial) or with risk assessments of information requests could conceivably be contributing to higher confidence in privacy knowledge among young adults. Conversely, it is possible that with age comes exposure to a greater number and variety of information requests in a range of contexts that could be reinforcing lower levels of perceived confidence among the oldest group of respondents. Thus, one avenue of future research includes an investigation into the effects of experience on privacy literacy.

This study also revealed that men thought they knew significantly more about privacy than women. As women were noted to be more likely to read privacy policies and implement privacy protections, intuitively, they should feel more confident in their privacy knowledge. However, *reading* privacy policies is not the same as *understanding* privacy policies. Exposure to lengthy, vague privacy policies may create confusion in the consumer's mind, thus reducing confidence in one's knowledge or reinforcing an already low SK. Similarly, utilizing privacy enhancing technologies is not necessarily the same as self-efficacy - the belief in one's ability to use them properly. It is possible to conceive that low privacy SK might even encourage preferences for privacy enhancing technologies because if one does not believe they know much about privacy they might be more apt to employ available means of protecting their personal information.

Analysis of OK showed that the majority of respondents had sufficient scores on the privacy quiz to have been considered to pass the test. However, this was based upon achievement of a score of 50% and that may be a low standard especially given that individual OK test questions revealed a number of instances where objective privacy knowledge was weak.

In Canada, all businesses that collect, use and disseminate personal information are governed by the *Personal Information Protection and Electronic Documents Act* (PIPEDA). PIPEDA should be familiar to Canadians as it has been in place since 2000, applies to all personal information exchange interactions with business organizations (not just OSNs), and there is some responsibility on the part of the consumer to recognize and report violations to the Office of the Privacy Commissioner of Canada (OPC). Although most businesses employ their own privacy policies, they are ultimately required to comply with PIPEDA. Presumably, then, an individual with a general knowledge of PIPEDA could be considered to be privacy literate. With this in mind, the finding that 37.8% of respondents failed the quiz of PIPEDA derived questions and another 18% knew 'just enough' (i.e. 50%) is cause for concern.

Specifically, respondents were unfamiliar with the general areas of personal information coverage offered by PIPEDA, the protections associated with video surveillance and photocopying personally identifiable documentation, and the particulars of informed consent. Poor awareness in these areas suggests the possibility that individuals could be unknowingly making themselves susceptible to privacy invasions and as a result, violations may be going unreported. To illustrate, consider that a business requests to make a photocopy of a consumer's driver's license but does not require all of the information that appears on the licence. As this request violates PIPEDA, the consumer does not need to provide the licence for copying. If the individual was among the 65% of respondents that did not know that the information was erroneously requested by the institution and/or among the 66% of respondents who erroneously believed that a business could always refuse service if requests for personal information were denied, the individual will provide the information. Further, as this individual would not be aware that a violation occurred, they would not know to report the incident to the Office of the Privacy Commissioner.

Inspection of Calibration results revealed that most people did not know what they thought they knew about privacy as evidenced by the high incidence of privacy knowledge miscalibration (96% of N=825). Interestingly, the miscalibration observed in this study appeared equally as underconfidence and overconfidence for the entire sample. Those 55-64 years of age were found to have significantly different knowledge calibration than each of the youngest three age groups. The oldest group was the most underconfident, the youngest two age segments (18-34 years inclusive) had the greatest overconfidence and while the 35 – 44 year age group was slightly underconfident, it was significantly less so than the oldest group. Again, these findings may be due to experience, thus future investigations should attempt to account for this effect. Similarly, the gender differences observed in Calibration mirror those reported for subjective knowledge and can be explained by subjective knowledge variations as no gender differences were observed with objective knowledge. Men were found to be overconfident, whereas women were found to be underconfident and the differences between the groups was significant.

The poor privacy literacy observed in this study coupled with potential negative consequences signifies a need for improved privacy knowledge. To ensure individuals are aware of their privacy rights, additional educational initiatives should be undertaken by government.

However, as the poor OK test performance recorded in this study was not isolated to any one demographic segment, any educational initiatives undertaken by the OPC should be universally applied. Knowing that people generally do not possess high levels of privacy literacy with respect to omnibus privacy legislation (PIPEDA) might also signify an interest for businesses to examine the privacy literacy of proprietary privacy policies and consider their responsibilities in light of results.

LIMITATIONS

The findings of this study should be interpreted with caution due to important limitations. First, the non-probability sampling techniques employed prevent generalization of results to the population of OSN users and the snowball technique introduced further bias by collecting responses from individuals that were likely to share similar traits (Johnson and Sabin, 2010). However, the sample did appear to represent OSN users reasonably well, as these sites are dominated by women (Ipsos Reid 2009; Dewing, 2010) and OSN users tend to be younger, more affluent, and more highly educated than non-users (Heartland Monitor Poll, 2012). Second, the calculation employed to determine Calibration should be improved in future investigations. While the measure used herein permitted initial exploration of the gap between OK and SK, there is room for refinement. Third, although the data met the assumption of MANOVA requiring correlation of dependent variables, OK and SK were correlated only weakly ($r = .176$, $R^2 = .031$). While there existed a theoretical basis for the correlation of OK with SK and consumer knowledge literature indicated that correlations between the measures had ranged from very weak to strong (Carlson et al 2009), the weak correlation observed in the present study might have influenced the reliability of MANOVA results. Finally, the effect size of all MANOVA and ANOVA results were small, suggesting the need for further caution in interpreting results.

CONCLUSION

This study provided insight into the privacy knowledge of adult Canadian online social network users – an area of investigation previously not well examined. Results suggest that most people did not know what they thought they knew about privacy, and that both overconfidence and underconfidence were equally observed among all respondents. Demographic differences in privacy knowledge were also observed. Of particular note, men were more confident in their privacy knowledge compared with women and tended to think they knew more about privacy than objective assessments confirmed. Also, the oldest age group was significantly less confident than the youngest groups of respondents. While the oldest respondents knew more about privacy than they gave themselves credit for knowing, the youngest groups of OSN users exhibited overconfident knowledge assessments. These results suggest that experience might be contributing to the age differences observed, thus future research should assess the effects of experience on privacy literacy.

While the majority of respondents demonstrated adequate objective knowledge of privacy on a collective level, it was subsequently shown that objective privacy knowledge was actually not high. In many instances inaccurate answers and admissions of ignorance highlighted areas

where consumers' lack of knowledge makes them potentially susceptible to privacy violations. Therefore, increased consumer awareness is required and attempts to improve objective knowledge among OSN users should be made. However, because objective knowledge results did not differ among age or gender groups, efforts to develop privacy knowledge need to be universally applied.

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USING WEB 2.0 TECHNOLOGIES TO PROMOTE COLLABORATION IN ONLINE COURSES

In the current business climate, it is useful to cultivate in students and future leaders the significance and importance of collaboration in team projects and to explore alternative methods to utilize team resources. This paper presents an experience on using web 2.0 technologies as collaboration tools for an online MIS course. The paper demonstrates the use of wiki as a medium to capture students' engagement through working collaboratively in a given task. It is argued that student must see collaboration work in a task that is interesting and meaningful to them in order to truly understand what collaboration means. Students were asked to collaborate on designing and developing a wiki to complete an end-of-semester group assignment. After completing the assignment, students expressed more engagement feelings in the activity and showed more elaborate knowledge on the given topic. A group evaluation rubric is presented at the end of the experiment to assess group collaboration elements. This rubric can be adapted and modified to include other components to improve the assessment process for future group collaborative work.

INTRODUCTION

Web 2.0 technologies such as wikis, blogs, RSS feeds, and podcasts, are commonly known as 'social software' because they socially connect users, allowing them to work collaboratively to develop web-content that is accessible to the public (Alexander, 2006). Distinguished with its collaborative and sharing platform, Web 2.0 tools have the potential to add pedagogical value to the teaching and learning process including complementing, enhancing, and adding new collaborative dimensions to the classroom (Parker and Chao, 2007). Wiki is one of the major components of web 2.0 architecture which is associated with web tools and applications (Adie, 2006).

One of the advantages of the Wiki as an educational medium is that it actively involves learners in their own developing and constructing of knowledge through interlinked web pages (Boulos et al., 2006). Wiki can enhance the learning process on both individual and groups bases. Individual learners can use wikis to write, edit, monitor, and reflect on their own thoughts or on others' insights (Cole, 2009), while groups of learners can utilize wikis to collaborate on designing, writing, editing, and managing their thoughts on several topics (Bower et al., 2006). There are many reasons of using wikis as an effective medium in enhancing collaborative work. For example, wikis enable users to create incremental knowledge (Cole, 2009), and provide open access and unrestricted collaboration in contributing and editing content (Hsu, 2007).

Additionally wikis promote process-oriented as opposed to product-oriented writing (Lamb, 2004), and, unlike blog, wikis do not impose pre-defined formatting structure which give users the freedom to structure their knowledge as they desire (Bryant, 2006). In addition to its easy to use and intuitive interface, wikis enable users to trace their contribution history while supporting the negotiation of editing and adding more content (Bower et al., 2006).

SETTINGS

In Dalhousie University, the advanced Information Systems and Technology course is taught primarily to second year students who are about to graduate from the Master of Information Management (MIM) program. The course is conducted online and delivered once a week via Wimba. Wimba is a live virtual classroom application that allows educators to connect with their students through interactive technologies that help compensate for the face-to-face classroom environment (Wimba, 2012). The course has an asynchronous lecture component and a practical component that requires students to post their reflections on an information management topic. The lecture component is a broad survey of the magnitude of the problem of information overload and the use of information technology tools to solve such problem. The course is conducted in module format where each two weeks students are exposed to several topics discussed and integrated using an activity and an assignment that ties the theory in the accompanying text with hands-on-experience applications. Since the course is completely delivered online using Blackboard Learning Systems (BLS) and Wimba, students are required to have daily access to a high-end computer with internet access. Further, participation in online activities and assignments is mandatory and is conducted throughout the semester using the online discussion board and assignment submission link.

Collaboration

For several years, the course included an objective for students to understand the concept of information management through working on a case study in the form of an end-of- semester project. Students were asked to choose an organization to build a small database for to help improve the flow of information within their departments. Such assignments required students to have a decent technical background on building databases. This database objective was not fulfilling for mid-career students who work mainly as managers and who have other staffs who manage the technical database issues with a more robust technical background. In the past two years, that objective was removed and we debated on using new technology that can help harness group collective intelligence and be a good fit for full time working students. Given that most students had newly adopted web 2.0 collaborative packages at their workplaces, working closely with web 2.0 tools such as wikis, blogs and mashup was thought to be a worthwhile assignment for students to learn about these tools and apply them at their work environment. In summer 2011, the decision was made to include collaboration as an essential objective of the course including three sub-components:

- Understand the meaning of collaboration and why it is required in an organizational context

- Learn about social computing and its potential benefits in nurturing collaboration within the organization environment
- Be able to use modern web 2.0 technology to collaborate on a given task

Defining Collaboration

Generally, collaboration can be defined as: interaction between multiple parties; all parties are doing work; and with a shared purpose or goal, all parties will get something in return for their efforts. With regards to collaborative learning, it is defined as rigorously and wilfully co-labour with one another to compose a jointly accredited work in the field of knowledge together (Kane et al., 2005). For this course, collaboration refers to getting students to work collaboratively on planning, designing, and building a wiki site to complete and end-of-semester group report on a given topic. Further, students are required to work together in a class presentation to highlight the steps taken, the challenges faced, and the lessons learned from completing the report.

Why Choosing Collaboration as an Online Course Objective?

Collaboration is the key to success in virtually every situation. Many workplaces function with multiple departments that work in harmony towards achieving a common objective. Since it is rare to find a single individual in charge of everything, it is practical for people to build upon their strengths and focus on developing their skill set by benefiting from others' through group work. Enabling individuals to focus on specific elements of the creative process, collaboration can bring different individual insights into a project. In virtually all collaborative projects, the assorted baskets of ideas and perspectives can lead individuals to induce innovative and fresh solutions to difficult problems that are hard to tackle individually. Furthermore, collaboration allows individuals to access others' knowledge bases that would otherwise be inaccessible by taking advantage of tools and skill sets that are unique to each individual. Most importantly, collaboration can help create new connections, and build expert views which can substantially improve the quality of the final product (Kankack, 2011).

In a classroom environment, utilizing collaboration can shift the learning process from the traditional teacher-centered educational philosophy to a more learner centered approach that gives the learner a dynamic and active role in the learning process. Traditionally, students have spent the majority of their educational hours in a mere school listening to faculty, whereby faculty take on the role of information disseminators and students take on the role of listeners and memorizers. In a collaborative situation, learners are more active; however, as valuable as it is to create a more dynamic classroom interaction, the significance of collaborative teaching and learning goes beyond that. By using collaboration, the main focus of the course is on the learners' motives to learn and in giving them a practical learning role. In other words, students are encouraged to construct their own knowledge by benefiting from each others through collaboration. Many IS literature have discussed how important student-centered learning is in IS education (e.g. Schiller, 2009, Huang, 2007), and specifically in the introductory and the more advanced IS classes (Bakke et al., 2007; Guthrie, 2010).

Another reason of choosing collaboration as a main objective, especially in business classes, is that the main business school accreditation association, AACSB, requires faculty member to motivate students to collaborate on given tasks to help develop students' collaborative skills (AACSB, 2009). As a reflection of this, the Faculty of Management at Dalhousie University has a core learning objective that students can work cooperatively in teams. Accordingly, it was suggested that the Information Systems and Technology online course be used to teach team collaboration using modern technology tools especially with this particular course cohort who are mostly in charge of motivating their employees to collaborate on their organization tasks.

Technology

There are many wiki tools available free online but for the purpose of this course we used Wikia. Wikia operates a large network of collaboratively published video game, entertainment, and lifestyle content on the Web through a trusted and customizable platform designed to help people share what they know and love. The Wikia platform is free and it features easy to use templates allowing novices to launch their own wiki sites in minutes.

Mechanics

Prior to the wiki assignment, students completed reading two chapters about the use of Web 2.0 tools to collaborate at the work environment. Students had the chance to discuss the potential benefits of using tools such as wiki, blogs, mashups, and RSS within their daily work tasks. Additionally, students were asked to express their current knowledge and skills regarding these tools and which specific tools they would like to have in their future online courses. A week later, students were introduced to the wiki assignment and the designated topics that needed to be written about as the main subject of the wiki. Students worked in groups of 4-6 and were required to create a wiki on a given topic. For example, one group was given the topic of Gov. 2.0 (in this article enterprise 2.0) and they were asked to post their reflections on the following issues of applying web 2.0 tools in Canadian government:

- What are the business drivers for Enterprise 2.0 in the Federal Government?
- Who drives the tools?
- What obstacles have to be overcome before Enterprise 2.0 technologies can be adopted?
- How can user adoption be encouraged using Enterprise 2.0 tools?
- Challenges in applying Enterprise 2.0 tools in the Canadian government

The assignment has three requirements:

- Each student was required to participate in the wiki setup online and organize the post in the form of a Wikipedia-like wiki.
- Each student was required to post new material covering at least two of the subtopics
- Each student was required to revise and edit someone else's material

Students were given directions on the kind of references they might use. Examples of the resources that can be used are course material chapters, online dictionaries, white papers, links to

pictures, and other's students' links. In order to use Wikia, students were required to register and create a user name and a password for their groups. After logging in, students started creating the wiki by choosing a template and then adding page by page. Figure 1 shows an example of the wikis that were made by one group of students. The wiki name is Crowd Wisdom and it is composed of eight different pages covering the topic of government 2.0. As can be seen from figure 1, each page can be easily edited by any student in the group by clicking on the *Edit* link. Besides, students can search the content of the whole wiki through a Wikipedia-like search box located on the right side each wiki page. Similar to regular web-pages with clear navigation buttons, Wikia pages have navigational links on the forms of categories located at the bottom of the page. Wiki users have the option to filter the wiki pages based on popular pages, videos, the name of the topic, and through community based filtering.



Figure 1, Crowd Wisdom Wiki

In each page through the wiki, students can modify the content by adding to the current page, or by editing previously written pages. Wikia also allows users to post figures or shapes, upload their own photo, or upload their own video file to further illustrate their written pages. For this particular exercise, students had the options to post their own photos along with their assigned wiki page.

Learning Outcome

In general, students' response to the wiki exercise was quite favourable. To get students feedback, students were asked individually to state their opinion on the wiki exercise through an anecdotally informal manner via the online discussion board that was assigned for the course. Getting each student to clearly state his/her views was not a difficult task given that the course had only 12 students. Students reported that working in groups through a wiki project is an interesting task that stimulated their interest in the topic and increased their time of engagement

on the project topic. Although the exercise normally takes about 5-10 hours of diligent group work to finish when done as traditional take-home project, student executed the whole exercise in two to three hours time frame. This indicates that groups can score higher achievement when working collaboratively in a topic given that it is meaningful and engaging to them. Student also reported more groups' dynamics and interaction among group members when collaborating on something novel in a non-traditional classroom setting. Some students stated that they learned things that they did not expect to learn if it were not for the wiki group project. Others stated that the wiki exercise added more depth to their knowledge on the government 2.0 topic as the result of the group knowledge exchange that took place during the exercise.

Students also reported that the wiki exercise exposed them to indirect feedback from the members of the group while the feedback was hard to reach if it were not for the wiki tool. Mostly, this feedback focused on the given task, processes or self regulation. As reported by students and observed by the instructor, the given feedback was in different formats including cues, corrective feedback, motivational influence and reinforcement of specific behaviour. Finally, students explicitly stated that the wiki exercise was effective in getting them to work on their own pages towards a completed project. The more often students revised and updated their work based on the feedback received from the group members, the better their final project was.

With regards to students' evaluations to group dynamics, students explicitly stated that the wiki exercise helped them to work together and taught them to accept *the other opinion* and that opinion broaden their insight on the given topic. Further, some students stated that the feedback from group members helped them quiz their knowledge about given topics. Others stated that they are happy to do the group exercise rather than read from the text material. Additionally, some students indicated that each team member helped in adding to the whole picture and hence increased their knowledge regarding the topic. Finally, some students found themselves more focused when working with the group as opposed to working in a single mode. This means that the wiki exercise engaged students in a competition mode to publish the best pages on the topic which eventually boost the quality of the final product. Students reported an overall satisfaction with the learning outcome resulted in working in groups when asked the question: *What did you learn that you didn't expect to learn from this assignment?* For example, some students discovered some hidden aspect of their personality that they have never explored before such as being leaders, resolving conflicts, acting in different roles, and being good listeners. Further, some students felt that they need improvements on some team working skills such as the need to accept the opinions of others and the need to sacrifice their personal views for a more balance group insight.

LIMITATIONS

Despite the pedagogical value of the wiki exercise, students experienced some obstacles while working on the exercise. The major issue was the frequent advertisements that pop up automatically from the Wikia site and that distracted the look and the view of wiki. Further, although most students expressed their positive feelings towards the wiki exercise, few students tended to focus on their peers' work more than on their own work within the same group. This may be justified as group members knew each other and they got into a competition mode that went a little too far. Further, few students reported some difficulties in understanding the real

value of wiki in unifying group work into one integrated project. For example, some students started to post their input topic as if they are writing a blog without expecting that someone else might modify and add to their article.

RECOMMENDATIONS

Although the wiki exercise was just an experiment, it showed its pedagogical value in getting students more engaged and motivated to add content especially for online classes. For future use of such exercise, I recommend exposing students first to some examples of wikis to get an idea of what a wiki can add to group work and what makes it distinguished from other traditional teaching tools. This could prepare students to accept insights and editings from their classmates and hence be prepared to produce high quality product.

Finally, I recommend using another wiki platform with no advertisement that may contribute in distracting students from writing the wiki. Some suggestions may include the use of the wiki tool in the Blackboard Learn (Bblearn) which was added as a new component in the new version of Bblearn. The Bblearn wiki component can be tailored for online course. Another collaborative platform was suggested by Hazari et al. (2009) is Microsoft SharePoint featuring many collaborative technologies embedded in the platform including wikis, blog, and collaboration tool that makes students comfortable with working on a team. SharePoint is particularly helpful to instructors when it comes to grading students' participation. For example, SharePoint has administrator reports that show which students had participated and when, which students had created pages, and which students took part in editing other pages (Lending, 2010).

Sample Rubric for Grading Group Wiki Participation adapted from Group-Work Evaluation Form Kane & Harms (2005)

1. Overall, how effectively did your group work together on the wiki assignment?
Poorly Adequately Well Extremely Well
2. Out of the five/six group members, how many participated actively most of the time?
None One Two Three Four All Five
3. Out of the five/six group members, how many were fully prepared for the wiki activity?
None One Two Three Four All Five
4. Give one specific example of something you learned from the group that you probably wouldn't have learned working alone.

5. Give one specific example of something the other group members learned from you that they probably wouldn't have learned otherwise.
6. Suggest one change the group could make to improve its performance

**Sample Rubric for Grading individual Wiki Participation adapted from Lending (2010)
Journal of Information System Education, Vol. 21 (1)**

1. Entering original content (1-3 points)
 - 1 point for creating one page
 - 2 points for creating two pages
 - 3 points for creating three pages
2. Revising or providing feedback on other students' work (1-3 points)
 - 1 point for editing one page
 - 2 points for editing two pages
 - 3 points for editing three pages
3. Uploading figures/picture (1-3 points)
 - 1 points for uploading one figure/picture
 - 2 points for uploading two figures/pictures
 - 3 points for uploading three figures/pictures
4. Uploading videos (2-6 points)
 - 2 points for uploading one video segment
 - 4 points for uploading two video segments
 - 6 points for uploading three video segments

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