The HUB Halifax:

A Qualitative Study on Coworking

By

Christopher J. P. Hurry

A Major Research Project Submitted to
St. Mary's University, Halifax, Nova Scotia
in Partial Fulfillment of the Requirements for
the Degree of Masters of Business Administration

August 2012, Halifax, Nova Scotia

Approved: Dr. Johanna Weststar
Supervisor

Approved: Dr. Mark Raymond
Examiner

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Abstract

The Hub-Halifax: A Qualitative Study in Coworking

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This paper is an explorative study into coworking. Coworking is a relatively new business service model, which has been rapidly expanding in recent years. Little academic research has been completed on the definition and composition of coworking spaces around the world, and the businesses that use them.

This work examined existing academic literature, traditional media, and social media sources to assess the roots of coworking in the larger socio-economic sphere, and the current incarnations and general conceptualization of coworking spaces. An exploratory study of a coworking site in Halifax, Nova Scotia, Canada was conducted through one-on-one interviews with two owners and five members. The results of the interviews were examined for themes and their consistency with the literature to date.

It was found that there are different models for coworking across North America. The Hub-Halifax is focused on networking and the connections and partnerships that can form in its open-concept office environment. In general, the owners and the users of the Hub-Halifax agreed with the literature that coworking decreases isolation, offers networking opportunities, intrinsically supports bootstrapping functions, and assists with ideation and productivity. They also agreed that the coworking space could be improved: it can be noisy, there is demand for more amenities, and privacy and security can be an issue. These interviews also uncovered some other themes not covered in the current literature. One was age: whether this method of working was more intuitive for younger people. Another was the possibility that coworking could function as a platform for social engineering and activism through leveraging its networking capabilities to fully engage with the community, positively affecting the economic viability of the local area.

August 31, 2012

List of Terms Used

Entrepreneur — someone who owns or co-owns a micro service business that is engaged in entrepreneurial activity

Entrepreneurial Activity — *enterprising human action in pursuit of the generation of value, through the creation or expansion of economic activity, by identifying and exploiting new products, processes or markets.*" (OECD, 2008)

Small, medium, and micro enterprises — a medium business is 50-499 employees, a small business is 5-49 employees and a micro business is 1-4 employees. It is important to note that there is size classification difference between service industries and manufacturing industries but that this paper is using the service industry classification (Canadian Industry Statistics 2011-11-22)

Introduction

In 2008, New York Times reporter Dan Frost described how a young computer programmer by the name of Brad Neuberg had three years previously created a solution to his career dilemma, a solution that was now sweeping the nation and changing the way that people worked. Mr. Neuberg, forced to choose between a 9-to-5 job that would give him the 'structure and community', or a freelance job that would give him 'freedom and independence', instead resorted to a synthesized new work solution. Mr. Neuberg decided to become a freelancer, but then created an alternative work environment that also allowed him to have the advantages of a 9-to-5 job. As Fost (2008) reported, he "created *in* a word – coworking …rented space in a building, starting a movement". This movement calls itself the 'coworking movement' and encompasses a diverse collection of alternative work sites called coworking spaces. Coworking spaces are described in the traditional media sources as such as Lee's (2012) article as:

> Shared work facilities where people can get together in an office like environment while telecommuting or starting up new businesses. … (they are) community centers for people with ideas and entrepreneurial inclinations… co-working spaces provide a physical proximity that allows people to develop natural networks and exchange ideas on projects. … (as a result coworkers) are happier and more productive together than alone.

Coworking has become an international movement with coworking sites located around the globe. The rapid proliferation of coworking sites can be seen in the chart below:

Table 1: Yearly growth rates of Coworking

Growth Rates of Coworking Sites 2005 to 2012							
Year	2006	2007	2008	2009	2010	2011	2012
Number of Sites	30	75	160	310	600	1130	2150
Growth per year	NA	150%	113%	94%	94%	88%	90%
Average yearly growth rate 2006-2012							105%

(Foertsch, 2012).

The explosive adoption of coworking indicates that coworking is providing a service that is in demand (See Table 1). The appeal of coworking as a method of working has been summarized in traditional media sources as, "four major values: collaboration, openness, community and sustainability" (Reed, 2007). Coworking provides an alternative workplace for the growing non-standard workforce market.

There is very little peer-reviewed research on coworking to date (Spinuzzi 2012), and thus this research is an exploration of the coworking site the Hub-Halifax (the Hub) in downtown Halifax, Nova Scotia. This site has been open for two years, and has some connections with coworking sites in the US and overseas. According to their website:

> The Hub sells time with flexible memberships that operate like a cell phone plan.
> Pay for what you need. Use the Hub as your office, to host a meeting or work on
> a project. It is a place to scale up, change gears, take risks, make mistakes, and
> bump into people. Our core product is flexible membership in a shared space you
> can call your own.

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The owners of the Hub go further on the website and explain it as a site of 'creative collisions' and claim that it is a 'unique offering that is greater than the sum of its parts'. The Hub then lists its parts: 1) "*Space: A space that is different every time you walk in",* 2) "*People: Facebook in the real world",* 3) "*Technology: the things you need every day",* 4) "*Relationships: they are everything",* 5) "*Ideas: pipeline to the world",'* followed by a brief description of each.

This paper is describes exploratory research conducted on coworking in Halifax, Nova Scotia, via interviews with managers and users of the Hub Halifax. It is possible to deduce a great deal about coworking by understanding the pre-formative processes that have contributed to coworking coming into existence. To understand these processes, this paper will first examine some of the variables, which are theorized to have led to the formation of coworking:

- Economics/Finance

- Teleworking and Entrepreneurship

- Networking and Incubators

- Bootstrapping

Following this review of the literature, the qualitative methods and data are described. The research findings, organized around thematic groupings, are then presented followed by a conclusion, limitations and areas of future research.

Literature Review

Economics and Finance

To understand why people have chosen coworking, it is necessary to go back to the economic rationality that motivates them. As Harford (2008) stated:

Rational people respond to incentives: When it becomes more costly to do something, they tend to do less; when it becomes easier, cheaper, or beneficial, they will tend to do it more. In weighing their choices, they bear in mind the

overall constraints upon them: not just the costs and benefits of a specific choice,

but their total budget. And they will also consider the future consequences of

present choices. (p. 9)

Accepting this basic hypothesis about economic rationality points to what motivates the people

who decide to use coworking spaces. The simplistic hypothesis is that coworking is offering a

cheaper work arrangement through shared equipment and rent and therefore people are joining.

However, there are larger forces, which are also encouraging the growth of this market niche.

Fisher (2008) has produced a convincing argument that the economic system of

capitalism has changed radically over the past twenty years as Internet communications

technology (ICT) has both spread and decreased in cost. He points out that a new social-economic

class has come into existence, "the Digerati", which has the skills, technology and capital to

dominate the new ICT based economy. As Fisher (2008) describes them, they are the

"technocratic elite-professionals at the forefront of the information society and the technical

administration of the capitalist economy". The rise in ICT has precipitated growth in non-

standard work; with corporate real estate cost cutting measures driving more telecommuting,

freelance, self-employed work (Hodges 2009). The same trends in non-standard work were noted

by Manser & Picot (1999), who determined that the Canadian employment pattern has had the

number of standard employment (9-5 full time jobs) decreasing and the number of non-standard

employment (temporary, part-time, contract workers, and the self-employed) increasing due to

such factors as technological change, increased contracting-out by employers, and health care

benefit accessibility. As a result of reduced standard work, workers no longer have access to

capital and resources traditionally supplied by employers, such as office infrastructure (meeting

rooms, mailing address, and shared technological resources) (Miller 2007). Entrepreneurship

accounts for 80% of all net employment in Canada (Manser & Picot, 1999). Manser and Picot

(1999) point out that the push-pull motivational factors for workers in Canada becoming

entrepreneurs are based more on the pull effect of motivational theory (desire) than the push (job loss). Another author who has studied the linkage between the economy and entrepreneurial activity is Reich (1991). He makes a compelling argument, using a variety of different sources, that economies and the businesses that exist in them cannot be limited to an economic nation-state concept. The economic nation-state concept is that companies are inextricably linked to and support their nation by paying taxes and providing jobs. Reich argues that this concept is out-dated, that companies are now structured to conduct business as globalized enterprise webs, to avoid taxes and outsource labour. For example Coca-Cola, while an American based company, is in fact now a transnational global business. Reich argues that the economic nation-state concept of work is out-dated and needs to be re-conceptualised to incorporate the rise of "symbolic analysts' classes" (Reich, 1991). According to Reich, the symbolic analysts' classes consist of highly skilled professional workers such as design engineers, software engineers, biotechnology engineers, lawyers, real estate developers, etc. Reich's general description of the skills set that these workers share is worth repeating:

> Symbolic analysts solve, identify, and broker problems by manipulating symbols. They simplify reality into abstract images that can be rearranged, juggled, experimented with, communicated to other specialists, and then, eventually, transformed back into reality. The manipulations are done with analytic tools, sharpened by experience. The tools may be mathematical algorithms, legal arguments, financial gimmicks, scientific principles, psychological insights about how to persuade or amuse, systems of induction or deduction, or any other set of techniques for doing conceptual puzzles. (Reich, 1991, p. 178)

While there has been no agreement about what to call these workers: symbolic analysts (Reich, 1991), or Digerati (Fisher, 2008), these authors do agree that these workers are increasingly

becoming entrepreneurs, that they are a vital part of a post-industrial economy, and that societies need to find ways to support these workers.

An analysis of the works of Fisher (2008), Reich (1991), and Manser & Picot (1999) shows that a number of trends have been developing that have helped create the need for coworking sites. These trends are: 1) that a new class of highly skilled technological workers has come into existence, 2) that the majority of the new jobs in Canada have been created due to entrepreneurs (Manser & Picot, 1999), and 3) that there is a need of networks for these entrepreneurs to be able to function properly. As a result it is possible to see how the demand has been growing for a networked workspace from which these highly skilled workers can launch their businesses. The following sections will discuss teleworking and entrepreneurs as two segments of the highly skilled technological work sector, and investigate further the potential role that networks have in coworking.

Teleworking

Declining ICT costs have allowed people to work off site, including teleworking from home. Historically, teleworking evolved out of three precursors: 1) the development of Theory X and Theory Y in organizational management theory (McGregor, 1960); 2) a consensus among management theorists that businesses needed to move towards flatter, less hierarchical organizations (Drucker, 1969; Toffler, 1971; Bell, 1973); and 3) the success and publicity of alternative work-space arrangements in organizations like IBM (Allen & Gerstberger, 1971). While the practice of distance work was pre-existing, teleworking as a distinct workplace organizational theory creation has been attributed to Jack Nilles, it was his response to traffic congestion issues that arose during the oil embargo in 1973 (Van Meel 2010). Today, for the

majority of the self-employed working from home is a necessity (Turcotte 2010). However, for employees who are working from home, the three most common reasons given for working at home were: 1) part of the terms of their employment; 2) better working conditions; and 3) it was their usual place of work. Concrete statistics on teleworking, however, are difficult to obtain due to differing definitions and methodologies across studies (Ellison 2004).

In general, employees found the positives of teleworking to be reduced costs, independence, flexible working hours, and work-life balance, which was rooted in the flexibility to care for young children or other relatives (Harpez, 2002; Turcotte, 2010). Employers valued the operational cost savings working at home brought, the increased productivity of workers, the decrease in absences, and a positive public image (Harpez, 2002; Nilles, 1998). Ellison's 2004 study identified that new boundaries and rules are required within the home when bringing work into the domestic sphere, and that both work and home life recursively affected each other. Telework necessitated renegotiation of space within the home, changed patterns of communication, changed patterns of work, and the separation of work and professional spheres. Nilles (1998), Ellison (2004), Harpez (2002) and Turcotte 2010 all describe the downsides to teleworking: for employees, isolation is the number one negative consequence of working from home, with the erosion of professional relationships and work culture ties; for employers, concerns about security, confidentiality, productivity, supervision, declining group adhesion, communication problems and loyalty to the employer were outlined. Both groups stated they were not sure the negative associations outweighed the positive aspects (Turcotte, 2010). From Ellison's work it is possible to see that while teleworking saves companies a lot of money it has some serious negative consequences that might be mitigated by teleworkers working from coworking spaces.

Johnson (2003) describes an evolution from original teleworking into what she calls the co-workplace:

The co-workplace is a term coined to describe a local, neighbourhood-based

centre to support telework. It is a facility that incorporates components of the

telework centre and the business incubator. A telework center … is a

telecommunications-equipped work environment combining individual

workstations with shared facilities and equipment. A telecenter can accommodate

employees of various companies or employers, or it can be a decentralized or

satellite office for employees of one employer. Business incubators, on the other

hand, are designed to support fledgling enterprises by providing workspaces,

equipment, training, technical support, networking opportunities and other

needed services. (p. 4)

Johnson's (2003) book is a qualitative sociological analysis that studies a number of case studies about teleworking sites as well as presents a number of teleworking/co-workplace scenarios. It is important work in relation to our understanding of coworking because it delineates the transformation from working from home to teleworking centres.

Teleworking does have growth limitations. Marquez (2008) stated that one of the precursors to the rise of coworking sites was the inability of some teleworkers to work from home and the unwillingness of employers to bear the cost of dedicated telework centers. Rosenwald (2009) examines the idea that individuals with no dedicated office space become, in effect, digital nomads. The concept of the digital nomad is characterized by the tendency to do work at coffee shops, restaurants and libraries as opposed to having regular office space. Rosenwald (2009) also notes that coworking sites are opening up across North America, which informally corroborates Maltbys' (2012) assertion that the number of coworking sites has been increasing. Unfortunately it is not presently possible to determine the size and usage of coworking sites. While the articles by Rosenwald (2009) Marguez (2008) and Maltby (2012) are from the traditional media and not

peer-reviewed, they do indicate that a change has been occurring since at least 2005 in the way that people work.

The Entrepreneur

One of the factors that has contributed to the successful emergence of coworking sites has been the rise of entrepreneurship. Three recent papers (Osberg, Wien, & Grude 1995; Picot & Heisz 2000; LaRochelle-Cote 2010) explore the reasons why the overall rate of entrepreneurship is increasing. The motivation for entrepreneurs in Canada has shifted from push, or necessity entrepreneurism, to pull, or opportunity entrepreneurism. In push entrepreneurism, the worker is forced to start a business due to a lack of other options, whereas in pull entrepreneurism, the worker willingly starts a business to take advantage of a market niche. A Statistics Canada Study by LaRochelle-Cote (2010) explicitly examines whether workers that were laid-off after the 2008 financial crisis forced to became self-employed. He found that with the exception of a number of resource industries (mining, oil and gas, etc.) that the newly unemployed are not becoming entrepreneurs. Despite this growth in opportunity entrepreneurialism, Siva, (2011) points out that one consequences of the 2008 financial crisis was a credit crisis that not only further restricted entrepreneurs' already limited access to capital markets but also had wide ranging effects:

> Some of the adverse effects include business closures, reduction in employment
> levels, lower domestic demand, lower sales, and downturn in exports and
> difficulty in obtaining credit. Different SMEs in small towns of Canada
> developed different mechanisms to deal with the effects of recession including
> scaled down operations, reducing expenses, changing the product offerings,

> reducing the inventory, postponing capital expenditures, reducing prices to name

> a few and managed to survive. (p 6)

It is within this context that the motivations of the Canadian entrepreneur need to be examined. If we are to understand the economic and financial considerations that form the underpinning for the decision that entrepreneurs make to join a coworking site, we must make certain assumptions. The primary assumption is that the entrepreneurs making the decision to join coworking sites are doing so for rational economic reasons (i.e. that it saves them money or has some other benefit). The earlier Economics section already outlined the obvious cost-savings involved in shared office space. On the other side of the coin is how SMMEs raise money. The Modigliani-Miller Theorems (MM Theorems) (Modigliani & Miller, 1958) outline that to raise money or capitalize, a firm has the choices of issuing shares (dilute capital control), borrow (issue bonds against future profits), or reinvest profits made into itself (Pagano, 2005). In 1963 Modigliani-Miller revised their original theory to include the concept of the tax shield. With the introduction of the tax shield, firms that take on corporate debt are allowed to deduct the debt from their taxes which means that in comparison to a similar firm *ceteris paribus* it would have a lower tax bill and therefore be more profitable (Modigliani & Miller, 1963; Mac an Bharid, 2010). This increased the attractiveness of taking on debt, and Minsky (as cited in Pollin, 1997, p 76) points out that corporations use of on debt financing increases the fragility of the system, as typified by the 2008 financial crisis (Wray, 2009). While coworking pre-dated 2008, the financial crisis has limited the traditional means of obtaining capital; therefore business formation increasingly has to turn to non-traditional sources, of which coworking may be one.

Studies such as that by Servon (2010), showed that very small businesses (less than 15 people), and microenterprises (less than 5 people) have to rely upon non-traditional sources of funding, especially through the early and most risky phases of the business: start-up, early growth, and expansion, due to their inability to access capital. Conversely, Mac an Bharid (2010) conducted a meta-analysis to find that value of ownership also drives SMME capital formation

methods. He reports three major conclusions: 1) that due to the SMME owners' desire to maintain control, SMMEs approach funding according to the pecking order theory: first internal funding, second debt finance, and third external debt, 2) that SMMEs applying for debt financing have to overcome agency-related costs and the limitation of minimal assets, and 3) that start-ups are limited usually to friends, family and owners' equity, but if they grow, they finance through retained earnings and, in the final stages, are able to access more institutional forms of funding (Mac an Bharid, 2010, p 21). With the understanding that entrepreneurs are driven by the pecking order theory, and that SMME owners want to avoid both debt financing and selling part of their company for capital, the next sections will examine how coworking sites can be an integral part of a SMME capital saving strategy.

Networks and Incubators

The most influential work about networks is by Grannovetter (1973). He looked beyond the benefits of strong family and social ties, and examined the role that weak social ties play in allowing networks to greatly expand their users' access to resources that would otherwise be inaccessible to them. The concept of weak ties, which bridge between strong social networks, is echoed by Huang, Lai & Lo (2012) who point out the competitive advantage gained by a business with association with multiple networks. Although not currently studied in the context of coworking, the concept of leveraging multiple networks is worth remembering as research progresses in this nascent field.

As one of the seminal works on the use of social capital, Putnam (2000 p. 80-92), notes it is active participation within the context of an association's network that allows these ties to be fully utilized. This can be seen in business oriented associations, such as Canadian Business Service Centres and Canadian Chamber of Commerce providing networking opportunities with other business people as well as potential backers, access to other resources and other service

providers (Ziggler, Blanco, Zanibbi & Mount, 1996). Malewicki's 2005 study examines Entrepreneurial Network Organizations (ENOs), which provide similar functions to coworking? but focus on entrepreneurs specifically. He finds that ENOs help the entrepreneur fulfill their network needs and move from a strong tie (identity) based network to a more calculative (focused upon mutual economic benefits) network. However, he also notes that over time, entrepreneurs withdraw from active participation in the ENO. If we accept that coworking is a form of ENO, Malwicki would suggest that to maintain its long-term viability, coworking has to be able to be able to service (deliver) a different set of business needs than the ones that initially bring its customers to use it. Zedtwitz (2003) also provided what he calls the best practices for an incubator. This raises an interesting question that is beyond the scope of this limited paper, what are the best management practices for coworking sites.

In contrast to business associations, a business incubator provides capital, office space, a network of business contacts, and professional business support services in exchange for partial ownership of the company. We know from Zedtwitz (2003) that the survivability of start-up companies is positively affected by leveraging the contacts networks of business incubators. While both incubators and coworking sites provide turnkey access to business services to new business, there is a fundamental difference between them in that incubators are targeted to narrow fields and provide more comprehensive support while requiring either stock options or debt positions in the start-up (Newton 2012, Zedwitz 2003). As a result we can say that while incubators and coworking sites have a degree of overlap in their services, the degree of both financial integration (equity or debt stake in the start-up) and managerial control (both operational services and operating within their business network) allows incubators to exert a degree of influence over firms that is lacking in the coworking model. It could be that coworking sites act in a similar manner as a network enabler for the SMME, which can be important in overcoming Mac an Bharid's second limitation to capital formation (agency-related costs and limited assets) while still fulfilling the SMME owners' desire to maintain control (Mac an Bharid 2010).

Because of this unwillingness to give up control, SMME's generally appear to have difficulty accessing capital. They therefore require a different mode of capital formation. Bootstrapping leverages the SMME's available resources to maximum advantage to achieve viability. It is this need to bootstrap that may have opened a niche in the marketplace that has resulted in the appearance and growth of coworking.

Bootstrapping

Historically academic research into bootstrapping can be traced to a 1992 article in the Harvard Business Review by Bhide in which he identified that small businesses with limited start-up capital and without access to traditional sources of finance faced a funding gap (Bhide 1992). Bhide identified this funding gap in the early life cycle of the firm between the time that they started-up and the time they were successfully generating revenue and could secure more traditional sources of funding. To survive this, Bhide proposed that firms adopt the management technique of bootstrapping. The two major shortcomings of the work are that he fails to describe what specific bootstrapping strategies are possible, and his definition of bootstrapping was also limited to that specific time in a company's development.

While discussed in several works, there is no agreement on the definition of bootstrapping. The basis of this strategy is two-fold, to either: 1) increase the company's capital by accessing non-traditional sources of funds; or 2) to reduce business expenditures (Bhide, 1992; Perry, Gayln, Yao & Wolff, 2011; Winborg and Landstrom 2001). Examples of bootstrapping are as follows: 1) Entrepreneur X starts a company, X-com, unfortunately he is unable to get a loan form a bank, but he manages to raise $65,000 dollars from friends and family members; 2) Entrepreneur Y starts a company, is unable to borrow form a traditional sources (bank) or friends or family, however he is able to start to sell his product and by increasing the time that it takes to

pay his creditors from 30 days to 60 days he is able to utilize the company's operational cash flow

as capital; 3) Entrepreneur Z has started his company, is unable to obtain adequate financing,

however he is able to presell his product, the RTM 1, for $100,000 with ten customers who put

down 30% each giving him a cash inflow of $300,000. However instead of finishing the orders Z

decides to push back the delivery deadline and expands the business, hiring two new employees,

so that he can develop the RTM 2. These are only three examples of single methodological

bootstrapping techniques that a business could use. In what has become the seminal paper on

bootstrapping Winborg & Landstrom (2001) identified 23 different methods of bootstrapping

which they divided into six groupings that they called factors 1-6. The first factor was owner-

financing methods; an example of this would be the owner using their personal credit card for

business expenses. The second factor was minimizing the amount owed to the business in

accounts receivable (e.g. ceasing to do business with late payers since they are a drain on the

company's cash flow). The third factor was joint utilization, for example owning equipment in

common with others. The fourth factor was delaying payments (leasing equipment instead of

buying it outright). The fifth factor was maximizing stock: this involved minimizing the amount

of capital that is tied up in stock (minimizing inventory). The sixth factor was subsidy financing,

such as obtaining funds from a government development agency to help capitalize the business

(Winborg and Landstrom 2001). Beyond the fact that Winborg and Landstrom's article is seen as

the authoritative work in the field of bootstrapping research, it is possible to raise two important

points that could be relevant in relation to coworking. The first is that coworking is inherently a

bootstrapping methodology, due to the sharing of office equipment, supplies, space, etc. (see the

third factor above). Second, it is almost as an after thought that Winborg and Landstrom (p. 249)

point out that the use of personal networks to secure resources is a defining aspect of the group

that uses relationship-orientated bootstrapping. This entails using the concepts of: trust, social

contracting and social capital, which they acknowledge as being important, but do not explore

their significance. These sociological aspects are critical to understanding the modality of

bootstrapping as it relates to coworking sites; they are the very aspects of weak-ties networking and are identified as being fundamental to entrepreneurs' success in the work of Grannovetter (1973) and were addressed in the above section on networking.

In conclusion, it can be said that Winborg & Landstrom's article is critical to developing our understanding of why bootstrapping is a synergistic management technique that is naturally incorporated into coworking; the structure of coworking sites facilitates the development of social ties which can be leveraged into a calculative based network, in other words a more business oriented network.

Reflection about the literature on bootstrapping and how it relates to entrepreneurs reveals that there is a problem with the state of research. The main issue is that most research does not focus on the practical application of bootstrapping methods by start-up SMME/entrepreneurs. Instead studies have a tendency to examine companies that are in a different business life cycle phase than the start-up one. This observation is supported by Lahm & Little (2005) who also note that articles on bootstrapping do appear regularly in the business-orientated periodicals (such as *Entrepreneur* and *INC*. see: Mamis (1992)), and that these articles emphasize both the common usage and the perceived high risk associated with bootstrapping. The authors also note that there appears to be a deficiency in formal material that is taught in higher educational settings with most textbooks skimming over the subject. This review hopes to mitigate this deficiency by briefly examining one of the latest textbooks, Bootstrapping, by Cornwall (2009). In his book he presents a practical operational guide to how to implement bootstrapping in a business, and points out that facility costs are usually the largest single cost after salaries and benefits. Controlling this expense is an excellent bootstrapping strategy. Since shared overhead is an inherent feature of coworking, this further strengthens the observation that coworking has a built-in bootstrapping component to its structure.

Coworking

While the above trends are suggestive, academic literature specifically on coworking or coworking sites is limited to one article, (Spinuzzi, 2012) and thus it is worth examining in some detail.

Discussion of Spinuzzi Article

Spinuzzi conducted a qualitative case study based upon a twenty-month research study of nine coworking sites in the area around Austin, Texas, U.S.. During this period of time Spinuzzi conducted numerous interviews with owners and users of various coworking sites. His stated purpose was to examine: who coworks, why they cowork, and how both owners and users of coworking sites define what coworking is. To achieve this he used his communications background to analyze their use of language to describe coworking, both when talking to people and through examining web postings.

Initially, he provides a quite coherent background into the economic forces that have driven the changes in the way that people are working, similar to the sections above, using American data to support his argument. He found that those who coworked were small business owners, consultants, contractors, interns, and business employees; two thirds of which had an information technology component to their work. These workers found the same issues listed in the teleworking section about the difficulties of working from home and from coffee shops (distractions, self-motivation, isolation).

By examining the responses of the owners of coworking sites Spinuzzi generated three definitions of coworking: 1) Community Space, 2) The Unoffice, and 3) The Federated Workspace. Community Space coworking sites were focused on serving their local communities,

and this coworking environment was seen as facilitating members working in parallel and not with each other. Spinuzzi identifies a unique characteristic of Community coworking sites as having policies that enforced quiet in the shared space. The Unoffice coworking sites attempts to provide aspects of traditional offices that the users miss. Water cooler discussions, collaboration, and the exchange of ideas between members was encouraged. The Federated Workspaces makes collaborative networking the focus of their coworking spaces and while the emphasis is on business networks, Federated Workplaces also encourage personal relationships. Federated Workplaces leverage their collective network to enhance the work abilities of their users (Spinuzzi p 11-18). Users had a more varied response to the definition of coworking, many of which corresponded to responses from the Hub Halifax. Spinuzzi's interviewees included words such as space, inexpensive office alternative, social hub, collaboration, heterogeneous and homogeneous (working with like-minded and different people), supported events, projecting professionalism, flexibility, and home/work separation in their definitions of coworking.

Spinuzzi listed desired benefits from coworkers that included trust (described above in relation to Bootstrapping), interaction, feedback, learning, partnerships, encouragement, and referrals.

In his analysis, Spinuzzi applies fourth generational activity theory (4GAT) to the results of his interviews, which he postulates allows him to examine coworking which he sees as, "distributed, interorganizational collaborative knowledge work". Activity theory examines the actions of people on their environment; 4GAT expands this to networks and the activities in social and problem-based spheres instead of physical objects. By applying 4GAT Spinuzzi developed two different models: the good-neighbours and the good-partners models. In the good-neighbours model coworking spaces are used by people working in parallel, the emphasis is on maintaining neighbourly relationships within the coworking space so that the members can use the coworking space as a "stage" that allows them to maintain a professional appearance and interact with

outsider clients (Spinuzzi p 30-31). In the good-partners model coworking is in inward looking

process, which allows freelance specialists to network within the coworking space to tackle

shared work problems (Spinuzzi p. 30-31). Both these models coexist as a "superclass" in each

coworking space to differing degrees, although their differences can cause tensions and

contradictions between users and expectations. Spinuzzi proposes 4GAT to provide a theoretical

framework for future research into coworking and other emergent collaborative activities. While

activity theory is an interesting methodology, it restricts the examination of coworking to it's

networking functions, and thus will not be examined further in this work.

Other Coworking Literature

A number of other non-academic sources were also examined, including newspaper

articles, online magazine/newspaper articles and a coworking web wiki. The problem with the

information that has been gathered from these sources is that it is hard to quantify and the purpose

of these publications is different than that of academic work in that popular sources provide

description and summary rather than analysis and theoretical grounding. To organize the non-

academic sources a content analysis of core themes was conducted (see Appendix A).   The most

common themes presented in the popular press are those that have also arisen in the literature

review presented above. There are twenty-two themes that are consistently associated with

discussions of coworking: 1) lower cost, 2) coworking, 3) isolation, 4) security, 5) businesses to

network, 6) start-up, 7) social network, 8) mobile technology, 9) corporation, 10) telecommuting,

11) flexibility, 12) collaboration, 13) competition, 14) homogeneous, 15) heterogeneous, 16)

work/home separation, 17) had worked from home, 18) home distractions, 19) coffee shop

distractions, 20) noise issues, 21) other space, 22) age. Longer descriptions of these common

themes and tabled data can be found in Appendix A.

Aside from the challenges of noise, security and personal boundaries, the media coverage is very positive about coworking as a new alternative workplace. Coworking was identified as: (1) able to address the isolation issue that workers had felt with teleworking; (2) helpful for entrepreneurs who were trying to keep costs down; (3) a new place for businesses to network; (4) an incubator alternative; (5) community oriented; (6) technology focused; (7) supporting a mobile workforce; (8) sustainable; (9) women centric; and (10) the future of work.

In general, the consensus of the literature describes coworking spaces as an open office layout that provides general office business amenities to its members who share the overhead costs of such services as: photocopying, desk space, group rooms, internet access etc. To use a coworking space, people become members and can pay on an hourly, daily, weekly, monthly or yearly fee schedule for access to the amenities and space. Prices and business hours vary for each site since there does not appear to be one coworking business model. One interesting aspect of the coworking movement is that if you are a member of one coworking site and you are travelling you can usually use the local coworking site free of charge, using what is termed a coworking passport. Examining the map below, coworking has become an international movement; however it is still based mainly in North America and Europe.

Fig.1 Map of Coworking sites internationally.

Legend each red mark is an active co-working site.

The present research will focus on one coworking site in Atlantic Canada, the Hub-Halifax. The aims of this research were to determine how the owners and users of the site viewed coworking and how it influenced their businesses.

Research Introduction

This study, outlined below, seeks to specifically examine one coworking site to extend the academic literature on this topic and, following in the vein of Winborg and Landstrom, focus on the user-experience of coworking.

Methodology

This work is an exploratory case study of a coworking location in Halifax, Nova Scotia called The Hub-Halifax, The Hub-Halifax was incorporated in 2008 and opened in April 2009. At the outset of the business there were three owners of the company, although shortly after the company opened one of the owners left to focus on other business opportunities.

One-on-one semi-structured interviews were conducted with the owners and a sample of users of the Hub-Halifax in April of 2012. Prior ethics approval on the methodology and questions asked was obtained. The answers and comments of the interviewees were analyzed for common themes and reported below.

Data Collection

This was a qualitative study relying on interview data from the Hub Halifax owners and users. It was decided to try and get as broad range of Hub users as possible to not bias the sample. To accomplish this it was decided to define general groups using the Hub. These were determined to be:

- Someone who is currently using the space.
- Someone who has grown out of the space and left
- Someone who has had a negative experience at the Hub
- Someone who has had a positive experience at the Hub
- The owners of the HUB

Due to the private and proprietary nature of the space, it was necessary to solicit the help of the Hub-Halifax owners to obtain general access and to facilitate sampling. Rather than turn over their entire list of user contact information, the two owners of The Hub-Halifax were asked to recommend 2-3 people to fill each of the above-noted characteristics (for a total of 10-15 names). The owners of Hub-Halifax provided their contact information to the researcher. The researcher then randomly contacted one name at a time from each of the sub-populations desired and asked for participation in the study. This process continued until five participants were confirmed. This provided a layer of confidentiality, as the Hub-Halifax owners would not know exactly who ended up participating in the study. The final sample did not quite match the desired sample characteristics because some of the individuals who were contacted did not reply. In the end, of the five users interviewed, four were currently using the space, of which one was identified specifically as having a positive experience. One previous user had a negative experience and left the space. No previous users who had outgrown the space were available for interviewing. Although the Hub-Halifax is male-dominated, all volunteer interviewees were female. One user was an employee of a larger company, one was a graduate student, one was a non-profit, and two were entrepreneurs. The ages ranged from mid-twenties to late fifties. The users will be identified as User1 to User5 and the owners as Owner1 and Owner2.

During the interview process a digital recorder was used. The interviews were then transcribed and thematically analysed. As well, over 2 days, the researcher spent the day in the Hub-Halifax as a participant-observer making observations about the general tone, flow, and atmosphere of the workplace for additional context field notes. These field notes have been compiled into a narrative account of the Hub experience and serve as the introduction to the data analysis below.

The Interviews

The interviews were 30 minutes long and took place at a mutually agreed upon location that was quiet enough to use a digital recorder. Most interviews occurred in the conference room or the main room at The Hub-Halifax. One interview occurred at a local coffee shop, and one at the subject's house. The interviews were semi-structured and followed the basic script outlined by the questions below. In the course of the interview, some questions became irrelevant, and were dropped. If the interview suggested themes not covered by these questions, additional questions were asked.

1) What is your idea of what a co-working space is?
2) How did you come to start The Hub-Halifax? (owners only)
3) How did you get funding for The Hub-Halifax? (owners only)
4) What do you think is the main purpose of The Hub-Halifax? (owners only)
   a. Does that differ from what The Hub-Halifax has become?
5) Could you tell me about your first three years of business? (owners only)
   a. How many businesses have you seen move on/grow out, from The Hub Halifax?
   b. Can I get their names, to follow up on?
6) What are The Hub Halifax revenues? (owners only)
7) What motivates you to run The Hub Halifax? (owners only)
8) Is The Hub Halifax providing something that others are not?
9) What type of business did you operate out of The Hub-Halifax?
10) Is it service or people orientated?
11) Do you see THE HUB HALIFAX as a critical tool for you business growth?
12) Does one type of business do better than another in The Hub Halifax environment?
13) What where your expectations of what The Hub Halifax would be like before you worked there?
14) Did the reality of your working in The Hub Halifax differ from those expectations?
   a. How did it differ?
15) What positive experiences did you have about THE HUB-HALIFAX?
16) What negative experiences did you have about THE HUB-HALIFAX?
17) Did you see any cost advantage to using THE HUB-HALIFAX?
18) What was more expensive than you thought it ought to be?
19) Do you think that co-working (not THE HUB-HALIFAX specifically) had a negative or positive impact upon your business?
20) Would you recommend co-working to anyone else starting a business?

Analysis Technique

Each interview transcript was examined for themes related to coworking as seen in the literature review above: definitions of coworking, teleworking, networking, financing and shared resources, bootstrapping, noise, privacy and security. The Results section below summarizes the responses in these themes. An overall summary is included in the Discussion section.

The Hub-Halifax: Researcher's Description as a Participant Observer

The Hub Halifax is located in the old downtown commercial district of Halifax. Like many cities in North America, the downtown core has been eclipsed by the rise of big box stores in the outskirts of the city and has suffered as a result. The day I visited, the sky was a vivid slate gray and the wind coming off the North Atlantic was cuttingly brisk. The bus stop was beside a building that appeared to be in the process of being completely gutted with a construction barrier that blocked off most of the narrow sidewalk. Darting between the barrier and the bus I was popped out in front of a Starbucks, which I promptly went into to get a coffee and figure out exactly were the Hub was. I got my coffee to go and then tried to find somewhere to sit, since it was quite crowded with people at most of the tables either working on their computer, taking up a whole table, working their smartphones, or engaged in conversation. In the end I managed get a place on a bar stool in the front of the coffee shop. It was not the best position, being next to some university students who seemed the worse for wear from their drinking the night before and were rather noisily figuring out both what happened the previous night and, through constant loud phone calls, what had happened to one of their friends. It was also placed under one of the speakers for the Starbucks, and while the music was not loud overall in the coffee shop given the level of ambient noise being generated, it was quite loud directly in front of the speaker. Using the wireless, I was able to determine the location of the Hub, and I was glad it was not far. I wondered what it would be like; it certainly could not be worse than where I was. While the coffee was good in the Starbucks the whole atmosphere was one that was not conducive to doing

any sort of work, with distractions, general noise level and the inability to find a convenient power plug.

It took less than three minutes to walk to Hub-Halifax; it was situated in a large brick building that must have been over a hundred years old. The sign was in front of a nondescript glass door that did have The Hub-Halifax stencilled on it. Opening the door I was confronted with a set of brown-carpeted stairs that were both unusually broad and very tall. Climbing the stairs certainly would give you a cardiac workout every day you climbed them, I wondered how accessible it made the Hub to people with mobility problems. At the top of the stairs was a landing and turning right was another much shorter flight of stairs that led to another glass door, which had the Hub-Halifax logo on it. I pushed on the door and stepped through into The Hub-Halifax, a 125m^2 workspace.

The first thing that struck me, compared to the coffee shop, was the serenity of the place; it was quiet and people were working away. The space itself seemed like it was a converted warehouse; it was organized as a large open office space filled with modern worktables and chairs. Three things really seemed to make the space: one was the height of ceiling, second was a large red brick wall that was opposite the entrance and the third was a row of large windows that were letting in a wonderful natural light. Looking around I was a bit disorientated since I did not know whom to talk too; there was no one seemingly in charge. However, at that point someone noticed my discomfort and came over to see if she could help me. I did not know it then, but this was the person that they term the 'Host' at the Hub. The Host has a number of functions: to greet new people to the Hub, to provide information and an orientation, to facilitate meeting bookings and to generally to ensure that everything is running smoothly. After introductions I informed her of my intention to conduct some on-site research: she checked the scheduling, which confirmed that I had a complementary booking for the day, and she showed me around the Hub-Halifax.

We were standing in the main Hub space. It was an open office space, with the windows on the right, the large red wall ahead, and a number of other facilities to the left of the main door. To the immediate left of the entrance was the door that led to the Hub bathroom, beside which was the small administrative office that the owners of the Hub had on-site. Opposite these two doors was an L-shaped island. On the side facing the doors was space for a coat rack and a place to put stuff. On the other side of the island were the Hub's wireless printer, photocopy machine, a small table with office supplies and a number of storage units. If one was to walk past the photocopy machine towards the back of the Hub there were two meeting rooms. A smaller one, which had a table with a phone, was on the left. A strange feature of this room was that the walls did not go all the way to the ceiling so it let in and out a high degree of ambient sound. On the right through a glass door was a larger room. This room had lots of light in it since it had windows on the far side. This room was arranged for presentations with two rectangular tables along the back wall and a number of chairs placed facing a screen hanging from the front of the room. However the Host informed me that both rooms where multifunctional and people adapted then to the configuration that they needed. Going back to the main room, the wall that separated the larger meeting room and the main space had a number of giant blocks painted on to it that looked like a giant calendar, which upon further inspection revealed that the Hub posted the dates of up coming events and important dates. This was a delightful low-tech touch to the space that allowed people to easily visually see what was going on. There were a range of different table and desk configurations within the main room, from small floating desks to long tables along the wall or high tables under the windows. Off the main space in the front, which would be to the right of the entrance as one walks in, was a nook that serves as an open concept kitchen. It had a table with fruit on it, a fridge, microwave and the all-important coffee maker. Once the Host had shown me around the space and given me the passwords for the Internet and printer, I was told that I could set up anywhere in the space that I wanted. While it might have been nominally true that you could sit anywhere, in the two days that I was at the Hub I noticed that a number of the

members clearly had places were they preferred to work. In the end I took a space with my back to the wall that allowed me to see everything that was happening in main space of the Hub.

Over the course of the two days that I used the Hub, I meet a number of people and was able to conduct some interviews, the results of which follow. Generally I found that on the whole, while the people were friendly, they did not go out of their way to introduce themselves. That said, a few people were much more gregarious and took it upon themselves to introduce themselves and discover what it was that you were working on. I think that was one of the most contradictory things about being in the Hub, you don't actually know what anyone else is working on. It might be that there are events that allow you to socialize and get to know the people and what they are doing but generally one had no idea about what anyone else was doing while they were in the space.

One aspect of the Hub that was fascinating to watch was the workflow. I am sure that it was a random process, but a general day at the Hub seemed to start off rather quiet and slow with everyone getting some coffee and doing their morning routine, checking emails, etc. If people where talking on the phone during this time they were generally using a subdued tone. In the mid-morning things seemed to pick up with people turning up both for meetings in the meeting rooms and to meet with more people arriving, some of them bringing their bikes up the stairs and into the main area. Generally at this point people were working independently and in groups in the main room, but more seemed to be collaborating with other people on work in the general meeting room and as a result the noise level started to spike upwards. At this point I noticed that a couple of times the work groups that had been in twos or threes would experience an influx of people and that these groups would rearrange the furniture in the main room so that they could have group sessions. The energy level was quite high and the noise at this point in the main room was quite loud. Aside from the lack of background music, it was comparable to the general noise level in the coffee shop. I did notice that a lot of the users who were working independently had

earphones on and were listening to music. After a few hours the work groups and individuals either drifted out of the Hub or went to the kitchenette to make lunch and the noise level changed. While still loud, the conversation was less animated. When I went to microwave my lunch people where having more social interactions, talking about what was new in their lives rather than about work. After lunch the noise level and general activity of the room was quite high again. There was not the manic energy that flooded the place before lunch, but there was a fair degree of conversation in normal tones among groups and with people on cellphones. By about two o'clock the tone of the place had shifted into a much more subdued level and noise dropped off dramatically as more left for the day. I found that while it was possible to work through the variations of noise during the course of a day at the Hub, the one piece of gear that made it much more enjoyable was earphones.

During the course of my time at the Hub I got to interact with people a number of times in a couple of different situations. I conducted an interview in the small meeting room and found it most adequate for such a meeting. That said, at times I could both hear what was going on in the room next door and the general noise from the main room. This is not surprising given that the walls do not all the way up to the ceiling. I attended a lunch meeting in the larger meeting room that was about what adjustments you needed to make to your web-site to be noticed and moved up in ranking generated by the main search engines' algorithms. It was an informative meeting and people that attended were asked to donate five dollars to cover the costs involved. From talking to people I understand that these types of events were a fairly common feature of the Hub and that the members really enjoyed them. I also had a working lunch interview in the main office space that was in the middle of one of the nosiest periods while I was at the Hub. In fact it was at this meeting that my interviewee complained about the noise and was sorry that they had left their earphones at home; they found the noise very distracting. Generally though, the people that I spoke to loved working in the Hub, they loved the different people that you got to meet and the

sense that they were engaged in a larger social movement. The general feel my interviewees was

that the Hub was a place were they could not only do work but also start-up a business, network

with other interesting people, and develop business opportunities.

Results

Hub Demographics

One of the owners of the Hub estimates that there are between forty and fifty paying members. The Hub has generally been used by a mixed group of users and has not been dominated by any one-business field. That said, working with digital tools is the norm. One notable factor is that there have always been more men than women using the site. The age range has been 18-70, however the majority of people are 25-45 years old. There have been few visible minorities using the Hub, though the Hub owners have not determined if this is proportional to the racial profile of Halifax.

Membership at the Hub has been growing every year, but incrementally and just shy of the targets established by the owners. As one owner explained:

> I think the scale of it has been tricky, so to make this model depends on, even though we can only seat 24 people we need to have about seventy five to one hundred people signed up for membership before our financial start to look decent. (Owner1)

While the revenue for the Hub has grown, it has not been able to increase its cash flow because the fixed costs for the business have also increased during the past three years. For example, their common area costs have increased by 66%.

It is estimated that 10-20 businesses have moved on from the Hub after spending some time there in its first three years. According to the Hub owners, these businesses moved out of the space for a variety of reasons. For example, some hired more staff and outgrew the Hub; some experienced such an increased volume of business that they could afford to move out, some moved away, and some stopped doing what brought them to the Hub. One owner estimated that about 50% of the companies (5-10) that had moved on from the Hub had succeeded.

Interview Results

What is coworking?

When asked about their idea of coworking, interview respondents had quite a range of opinions. If we look at all of the responses in aggregate then we see that they have a series of common threads.

1) Shared office space and resources

As one of the Owners of the Hub put coworking is about, "Working with other people but not necessarily on the same thing". Co-working was also seen as taking place in a clean, attractive, friendly, open concept cooperative work place environment where a diverse group of talented people can have easy access to shared business resources. The business resources mentioned were Internet access and IT support, meeting rooms, multimedia, a kitchen and washroom. People who used the site on a regular basis saw it as:

> a space were people from a variety of business or agencies can work together, sorry not work together but can work in the same space and that it provides opportunities both for them to have a shared office environment with shared equipment, internet access and some facilities such as meeting rooms and the potential for certain kinds of internal interaction, and I think the Hub does a fair bit around facilitating internal communications within the membership (User2)

> a place where people can access resources and each other in a space that's open to new ideas and initiatives (Owner1)

This concept of access to each other was something that all users of the Hub saw as fundamental to the very nature of coworking and is explored in more detail below.

2) Networking site

Interviewees' concept of coworking also included that there ought to be a high degree of cooperation as well as networking opportunities where members can build business and social contacts. They believed that networking opportunities would not only allow members to connect within the Hub-Halifax, but also find new customers and make social and business contacts within the wider community. There was also the recognition that the cooperative aspect of coworking is an important aspect of coworking. For example, when members provided input to other members in the form of new ideas, business concepts, or helping to solve problems. As some interviewees put it:

> What is co-working? … their is a higher level of interconnectedness, that chance
> encounter, facilitation of resources, ideas, start introducing, … co-working is also
> all about connections, brought in leads breaking down walls. (User5)

> Coworking is not just sharing space, you could do that by going to a coffee space
> and you could say that you are coworking, or by going anywhere else; to me the
> key [that] distinguish apart something else, is that you get to interact with people
> who are always open to provide you with comments, help, ideas, criticism as
> well, and [you also] establish relationship [and] that to me is coworking (User1)

The founders of the Hub agreed with this general concept of coworking. As one of the owners said in her interview:

> A Hub-like space is one way to look at how to create the grounds for those
> [forming new ideas, helping solve problems]: the type of interactions that were
> needed, to build the type of relationships that would then lead to prototyping and

spark of ideas around some of the issue that we face as a city, province and

world. (Owner2)

When asked if there was anything else the interviewees wanted to add about coworking, User5 said that it had had an "exponential impact upon my business" and that she really valued the ability to get feedback about solutions from the other Hub users for her business. As User5 said, "Holistic perspective challenges people's underlying assumptions [allowing them] to move forward," suggesting that having personal interactions with a wide variety of people allows users to break out of their preconceived concepts of how to work their business.

3) The Hub-Halifax is more than a co-working space

When asked about how the Hub was perceived in Halifax one owner of the Hub said that the Hub offered more than just coworking that:

(Coworking is) a broad term, the Hub you could argue does coworking, but I

think it does more than just coworking (Owner1)

One aspect of coworking that interviewees liked was the concept of the workshop. These were workshops outside of business hours, where, by paying a small fee, members got the opportunity to add value to their business by learning about such concepts as: marketing, keyword optimization, etc. Given that this is an isolated case study, it is not clear if workshops are a part of coworking as a whole or are exclusive to the Hub-Halifax. However, after having being exposed to them through the Hub many of the interviewees say they are good idea and ought to be part of the philosophy or best practices of coworking.

One of the follow up questions asked what the Hub provides beyond networking that others do not. The intention was to discover if there was anything else that was missing from the

line of enquiry. As Owner1 pointed out, there really are not any other facilities or services that exist in Halifax to which the Hub can be compared. An overview of the results show that the respondents mainly talked about: the openness of the Hub, its support for entrepreneurship, start-ups and helping the community as well as the collaborative nature of the site:

> certainly (I) don't think that anyone else was supplying that sense of a more cooperative endeavour and on that had a certain amount of social action thrust as well and the push for entrepreneurship and supporting entrepreneurship and start-up and youth. (User2)

> there is a whole level of openness at the Hub, that is the openness to have different kinds of working schedules, different kinds of work, and different ideas and people … and the desire to support it. I think that is related to the risk taking thing (Owner1)

> a place where people are open to ideas and collaborative … instead of [dwelling on what] will not work (Owner2)

It appeared over the course of the interviews that the users of The Hub-Halifax had a general shared conceptual grasp of what coworking was. That was not necessarily the case for the general public.

5) Not well understood

One owner of the Hub also reported that while some people had heard of the Hub they would admit to her that they had no idea what coworking was. When she explained it to them she said that sometimes they still did not seem to understand the concept. In fact she said, "Younger people more readily get the concept of coworking" (Owner2). The comments of User2, an older

worker, pointed out her difficulty with working in an open-plan office; this type of collaborative

group workspace may be more familiar to the younger generation.

The Hub-Halifax has its own description on its website. Table 2 shows the website

statements from the About The Hub page titled "The Offering", grouped by the applicable theme

as listed above. This table provides insights into what the owners of the Hub-Halifax believe are

the most important processes that make up coworking at the Hub and we can see by this

researcher's categorization that it is dominated by the concepts of economics and networking.

Table 2: Breakdown of what the Hub calls the "THE OFFERING" on their website

Space	'Individuals and start-ups need creative and inspiring places to work'	'The Hub offers a flexible and practical space'	
	Networking and Incubators	Bootstrapping	
People	'It is the unexpected conversations that lead us to new knowledge, new partnerships, and allow us to expand or change direction'	'a skilled team of hosts will attract a diverse membership and make important connections between people'	'the Hub is a social network'
	Networking and Incubators	Networking and Incubators	Networking and Incubators
Technology	'reliable access to information technology and equipment'	'Economy of scale enables us to have the best, fastest, and greenest technologies available at a great price.'	'members will be virtually connected to Hub members in Halifax and across the world, with the ability to collaborate and network virtually.'
	Non-Standard Worker and Teleworking	Bootstrapping: Economics/Finance	Networking and Incubators
Relationships	'meet new people and get to know who they are and what they do'	'a place to build the networks of relationships and trust'	'Halifax is a very interconnected city and with the right social capital, a good idea can create a groundswell and start a movement'
	Networking and Incubators	Networking and Incubators	Networking and Incubators
Ideas	'its unique and innovative model of workspace and social entrepreneurship'	'Hubs are attracting a diverse mix of some of the brightest global innovators.'	'Being a member of the Hub in Halifax will allow us to exchange world-changing ideas with people around the globe.'
	Networking and Incubators	Networking and Incubators	Networking and Incubators

About – the hub Halifax. (2012).

Teleworking

The concept of teleworking was not asked about directly in the interview though it did come up. The information gained gives some insight into some of the issues around teleworking and how that brought users to the Hub. In the excerpts culled from the interviews that are below, User1 talks of the devastating effect of isolation. While not technically teleworking, Owner1 talks of the difficulty with balancing family and full-time work. User2 tells us how telework technology allowed her to not feel isolated and User4 talks about how the change of physical venue from her home office to the Hub changes her work behaviours:

> [I] worked from home, and even though I was productive, my motivation was starting to decline to the point where I didn't feel like writing, nothing was very exciting, I felt like isolated, and I mentioned that to a friend, who is a local, she is [living] in Halifax, and she said to contact the Hub. (User1)

> Why I come here: it's to be around other people who are working and to have the physical separation between home and work. So just even the act of leaving the house gets my mind thinking in ways where if I was at home I would potentially be side-tracked (User4)

One of the members of the Hub that was interviewed stated that she still mostly worked from home since she could not afford a shop and the nature of her business was not something the Hub infrastructure could support. As a result she was still using her home as her primary workplace, but came to the Hub for the benefits that her home office could not provide.

I worked from home, yes. And I think I'll still be working mostly from home

because I need the shop space to take photos and upload them and things, here's

more facilitating the network (User3)

In general, users of the Hub agreed with the current literature about the downsides to

teleworking and found the Hub did help alleviate those concerns.

Networking

Responses in the interviews showed the growth of trust and social capital that enables

weak ties to form, which allows for larger, more effective networks as described by Grannovetter

(1973). Owner1 sees the Hub as having a role clearly beyond that of just a place to rent an office.

She sees the Hub as:

making a difference in the community … try and bring those people together and attract

talent, … encouraging, people to take different approaches to be BOLD, to take risks

(Owner1)

Almost all of the interviewees spoke of the Hub having a networking aspect during the

interview process. User5 spoke of the high level of interconnectedness that existed between

members in her description of what coworking was. User4 spoke of the networking aspect of

coworking and mentioned that she had been able to acquire new participants for her research

study through coworking, "it's helped me get a better sense of the community here, … it's helped

me find a few research participants, participants I would not have been able to find." User3 also

spoke about how the Hub should be seen in a large framework:

I think it's because we're moving to a more organic, community vocal connection

… I think people are reaching out to make business successful in each region, but

still helping others (User3)

User1 told us during her interview that using the Hub allowed her to get in touch with what was going on in the city, as she said the Hub, "makes me feel more connected to the community, and more settled in the community as a newcomer." User1 also said that, "The other one is, like I said, on a social, personal kind of level, is I have met very nice people, who have babysat my baby"(User1) However the most descriptive information about how the Hub creates some of the networking/social opportunities was provided by Owner1:

> There is this whole expression called Creative Collisions in the Hub network and I love it because having people float in and out and that is why the meeting space is really interesting to do with membership because although bigger organizations are unlikely to have a membership they use the meeting space [as they find benefit in meeting away from their offices] and therefore it brings in a different group of people [into the Hub] and we like to mix it up as much as possible. I think that it is good for people to see each other face to face we do so much virtually on the internet or I have heard of this person on twitter but seeing someone in the flesh (Owner1)

When asked about the Hub's relationship with other coworking sites around the world, Owner1 described how the Hub has been working to:

> maintain international ties to a community of change makers around the world. I don't think that we have got that as fully into the local scene as we would have liked … that has not really happened yet other than when certain members have been traveling we have been easily able to set them up, so it has happened informally (Owner1).

This reference to members who have been traveling illuminates the concept of the coworking passport. By buying a membership at one coworking place you can travel to another, in the same

town, across the country, or even internationally and have access to other coworking sites that are participating in the program. At the moment this program is informal at the Hub.

Owner1 also makes mention of the social functionality of the Hub. This was something that was quite hard to pin down from the interviews that were conducted. However two quotes from Owner1 provide some insight into these processes. The first of these is dealing with what happens when people arrive at the Hub with an idea and how the organization is able to use its networks to facilitate the success of their idea:

> ...a lot of people that come to the Hub come to us so organized and independently
>
> driven, and then when you have ideas, … we try and do our best to enable that to
>
> happen with good event organizing and good connections in the community to
>
> sort of make things happen (Owner1)

In response to being asked a follow up question about how does the Hub actually helps facilitate networking, Owner1 gave a very long and detailed response:

> We did this Creative's Christmas Party, there are a lot of freelancers … we [got
>
> to] be creative and open this up to people outside the Hub and we said sure it's
>
> good for us and good for you, anyway he showed up at this party and came up to
>
> us a month later and said I want to do an event with you called Folio-fest, [note:
>
> with CAPIC Canadian Association of Professional Image Creators] which is a
>
> portfolio review event. He just saw the benefit in mixing with other visual artists,
>
> bring[ing] graphic designers, photographers, illustrators, like that whole field of
>
> people together …there is a lot of crossover … bring people together from
>
> different fields, [we are] decent at event planning so we have called all sorts of
>
> creative directors in the city … in an example of an idea that came from someone
>
> who is not a member … but maybe at some point they will be saying we want to
>
> get a network membership (Owner1)

Just before this part of the interview, Owner1 made clear that in the first year the Hub had curated a lot of free strategic and community empowerment social events, which had helped with marketing the Hub, but which hurt the company's finances. Owner1 also makes it clear that while there have been negative financial consequences for the Hub they are very proud of what they have delivered especially on the social side. When pressed to further define what exactly this was Owner1 summed up exactly what the Hub did: accelerated business development through huge networking connections, knowing whom to connect with whom.

Financing-capitalization of businesses
Business Model of the Hub-Halifax

It is an interesting case study to examine the financing methods of the Hub-Halifax itself, as a local start-up without access to the services that it provides its users, or a ready supply of start-up capital. The initial financial decisions made by the founders of the Hub-Halifax have had long-term consequences that have directly impacted the users and the shape of coworking in Halifax. The financing of the Hub required the development of a business plan, and after much argument between the founders it was decided that the Hub would be a for-profit business. The reason given for this was that it would be more expedient in allowing them to access capital. As a for-profit business, the Hub was able to access capital more quickly through a number of government programs such as the Center for Entrepreneurship Education and Development (CEED), Center for Youth and Business, and gain matching funds from The Business Development Center:

> So we found out that this was partly how we determined our structure there was
> lots of arguing in the day about being a non-profit or being a business and the
> both of those entities can access different kinds of resources and it did not make
> sense to be a non-profit (Owner1)

Owner1 and Owner2 were also able to put some personal equity into the business but as Owner1 said, "I think we were undercapitalized though, I think that we needed more than we started with and I think it would have been different -- a much quicker acceleration ourselves, had we put more on the front-end"(Owner1). However at the time the danger of being undercapitalized was not something that the Hub founders were concerned about. For the simple reason that their financial undercapitalization and the level of risk they had taken on was not clearly understood by the founders. Two events made the founders more aware of their situation. One was when they were going through the process of incorporating and their lawyer commented on the level of risk that they were taking on. As Owner1 told the story, while they were drawing up the paperwork, "[the lawyer] said 'you guys are really amazing to take on that level of risk' (Laughter) and I was like what do you mean risk?" The Hub founders also met other coworking site founders and got a look at their initial start-up funds. As Owner1 said, "most people have more capital in the beginning. What we have seen of other Hub's financials like my jaw has dropped and my eyes have popped out of my head." This, however, did not stop the Hub from trying to raise funds.

As Owner1 put it, one of the problems they encountered when trying to capitalize the Hub was that while they applied to many different institutions and meet lots of people they were unable to secure financing. In part Owner1 attributes this to investors not knowing what to make of the business and perceived the Hub as an unusual business model, and as a result there were problems getting financing, "We did meet with a lot of people (…) it continues to happen to this day we never seem to fit into the right box"(Owner1)

The Hub's Use of Capitalization

When comparing the founding of the Hub to other coworking businesses, Owner1 stated that, "see[ing] how much money they started with, they went into debt to hire people, whereas we said we were just going to go into debt to build the space we are not going to pull any money or

resources for ourselves or anyone else until the business can actually afford that". As a result of this under-capitalization relative to other coworking spaces they had to bootstrap.

It was interesting that the effect of the method of capitalization also came up in a circumspect way when a non-profit business owner user was being interviewed. During a discussion about the negative aspects of the Hub, which centered around the fact that there was not enough privacy for the user's organization, it became clear that the small extra charge for using the meeting rooms was an additional expense that could not be passed on to the user's clients:

> Well it turned out to be a little more expensive in some ways than we anticipated
>
> because we had the cost of a regular fee for use of the space and the cost of
>
> renting the smaller spaces and they were very good to us, very often they would
>
> just let us use them but if we really needed to confirm a space then we had to pay
>
> for it. (User2)

As a result, for this user, using the Hub actually had a negative impact upon its finances. This was a cost that she was unable to pass on to her clients, because of standardized subsidized fees. This user saw this method of the Hub's income generation as a negative aspect of membership.

It also appears that out of the first year crisis of its finances, the Hub developed the concept of "hosting", though the origins are not clear. Hosting is where there is someone in the main room of the Hub who can greet new people, tell them about the Hub, book meeting rooms, issue print credits, take messages, etc. The person being the host is a volunteer who is offered access to the Hub in exchange for their labour. Owner1 notes no other coworking site that she knows of is using a barter model for this position.

One of the other areas that the Hub has had to bootstrap itself was in acquiring the office furniture for the Hub. Paradoxically, to open the business the founders needed to rent a photocopier, which was not possible, apparently new companies are too risky to be leased a copy

machine. The owners exchanged naming rights of the workshop room for renting a second hand photocopier and furniture.

The difficulties that the owners of the Hub had in trying to secure start-up capital for the Hub seems to have made them more aware of the fragility of new start-ups. They are much more willing to utilize their network and experience to assist their users in similar positions to help them grow, instead of focusing solely on providing office equipment and space. As we've seen in the literature on bootstrapping, their willingness to engage in the barter system for Hub services is a synergistic bootstrapping method using the social capital of both the users and the owners to further the goals of both parties.

User Capitalization

One of the users of the Hub had actually bootstrapped herself though the hosting position to leverage her business. She had launched a business from home, and then had been working as a host for a couple of years, using the Hub to network and build her business. When asked if there had been any cost advantage to using the HUB in relation to her business she said: "Yeah, because I'm a volunteer, I get access to the services for free. Sort of a dream really. So it provides a lot of opportunity, you can pay as a member, can be flexible, or can work and make your fee that way." (User3)

Also of interest was the possible incubation role that the Hub plays. I was fortunate enough to interview a business owner and asked what effect working at the HUB had had on her business: "I got my founding through the HUB. I called up [one of the owners] and said I had this idea for a business and she told me to hold on, that she thought that she knew someone, she got back to me to link me with someone who provided one third of my funding. The other two thirds of the funding also came through Hub members. You can access so many other advantages here: graphic design, a lawyer,

etc., through the Hub … people knew me and wanted me to be successful, no competition here, the Hub has really helped my business grow and be successful."(User5)

When the founders of the Hub were asked about the Hub's role as an incubator, they stated that the primary role of the Hub was not as a classical incubator model. That its primary mission had been to get ideas generated and provide the infrastructure for people to run their business, not to help start-up businesses. However both founders pointed out that the Hub had pushed to some degree beyond just providing infrastructure: it had run a workshop specifically geared towards an incubation program. Owner1 was willing to theorize about the role that the Hub could take as an incubator and Owner2 offered her own interpretation of the incubator model into which the Hub could develop:

> We don't as a general rule we don't get into starting up businesses ourselves, we
> are mostly about enabling that, providing the conditions so that can happen
> (Owner1)

> the incubator [role the Hub has] is more incubating the idea than providing the
> resources, so I mean in some instants for sure that people have gotten loans from
> each other or that people have invested in each others' business, but the Hub
> hasn't as an entity. But I am sure within the community people have supported
> each other like […] someone needs a web designer they get one through the Hub
> you know so in that sense, yeah. (Owner2)

They ran a weekend workshop on how to start-up and get funding; providing many of the resources that an incubator would, albeit in a short time frame. They acknowledge they are still new, and that there would be benefit in expanding their role in incubating start-ups, with profits and government funding.

The incubator role of the Hub was not specifically discussed during the user interviews. The only time that an incubator-type role was hinted at was when User1 was trying to describe what the Hub was, and mentioned that she learned so much in the workshops that she felt she had the confidence and contacts to launch her own business in the future.

Would the interviewees recommend coworking?

When interviewees were asked if they would recommend coworking to anyone starting a business, all of the respondents said yes. A few had caveats, including that it depended on the nature of the business, privacy, difficulties with the meeting rooms and noise factors.

anyone who is just starting out and wants to get a better [sense of] the community, or is looking for idea generation, I think those three groups can really, really benefit from coworking in general. (User3)

I think that it would very much depend on the nature of the business and the individual involved (User2)

My first response is yes, because […] just leaving your house, it puts you in a work mind frame […] but I think also for networking aspects (User4)

When the interviewees were asked about any negative experiences they had had at the Hub the range of experiences that they talked about was fairly narrow. The three main issues that negatively impacted users of the Hub where: noise, lack of privacy, and the meeting rooms. Examining each of them separately allows us to further tease out the issues around each of these negative experiences.

Noise was an issue that all of the users of the Hub identified as a major issue. The noise level varies over the day and curiously enough, the interviewees identified issues with both too little noise and too much. The responses included practical solutions: "Today I forgot my

headphones, so I haven't been able to block out the noise"; (User4) "Yes. I have a home office, when I cannot handle the Hub I go home."(User5). On the other end of the spectrum User2 reported that she had problems when clients were talking to her because the environment was too quiet and the clients did not like doing business in such a quiet environment, where they were worried about being overheard. This last was striking because where User2 reported it was too quiet for her clients, User1, trying to record interviews over Skype, reported the opposite,

> when I'm a conducting an interview … and the interview room is not available
>
> and I need to do it in the open space, it will be distracted, especially if it is a busy
>
> day (User1)

User4 noted that for anyone to use the Hub on a continuous basis, they needed to be flexible in their work practices and that if they really needed four walls or quiet then coworking with its open office space might not be for them.

The issue of noise also appears to feed into the second negative issue, which is the lack of privacy. User2's clients did not like the too quiet atmosphere in the Hub based upon worries that other people might hear sensitive personal financial information. User2 also reported that at times when they were using the meeting rooms they could hear the conversations of the other people in other meeting room since the walls were not soundproof enough.

This leads to the third major negative which people talked about were the meeting rooms. Interviewees' complaints were that they were not able to book a room, rooms were double booked, the layout of the rooms was not good, and there was not enough airflow in the rooms. The owners of the Hub are aware of these issues, but did not have the resources at the time of these interviews to remedy the situation.

Aside from these issues the other issues that interviewees mentioned were lack of storage space, the age of the other members (in context of peer groups) and the lack of strong relationship ties in coworking. User1 noted the inherent weak interactive ties in the Hub experience, which

was something that was not raised by anyone else. As she put it when asked about negative experiences at the Hub,

> I was envisioning maybe more personal interaction. [It's not like people are being] antisocial, but on the other hand, you don't get the same people every day, there are a few that very often here and it is nice to see them and chat and get an update on what they are doing, but you also get lots of people every day that you've never seen before, so it's a bit more difficult to reach a social level that you get in an office where you see the same people every day. (User1)

User1 seems to be referring to the inherent transient temporal nature of coworking. If you are working in a coworking space such as the Hub then there is no guarantee that the same people will be in attendance all at the same time due to the churn rate. As a result it appears that User1 is saying that you end up with weaker relationships or not as deep relationships as you would get if you were working in a permanent office setting.

What was also interesting was that to some extent the owners of the Hub were acutely aware of some of the negative aspects of the Hub. In first interview that was conducted, which was with Owner1, she stated that they were aware of issues and are looking to "tweak" the model to address those issues that were not working, for example: providing more private and semi-private office space, different sources of revenue for meeting rooms and workshops other than direct solicitation, and the design of the meeting rooms and main space could be better.

Discussion

In this section the themes that were found during the interview sessions at the Hub are compared to the current understanding of coworking in the literature.

User1 was of the opinion that the shared business equipment allowed her to deliver a quality service, and that she would be trying to utilize the workshops to gain more knowledge and eventually start her own business. This is in keeping with Cornwell (2009) in that by saving on capital overhead by sharing the costs through using the Hub, User1 is able to limit her capital expenditures and deliver a higher quality of service than she could in a home-based business. Because she had access to more and better equipment than she could afford alone, and could attend workshops to extend her skill set, she could leverage these shared resources to bootstrap her career. What we can see clearly though is how User1 looked to the Hub to improve her productivity, and in future was talking about leveraging both the network contacts she had made, as well as the information she had gathered from the workshops to open up a business in the future. This is indicative of Malewicki (2005) who looked at the ENO and the formation of calculative-based networks as well as Zedtwiz (2003) especially when he was talking about how important it was for an incubator to ensure that it maximizes usage of the internal value chains that are available within the organization. Full utilization of the value chains that the Hub offered could possibly help User1 start a business and prosper in the future.

While talking with Owner1, it was learned that User5 had worked for a time as a hostess for the Hub before she started her company, and that she was able to get funding for her company by utilizing the bonds that she had made with the Hub founders. As described above, User5 was able to both get funding for her start-up and a degree of intangible support from the founders of the Hub, which may have been a form of mentoring. User5 therefore is a very good example of how an entrepreneur is able to utilize the trust and social capital that they have built-up within their network contacts to gain start-up capital. This is the type of capital formation reported by Auken & Neely (1996) that 35% of firms achieved through owners bootstrapping their business. This is also invocative of Grannovetter's (1973) work on the power of weak networks and Guiso, Sapienza and Zingales' (2004) article on the importance of trust in capital formation. As well, the founders of the Hub helping her meet the different challenges that she faced is discussed in

Malewicki (2005) who speaks to the need of ENO's (in this instance the Hub's) to be able to adapt to the changing needs of their clients.

In talking to User3 it became clear that she was in fact using the opportunity provided by working for the Hub to bootstrap her business. She had started a business before working for the Hub, and saw the networking possibilities as allowing her to gain a "competitive advantage" which Berg (2009) points out as being vital for entrepreneurs in Canada.

Business Life Cycle and the Hub

It ought to be noted that when User2 was interviewed, she had already left the Hub and was being interviewed under the auspices of having had a negative experience at the Hub. A large part of User2's negative experience can be attributed to the fact that in a lot of ways her group could not fit into the Hub because it was inherently ill suited to do so due to its physical space requirements (requiring lots of storage and private office space). User2's group came to the Hub as an already formed business and its cost structure was inflexible because of the fiscal financing choices that it had made. As a business, it also did not need to rely upon the network possibilities that the Hub offered since it already had established itself. User2's group did not participate in the offered networked events, and those events that User2 organized were found to be too large for the facilities that were available. When talking to User2, there was also criticism of the quality of the rooms, the lack of soundproofing and air ventilation, as well as a lack of meeting rooms for when she met clients. Bearing in mind the work of such authors such as Bhide or Mac An Bharid (2010), who are talking about the difficulties of formation of capital in the early life cycle of a firm, it strikes me that in many ways User2 was more mature than a start-up, with established funding, and that as a result its expectations and needs were fundamentally different from those that the Hub does offer. However it is not possible to prove that with this one example.

Coworking as a Viable Alternative to the Traditional Workplace

User3 was very aware of the larger aspects of coworking: it is more common in Europe and the US, and it could be a work alternative into the future. In this regard she can be linked to Korkki (2011) who was looking into the viability of coworking as a work alternative. At the end of her interview she stated that she thought that, "people are reaching out to make business successful in each region, but still helping others develop in other regions, if that makes sense. So, I think [coworking is] socialistic and community driven." One of the owners and other users also saw the potential of coworking to have a positive influence on the community at large.

In relation to the available general literature on coworking, User5's activities through the Hub typifies many of the traits that were talked about: coworking kept costs down, was an incubator alternative, community orientated, and sustainable. User5 also made it clear that she saw the Hub and coworking as the future of work with her emphatic declaration that the future was, "decentralize or die" (User5).

Summary

This exploratory research into a coworking site in a medium-sized city in Atlantic Canada comprised of one-on-one interviews with the owners and five users. While limited in scope (the small number of interviewees, the lack of gender diversity, and not accessing all types of users), the comments during these interviews both agreed with current literature on the changing nature of work, and expanded the idea of a coworking space to include personal relationships, funding, and social change. The questions that prompted the discussions with the users were more heavily weighted towards financing and incubation, although by allowing the subjects to tell their own stories, this limitation was mitigated.

I can state that from my experience working at the Hub-Halifax that it was a productive working environment. I think however that one thing that really struck me when I was working in the Hub environment was that people seemed very blasé about both privacy and security. These issues may actually be more problematic than even the owners or current users articulate or consider. The open structure of the Hub both in its open office layout with the proximity of neighbours and their ability to overhear phone calls or snoop on work projects as well as in the wireless services that it provides would seem to be the ideal environment for unscrupulous people to steal ideas, information or other valuable data.

The owners of the Hub-Halifax spoke about something they called "creative collisions" as being most important aspect of coworking which seemed to be those interactions between members that appeared to be an aspect of networking. The users themselves spoke about the value of the networking and the cost savings of shared business equipment. These benefits of coworking spaces similar to the Hub-Halifax are most useful for early life-cycle technology-based sole proprietorships and micro businesses. The Hub has expanded beyond a strict definition of coworking, to include features that are incubator-like (e.g. mentoring, workshops, and some capital formation). The best management practices for coworking have not been determined; those outlined by Zedtwitz (2003) for incubators would likely be very beneficial to coworking sites if they were adapted.

A coworking site has to be able to adapt and change the scope of the services that it delivers so that it can ensure that it keeps its users engaged. This study highlights that a coworking site cannot expect to survive and prosper over the long-term by renting a space and just providing meeting spaces, a business environment and ITC support and services. There is an additional social element that has to be a factor to ensure that the coworking site endures, and grows as the needs of its clients change.

The surge in coworking appears to be in response to changes in the labour market, which has led to both an increase in entrepreneurship and teleworking in the Canadian labour market.

The benefit of coworking spaces seems to be that joining one allows its members to not only overcome the negative consequences of trying to work at home but to also utilize the inherent bootstrapping capabilities with which coworking is imbued. Also, the nature of coworking helps to fulfill social needs of entrepreneurs simply by the relationship-based network that it deploys.

Future Work

Future research should expand in scope to include a larger number of users and previous users over a number of different sites in order to more rigorously define and examine the coworking experience across countries. The international coworking passport was not fully investigated here, especially in relation to accessing independent coworking spaces in other cities and countries. Future examinations could also look at the impact of gender, age, and business life cycle on the coworking themes found during this research.

SMME methods of capital formation have been briefly highlighted here; a full quantitative examination may be of interest. If coworking has an incubator-like function, what impact do coworking sites have on the local economy? Do businesses begun in coworking sites have a higher success rate? During the interview process one of the questions that came up was what was the long-term goal of the Hub's founders. Owner1 responded that she would like to create a network around Atlantic Canada of coworking sites that can be curated from the Hub-Halifax, which could act as a growth engine for the region. More research into effects of coworking on the local economy could guide management practices and government policy, and give coworking a greater legitimacy to gain access to traditional sources of funding.

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Appendix A

Summary of Non-Academic Sources

To achieve a comprehensive summary of the non-academic articles on co-working (i.e. newspaper, magazine and online sources), a content analysis was conducted. First, the articles were reviewed and a list of predominant themes or topics was created. This list was made more comprehensive by adding additional themes from the literature review on telework, incubators and from Spinuzzi's (2012) academic article on co-working. The following represents an expanded definition of each of the major themes that have been tied to coworking.

1) Lower Cost: This refers to the subject of the article as being an option because it was either an inexpensive Office alternative it served to keep costs down or that it reduced overhead expenses.

2) Coworking: If the article refers explicitly to coworking in the article, this does not mean that it defines what coworking is.

3) Isolation: If the problem of isolation is mentioned in some form or another.

4) Security: This refers to a broad range of issues from physical computer security, to the issue of business espionage i.e. the stealing of others ideas. As well this category includes the general issue of privacy; which generally revolves around weather other people can overhear the cell phone calls that you make in a general shared workspace.

5) Businesses to network: Does the article mention of business network tie in any capacity.

6) Start-up: Does the article mention any business start-up issues: either funding, the possibility of incubation, or entrepreneurism in anyway?

7) Social Network: This has to do with the use, establishment, maintenance, and importance of a social network. Generally the social network that it is refereeing in the coworking site that

the article is referencing but that is not always the case. Sometimes it is referring to the general importance of social networks in the workplaces, for example the coffee shop, of the users in the article.

8) Mobile Technology: This is refereeing to the general use of mobile technology and includes both hardware and software. For example the article might reference the growing use of laptops and cell phones as allowing people to work anywhere. Another example might be that the article refers to the subjects' use of a computer programing language that is used to make websites. This is a very broad category.

9) Corporation: This is mentioned it the article references in any manner a corporation, it could be referring to the subjects in the article being happy to leave a corporation or it could be referring to the corporation embracing coworking as a flexible job strategy.

10) Telecommuting: That teleworking or telecommuting is referenced in the article.

11) Flexibility: That the issue of work related flexibility is mentioned in some form.

12) Collaboration: This refers to the work state of the coworking space; for example that for the interviewees working in a coworking space allowed them to meet website design people who were willing to collaborate to get their business started. There is no real standard for the meaning or degree of collaboration that is talked about in the articles, it was mentioned then in was noted.

13) Competition: If the article mentions that the worker sees coworking as a means of gaining an advantage against their business competition.

14) Homogeneous: This was noted if the article referred to people wanting to work in/with a coworking space with other like-minded people.

15) Heterogeneous: This was noted if the article referred to people wanting to work in/with a coworking space with other different minded people.

16) Work/Home Separation: It was noted if the article mentioned if separating work from the home was mentioned.

17) Had worked from Home: If the article noted if in the past the article mentions if people had tried working from home.

18) Home: distractions – In a lot of articles this was undefined, in others people being interviewed referred to how they ended up playing with their cat or doing the dishes instead of working.

19) Home: self-motivation problems: Generally was mentioned as self-motivation problems but it included working at home and dealing with depression.

20) Coffee shop distractions: Noted if author mentioned that working in a coffee shop was distracting mainly, undefined so it could include noise issues, for example mentioning mothers with children.

21) Noise issues: If the article specifically stated that there was a noise issue. This was assumed to mean that it was too noisy, for example a group in the middle of the space would talk on their cell phones in a foreign language really loud and it bothered the person being interviewed. Note, where it was noisy was not noted, meaning that it could be in reference to either a coworking space or some other space, such as a coffee shop.

22) Other space: That the article mentioned some other non-home, non-coworking space. In the majority of instances this is in reference to working from coffee shop. It ought to be noted that some articles mentioned spaces that where similar to coworking spaces but were limited to one type of client, such as dedicated writer spaces.

23) Age is mentioned: This had only to do with if the article mentioned the age of the user of the coworking space. Currently there is extremely limited information about the demographics: gender, race or age of users of coworking spaces.

These values cover some of the major issues that effect coworking.

Each article or web blog posting was than analyzed to see how many of the above themes or values were mentioned and then the results were tabulated to see which articles are most comprehensive in covering coworking.

In the traditional media articles by: Marquez (2008), Rosenwald (2009), Hodges (2009), Cohen (2011), Korkki (2012), Lee (2012), and Maltby (2012), were found. Applying the above values to each article produced the results shown in Table B.1.

Table B. 1: Value analysis of traditional media

	Lower Cost	Coworking	Isolation	Security	Businesses to network	Start-up	Social Network	Mobile Technology	Corporation	Telecommuting	Flexibility	Collaboration	competition	Homogeneous	Heterogeneous	Work/Home Separation	Had worked from Home	Home: distractions	Home:selfmotivation problems	Coffeeshop distractions	Noise issues	Other space	Age is mentioned
Marquez (2008)	x	x	x			x		X	x	x		x					x	x					x
Rosenwald (2009)	x	x	x		x		x	X			x	x				x	x					x	
Hodges (2009)	x	x	x	x		x		X		x							x	x	x	x	x	x	
Cohen (2011)		x	x			x		X	x	x		x	x								x	x	
Korkki (2011)	x	x		x		x			x	x	x					x	x			x			x
Lee (2012)	x	x				x				x													
Maltby (2012)		x		x		x			x			x											

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A similar analysis was conducted for the many traditional and social media sources that have been accumulated on the coworking wiki: **wiki**.**coworking**.**info**/. The sources referenced on this site were dated from 2005 to 2012, numbered 47 pieces (of which 42 were accessible), and ranged from traditional media to web blog postings: Schillinger (2005), della Cava (2006), Miller (2007), Hicks (2007), Fost (2007), Grossman (2007), Johnson (2007), Reed (2007), Amster-Burton (2008), DeBare (2008), Fost (2008), Alboher (2008), Gaylord (2008), Patterson (2008), Patterson (2008), Swanson (2008), Zitz (2008), Hannon (2009), Cooke (2009), Flandez (2009), Rueb (2010), Thiessen (2010), Etherington (2010), Cameron (2010), Lum (2010a), Lum (2010b), Kessler (2010), Swartz (2010), Lum (2010c), Lum (2010d), Lum (2010e), Lum (2010f), Raby (2010), Watters (2010), Lum (2010g), Lucchetta (2010), Carniol (2010), Evans (2010), Bury (2011), Mackie (2011), Immen (2011), Arieff (2011), Arellano (2011), Sullivan (2011), MacLellan (2012)

Table B. 2: Wiki Referenced Newspapers and Blogs Themes Related to Coworking

	Lower Cost	Coworking	Isolation	Security	Businesses to network	Start-up	Social Network	Mobile Technology	Corporation	Telecommuting	Flexibility	Collaboration	Competition	Homogeneous	Heterogeneous	Work/Home Separation	Had worked from Home	Home: distractions	Home:selfmotivation problems	Coffeeshop distractions	Noise issues	Other space	Age is mentioned
Schillinger (2005)	x						X						x	x		x		x	x				
della Cava (2006)			x		x	x		x	x	x	x				x							x	x
Miller (2007)	x	x			x	x	X			x	x					x	x						
Hicks (2007)	x	x	x			x	X	x		x				x			x	x	x				
Fost (2007)	x			x		x		x	x	x	x	x					x		x	x	x	x	x
Grossman (2007)	x	x	x		x	x	X	x			x	x				x	x	x				x	x
Johnson (2007)	x		x		x	x	X			x		x	x	x		x						x	
Reed (2007)	x			x		x	X		x	x	x	x	x	x								x	
Amster-Burton (2008)	x	x	x		x		X		x	x	x			x		x	x	x	x	x	x	x	x
DeBare (2008)	x	x	x	x		x	X	x	x		x						x			x		x	x
Fost (2008)		x		x	x	x	X	x	x		x	x	x		x		x		x		x		
Alboher (2008)		x	x								x	x											
Gaylord (2008)	x	x	x	x		x		x		x	x	x		x			x	x	x		x	x	
Swanson (2008)	x		x		x		X	x	x	x		x		x		x		x		x		x	x
Zitz (2008)		x	x			x	X		x	x					x		x	x	x		x	x	
Hannon (2009)		x	x				X			x		x								x		x	x
Cooke (2009)	x																x		x				x
Flandez (2009)	x	x				x	X	x	x		x			x			x	x			x		
Rueb (2010)		x	x		x	x	X	x				x					x	x		x	x	x	
Thiessen (2010)	x				x	x	X	x			x	x											x
Etherington (2010)	x	x						x								x						x	
Cameron (2010)		x			x	x						x											
Lum (2010a)		x	x		x		X	x				x					x	x	x	x	x	x	
Lum (2010b)	x	x			x	x	X					x		x								x	

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Table B.2 (continued): Wiki Referenced Newspapers and Blogs Themes Related to Coworking

	Lower Cost	Coworking	Isolation	security	Businesses to network	Start-up	Social Network	Mobile Technology	Corporation	Telecommuting	Flexibility	Collaboration	competition	Homogeneous	Heterogeneous	Work/Home Separation	Had worked from Home	Home: distractions	Home:selfmotivation problems	Coffeeshop distractions	Noise issues	other space	Age is mentioned
Kessler (2010)	x	x			x	x	x	x						x		x				x		x	
Swartz (2010)	x	x				x		x				x											
Lum (2010c)	x	x			x	x						x				x							
Lum (2010d)		x			x	x	x					x											
Lum (2010e)	x	x	x		x	x	x			x	x	x					x	x	x		x	x	
Lum (2010f)	x	x			x		x	x								x							
Raby (2010)	x	x			x	x	x	x	x		x	x											
Watters (2010)	x	x			x	x	x					x					x					x	
Lum (2010g)		x			x	x	x									x						x	
Lucchetta (2010)	x	x					x	x			x	x					x	x	x	x	x	x	
Carniol (2010)	x		x			x	x	x			x	x					x	x	x	x		x	x
Evans (2010)	x		x				x		x								x						x
Bury (2011)		x	x		x	x	x	x	x									x	x			x	
Mackie (2011)	x	x				x					x	x										x	
Immen (2011)	x					x		x	x			x				x		x	x	x		x	
Arieff (2011)																							
Arellano (2011)	x	x		x		x		x				x					x	x	x				
Sullivan (2011)		x			x	x			x			x											
MacLellan (2012)		x	x					x	x			x									x		x

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