Western Geography, 13/14 (2003/2004), pp. 161–181

Student Writing

The Nature of E-Commerce

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The Internet and its associated applications are redefining traditional geographic concepts of space and time. The idea of location is no longer defined by physical attributes alone. Rather, location is assuming new meanings and, thus, the study of cybergeography has emerged. The ability to conduct business via the Internet allows new opportunities for entrepreneurs and consumers, particularly for smaller communities, whereby accessing both markets and marketplaces no longer become barriers. This research attempts to discover the nature of e-commerce in the medium-sized city of Kamloops, BC by discussing the presence of supportive attributes to e-commerce, such as high-speed infrastructure and hi-tech activity. The research provides evidence that Kamloops is well-positioned to attract economic development in the area of e-commerce and hi-tech, but may not necessarily re-position itself within the regional hierarchy.

Introduction

The pervasive nature of the Internet and its associated applications are redefining traditional geographic concepts of space and time. The idea of location is no longer defined by physical attributes alone. Rather, location is assuming new meanings and, thus, the study of cybergeography has emerged (Adams, 1997; Adams & Warf, 1997; Dodge, 2001, 2002; Donert, 2000; Dov Abramson, 1999; Starrs & Anderson, 1997; Warf, 2001). Broadly speaking, this study focuses on the concepts of cybergeography with respect to the

landscapes of business and marketplace activity, particularly for small to medium-sized cities, such as Kamloops, BC. The ability to conduct business via the Internet creates new opportunities for entrepreneurs and consumers, whereby locating in smaller communities no longer is a barrier to accessing both markets and marketplaces.

E-commerce has emerged as a new way to conduct business. E-commerce activity is not to be confused with e-business; e-commerce refers more narrowly and simply to the ability to transact money on-line in exchange for goods and services. This activity, although difficult to measure, surfaces through the presence of supportive infrastructure businesses and hi-tech activities located in the same area. This research attempts to discover the nature of e-commerce in the medium-sized city of Kamloops, BC, by discussing the presence of supportive attributes to e-commerce, such as high-speed infrastructure, hi-tech activity, local skilled graduates, and lifestyle benefits. The research supports common notions made by members of the community that Kamloops is well-positioned to attract economic development in the area of e-commerce and hi-tech.

This paper uses the theoretical underpinnings associated with cities and e-commerce as a foundation. Through the process of a literature review, overall concepts are connected to qualitative observations of current supports for e-commerce activity in Kamloops. The study, when combined with Piroddi's (2002) findings will form a current assessment of e-commerce in the city and acts as a framework for continued study.

A thorough literature review is presented in the next section, with an important discussion defining and measuring e-commerce, followed by traditional concepts of space and time. The literature review closes with an examination of e-commerce and the city. Thereafter, a brief introduction to Kamloops, BC is included and a discussion of the current presence of hi-tech associations and initiatives is presented. The largest project currently underway is the implementation of the Kamloops Community Network (KCN). A discussion of this infrastructure project follows. The paper concludes by making connections between the theoretical findings and the local context.

Literature Review

The nature of changes taking place in society due to the Internet Revolution is broad and complex and, while still pre-

mature, is having profound impacts on the way daily life is conducted. The Internet pervades all facets of life, including the social fabric, city infrastructure, and the economic landscape (Brunn & Leinbach, 1991; Cairncross, 1997; Castells, 1989; Castells, 1996; Graham & Marvin, 1996; Rowe & Thompson, 1996). This particular research is interested primarily in the latter two aspects, while not necessarily ignoring social implications. Specifically, the focus will be on the nature of e-commerce and how this emerging tool to conduct business transactions is affecting the notions of time and space specific to small and medium-sized cities. Current literature that focuses on the nature of e-commerce activities will attempt to challenge traditional concepts of distance and their relation to the economic landscape.

Prior to examination, however, a review of the definition of e-commerce and how it is measured is warranted. This is followed by a discussion of the literature associated with general concepts of time and space and of e-commerce and the city.

Defining E-Commerce

The term "e-commerce," short for electronic commerce, can be simply defined as "any transaction that involves money and is done over the Internet" (Donert, 2000: 42). This definition includes the aspect of consumer shopping on the Internet, but in the broader context also includes "the exchange of information across electronic networks including paid *and* non-paid transactions" (Evans, 2002: 947). Electronic business, or e-business, is a term that is often used interchangeably with e-commerce, and incorporates the broader contexts as just described (Schneider & Perry, 2000: 2). Expressed similarly, the Organisation for Economic Co-operation and Development (OECD) defines e-commerce as, "all forms of transactions relating to commercial activities, involving both organisations and individuals, that are based upon the processing and transmission of digitised data, including text, sound and visual images" (1997: 11). Industry Canada (2002) provides the following similar definitions:

> **Technically** Electronic Commerce (ECom) is commercial activity conducted over networks linking electronic devices (mainly computers).
>
> **Basically** Electronic Commerce is a cheap way of connecting computers in order to accomplish tasks that have traditionally drained a lot of time and money from businesses. Things like sell-

> ing products, invoicing, controlling inventories, and communicating with suppliers and customers.[1]

The concept of "transactional" e-commerce is further divided into four categories (Cornford and Jones, 2000, as cited in Evans, 2002). These categories are business to business (b-2-b); business to consumer (b-2-c); consumer to business (c-2-b); and consumer to consumer (c-2-c). "Non-transactional" e-commerce refers to the balance of activities, excluding monetary transaction, and is probably more appropriately labelled e-business. For the purpose of this paper, e-commerce is defined in its broadest sense to include those activities described as e-commerce (transactional) and e-business (non-transactional).

Measuring E-Commerce

Given the broad and complex definition of e-commerce and the fact that it pervades all sectors, measuring the extent of the activity becomes problematic for the researcher. To reiterate, the definition of e-commerce is divided into its two main parts: transactional and non-transactional.

Transactional e-commerce statistics are readily available through private and public sources (eMarketer Inc., Forrester Research Inc., Industry Canada, Statistics Canada). These sources typically provide data on the larger geographic unit (i.e., national scale). Few, if any, provide detailed statistics at a regional or city scale. In order to measure the extent of e-commerce at these smaller scales, *non-transactional* e-commerce and its related activities have been used as a crude measure:

> "…a range of supportive services are involved including electronic communications infrastructures and nodes, web site development, electronic marketing, transactional security and transport logistics. The approach…is to focus mainly on infrastructure businesses such as hardware and software providers, network service providers and enabling services. The range, number and size of such firms in a particular locale and their economic performance serve as a rough proxy for the extent to which other local firms are seeking to become e-businesses and also an indication of each locality's overall share of what is a booming market (Evans, 2002, 950-951).

Concepts of Time and Space

The notion of 'place' in the context of geographic study, is being challenged within its traditional framework. Earlier works such as those provided by Relph (1976), examine the uniqueness of places as forms of individual and community identity. This concept of place, when combined with notions of space, time, and distance, describe a traditional geography positioned as 'something, somewhere, sometime' (Berry, 1964, as cited in Couclelis, 1996). It is this traditional framework of geography that is being challenged today due to information technology and its ability to defy the space-time continuum. The new geography that is confronting these traditional concepts is one alternatively described by Couclelis (1996) as 'anything, anywhere, anytime.'

A broad range of aspects has been examined regarding this changing nature of geography (Adams and Warf, 1997; Brunn and Leinbach, 1991; Cairncross, 1997; Castells, 1989, 1996; Graham and Marvin, 1996;), and particularly, the term 'cybergeography' has been receiving increased attention (Dodge, 2001; Donert, 2000). This is an area which will most likely be the subject of continued examination, as the information technology revolution continues to permeate our lives.

This changing geography, however, is more than just a continued evolution of earlier examinations of 'placelessness' as studied by Relph (1976). The 'placelessness' is one where a loss of 'authenticity' is experienced—"an environment of few significant places…a flatscape, a meaningless pattern of buildings" (Relph, 1976: 117). Further to this examination, however, the term 'cybergeography' is not only reinventing a new sense of place, it is redefining the boundaries of geography in more complex and interesting ways.

The benefits of e-commerce to conduct business have been highly promoted and documented from a business perspective. Westland and Clark (2000) provide a comprehensive yet practical study of global electronic commerce, documenting current theory and case studies. In referring to Manfred Kochen and Ithiel de Sola Pool, mathematicians who devised the *small world phenomenon*[2], Westland and Clark point out that economic activity is not immune to this notion of a shrinking world.

Indeed, the fact that new technology is allowing for business to overcome barriers of space and time is not a surprise. More important is the speed at which it is happening and, therefore, "each new technology remaps our distances between people and places and

demands that we restructure the things we do to remain competitive" (Westland and Clark, 2000: 55). Further to this point Westland and Clark provide a geographic model[3] that shows the impact of increased communications ability and reduced logistics and barrier costs "making the world appear to be a very small place" (Westland and Clark, 2000: 55). Here, the anthropocentric perceptions of space, time, and cost were remapped with the emergence of each new technology.

E-Commerce and the City

Given the fact that information technology is redefining notions of space, time, and distance, it is important to discuss how these basic geographic principles are affecting areas of urban processes and planning. Castells (1989) provides one of the earlier insights into the impacts of information technology on the urban-regional process and economic restructuring. Broadly speaking, Castells frames his analysis under the new "informational mode" of development rather than the concept of the capitalist mode of production. Under this technological paradigm, Castells highlights two major characteristics: first, new technologies focus on information processing and, furthermore, both raw material and output are information. Second, the main effect is on process, not product. It is this restructuring that is fueling the shift from Industrialism to Informationalism and, thus, demanding attention in the sphere of urban planning.

Graham and Marvin (1996) would agree that examining these effects in the modern city is highly warranted but argue that research is lacking. Thus, they have aimed to explore, in a more sophisticated way, the effects of telecommunications on the urban planning and development process. The neglect in this area of study, Graham and Marvin argue, is partly attributed to the challenge associated with the invisible nature of telecommunications which defies traditional urban study that focuses on the visible 'built environment.' Graham and Marvin, while not discussed in any detail here, provide a valuable discussion of the following different analytical perspectives employed in studying the relationships between telecommunications and the city: (1) technological determinism, (2) utopianism-futurism, (3) dystopian/urban political economy, and (4) social and political construction of technology. A large portion of this paper is devoted to taking the view of this latter approach, otherwise termed the SCOT approach (Social

Construction of Technology), whereby human agency helps to shape telecommunications.

Joining the argument that little information is available on the growth of the Internet in the context of urban planning is Townsend (2001). By providing an empirical study using domain name registrations and backbone networks, Townsend contributes a framework that challenges the opposing perspectives of the global city concept and the idea of wholesale urban dissolution. Rather, he demonstrates the emergence of "a complex new network of networked cities" (Townsend, 2001: 39). These networked cities are experiencing increased benefits from an economic development perspective as well:

> These highly prosperous regions are attracting the skilled workers and the investment in infrastructure that is needed to sustain their growth, often at the cost of lost opportunities for other regions, and they are being organized into an exclusive and highly codependent economic system. In fact, this transformation is in many ways favoring those regions with firms and individuals that are most able to create and shape these new technologies. Without the capacity to use these new tools, struggling regions will always fall behind (ibid., 57).

Evans (2002) provides one of the more recent and detailed assessments of local and regional e-commerce activity, by comparing the nature and extent of e-commerce in England's northern cities of Greater Manchester and Merseyside, and by discussing related governance issues. However, despite the research's current nature and the growing extent of e-commerce generally, the status of these two city-regions has remained relatively unchanged. The evidence provided delays answering the debate as to whether e-commerce activity will dominate in small or large cities, or to what extent it will modify the existing urban hierarchy—"the evidence suggests that e-commerce will follow the contours of existing economic geography and bolster present power-bases" (Evans, 2002: 952). Admittedly, Evans suggests "we are still feeling in the dark as far as the geography of the Internet revolution is concerned" (p. 973).

It is this range of study and viewpoint that warrants local examination and practical application, especially in light of recent attempts by the City of Kamloops to implement the Community Fibre Network, a backbone high-speed infrastructure. As a medium-sized, regional city with a population of approximately 86,000, there are important implications for the urban-regional process and

the city's ability to attract economic development. There appears to be little in the way of literature that focuses on the impact of information technologies, specifically e-commerce activities, on cities the size of Kamloops, let alone within the Canadian millieu.

Hi-Tech Presence in Kamloops, BC

Kamloops is considered a medium-sized centre, located in the Thompson-Nicola Region of British Columbia. It has a Census Agglomeration population of 86,491[4] and operates as a high-order central place for an overall regional population of approximately 128,000 (Venture Kamloops). At the provincial scale, however, Kamloops operates as a medium-order central place. The metropolitan area of Vancouver acts as the predominant centre for the rest of the province, thereby making Kamloops somewhat reliant on Vancouver from a traditional hinterland-heartland perspective.

Kamloops, however, is increasing in prominence due to the lifestyle attributes associated with living in a smaller centre. Many individuals and businesses have decided to make Kamloops home, for reasons of housing affordability and recreational opportunities that are not necessarily available in a larger city. Additional pull-factors are attributed to the presence of the University College of the Cariboo (UCC—now Thompson Rivers University), drawing both local and regional students and producing an abundant pool of skilled labour, particularly for the IT sector[5].

Despite stigmas associated with Kamloops being strictly a primary resource-based, "hinterland" centre, its economy is quite diversified. Many people are employed in the retail trade, in addition to the health and social service, accommodation, food & beverage, education, and government sectors (see Table 1). In fact, the largest employed sector is the retail trade (with 15% of the labour force), followed by the health and social service sector (11.2%) and the accommodation, food & beverage sector (10.4%) (BC Stats, 1996).

Table 1: Top three employment sectors - Kamloops, BC (1996)

Sector	*Percent of Labour Force*
Retail Trade	15
Health and Social Service	11.2
Accommodation, food & beverage	10.4

Source: BC Stats, 1996

However, in the context of examining the extent of e-commerce in Kamloops, a review of the current state of hi-tech affairs is important. As mentioned previously, it is difficult to measure e-commerce, since the activity itself is pervasive across all sectors. A crude measure can be determined by examining the extent of high-tech activity through supportive and infrastructure-type activities occurring outside of the private sector.

First, however, a brief review of activities occurring within the private sector is warranted. Kamloops is home to a number of local entrepreneurs who focus on web site development, Internet service provision, and other supportive services to the industry, in addition to store-fronts and service establishments that have capitalized on the e-commerce trend (Piroddi, 2002). All of these entities, particularly the private sector businesses, offer evidence of a hi-tech presence (See Table 2). It should be noted that of the 160 "E-Commerce/E-tailer" establishments, 50 of these are classified as accommodations and bed and breakfast outfits, some of which include national hotel chains, performing centralized on-line reservation functions. It is recognized here that Piroddi's inventory is preliminary and requires a more in-depth examination in order to make more substantial conclusions.

Table 2: Preliminary Summary of E-Commerce Activity in Kamloops, BC

Category	*Description*	*No. of Establishments*
Website Development and Support	• Design/development of websites • Technical and education consulting	35
Electronic Communications Infrastructure	• Local and National Internet service providers	7
E-Commerce /E-tailer	• Selling of goods and services based in Kamloops	160

Adapted from: Piroddi, 2002

More important, in the context of this examination, is that the city of Kamloops has seen a number of local non-profit organizations and committee initiatives emerge to support these economic

development efforts (See Table 3). The Interior Science Innovation Council (ISIC) is one such non-profit organization,

> …that focuses its economic development activities and resources towards four central goals:
>
> 1. Advance technology and industrial development by focusing on regionally relevant sectors.
>
> 2. Encourage and promote technology transfer and adoption.
>
> 3. Promote and facilitate access to federal, provincial and other science, technology and innovation related programs and initiatives.
>
> 4. Promote awareness of the importance of science, technology and innovation among all stakeholders (including students, educators, business, local government, community organizations, agencies and the general public) and, in so doing, improve education opportunities" (Wright, 2001, p. 2).

Digital Valley is a membership driven association consisting of "a group of dynamic companies involved and interested in the technology industry" (Digital Valley, 2002). Through the opportunity of networking with other local businesses in the BC Interior, member companies are able to "collectively promote the technology industry in the Kamloops area". While the current membership consists primarily of Kamloops-based businesses, membership is open to those located in the BC Interior.

Technology Kamloops is a city-led initiative unveiled in early 2001 by Mayor Mel Rothenburger who also chairs the committee. The organization consists of a 12-member board and 6 working committees responsible for attracting high-tech start up companies to Kamloops and region.

The *Kamloops Community Network* is a project that is receiving much recent attention. The initial stages involve the City of Kamloops, in partnership with four other community players, implementing a city-wide, high-speed network infrastructure. This is a significant key to Kamloops' ability to attract hi-tech interest to the area and, as such, the aspects of this project are highlighted further in the next section.

Lastly, *Venture Kamloops* is the entity handling economic development for the entire region. Its web site promotes all economic benefits of the area including a page that highlights the above hi-tech organizations and initiatives.

The presence of such organizations act as a crude measure for the professional efforts required to support an increasing hi-tech sector.

Table 3: Summary of Supportive Hi-Tech Presence in Kamloops, BC

Organization/Initiative	*Purpose*
Interior Science Council (ISIC)	• Independent regional arm of the Science Council of British Columbia. • Promotion of technology and innovation within BC Interior across all sectors.
Digital Valley	• Business member driven. • Collective promotion of technology industry, including networking opportunities.
Technology Kamloops	• City-led initiative. • Attraction of hi-tech start up companies to Kamloops region.
Kamloops Community Network	• City-led in partnership with community players. • Implementation of city-wide, high-speed network infrastructure, to attract hi-tech companies.
Venture Kamloops	• Regional body. • Overall economic development, including hi-tech activities.

Kamloops Community Network (KCN)

The Kamloops Community Network (KCN), a project undertaken by the City of Kamloops, is a high-speed network that will facilitate the flow of information in the city. The project will provide a city-wide backbone infrastructure by using existing power and sewer infrastructure to string fibre lines. The intention, as outlined by the City of Kamloops, is to provide business with easy, economical access to a high-speed network and to serve as an economic development tool to attract new business.

The successful development and implementation of the KCN is a key driving force for Kamloops' future economic development. This is a statement shared by Frank Mayhood, Information

Technology General Manager of the City of Kamloops—"We're not the front edge, but we're very close. It's one of those things where if we don't do it now, we'll have to do it later and we'll be catching up" *(The Daily News*, Kamloops, 2002).

The goals behind the KCN fit within a larger policy environment. Indeed, the need for this infrastructure coincides with global and national phenomena. As discussed earlier, Townsend (2001) points out the need for communities to "create and shape these new technologies" (p. 57) in order to prosper as a region. The Government of Canada's vision of "connecting Canadians" is a plan to make Canada the most connected country in the world (2002). Part of this vision includes an initiative called "Smart Communities - Broadband." A Smart Community is defined as, "a community with a vision of the future that involves the use of information and communication technologies in new and innovative ways to empower its residents, institutions and regions as a whole" (Industry Canada, 2002a).

Predicting Outcomes

So far, the assumption has been made that the presence of supportive businesses and proper infrastructure will fuel the smaller regional economy with respect to e-commerce activity. Unfortunately, these elements alone cannot definitively determine the future of e-commerce business in Kamloops. While the emergence of general hi-tech activities is apparent, Kamloops has yet to convince mainstream e-commerce companies or e-tailers, for example, of its locational attributes. It is likely that the larger e-tailers, particularly national and global brands, will continue to centralize distribution functions in larger centres due to more convenient transportation infrastructure and proximity to existing and much larger consumer markets. This, however, is not a reflection of the fact that these same large brick-and-mortar type retailers continue to locate in Kamloops.

Where Kamloops will see benefits from its e-commerce support activities is from the increased use by small business owners and consumers. It is widely attested that businesses experience increased efficiencies by conducting business electronically and from the perspective of a medium-sized city, such as Kamloops, the opportunities for small business to reach global markets without having to locate in a larger centre are obvious. However, for this to happen, business owners require reliable and high-speed access to operate, along with continued promotion of the area to attract new

start-ups. Depending also on the type of activity, many companies will recognize the lifestyle considerations associated with small centres rather than their physical location given what they can accomplish using technology. For example and as previously mentioned, unlike major e-tailer type activity, information service and supportive functions, such as information call centre activity or website and software development, are better candidates for locating away from major centres.

Consumers, too, can benefit from increased access to other goods and services presently not available within the confines of the physical city. Further to the benefits for small business and consumers, Tapscott (1995) emphasizes the notion of "prosumption," whereby the "gap between consumers and producers blurs" (p. 62). The idea of the prosumer stems from the fact that, via the Internet, consumers are able to take part in the customization of their own goods and services, rather than relying on old economy ideas of mass production. This opportunity for consumers to take part in e-commerce, by shopping for goods and services in a way that allows them to customize their choices, increases the individual power for Kamloops' consumers. While a common argument is that increased consumer leakage will occur due to on-line access to goods and services from outside the region, it can also be argued that increased revenues from other activity based within Kamloops, but which services markets outside the region, are also realized in return. The actual extent of this would require further examination.

The question, however, remains, *if we build it,* will they come? Will the KCN attract both hi-tech companies and, specifically, those companies wishing to conduct e-commerce activity? So far, the answer to the first question appears to be an overwhelming "yes" by those promoting the high-speed infrastructure. However, provided that the answer is "yes" to the second question, will this, in turn, alter the present hierarchical relationship that exists between different sized cities? At this point, it appears too soon to tell.

The logic of Evans (2002) suggests one potential outcome. In his study of the relative attractiveness of Greater Manchester and Merseyside to e-commerce activity, the results show "e-commerce has not as yet fundamentally changed the relative status of these two city-regions and appears to be reinforcing existing power relations, hierarchies and income distribution" (p. 947). As such, the study concludes that the geography of the Internet revolution has yet to produce any marked outcomes, which makes predicting the outcomes for the city of Kamloops difficult.

Citing Townsend (2001), Evans (2002) further concludes that e-commerce activity will favour two kinds of cities: primary innovators—cities with the capability to supply research and development in concert with advanced e-service companies; and principal 'adopters'—large centres already encompassing large client and consumer markets, where more advanced infrastructure exists. Kamloops more closely meets the criteria of the former category, with its production of highly skilled graduates of the University College of the Cariboo's (now Thompson Rivers University's) highly regarded Computer Science programs. These local educational opportunities present a large potential to develop locally trained graduates versus importing talent from elsewhere, or further yet, deporting our skilled graduates to other cities or countries. More importantly, the opportunity to retain local graduates is key, allowing them to maintain and develop roots in the community through various hi-tech or e-commerce initiatives. This access to locally trained employees and entrepreneurs, and any further potential to expand the University's role in hi-tech research and development, is perhaps one of the more obvious advantages available to Kamloops as the city moves forward in the new economy. Ideally, these educational links within the community will help achieve a primary innovator status for the city when it comes to e-commerce activity.

Furthermore, Kamloops possesses many of the advantages associated with "quality of life" as discussed earlier. This, combined with the advances of the KCN and commitments made by local hi-tech-oriented associations, positions Kamloops favourably for the future. However, the caution lies in having all of these factors work synchronously—"Quick-fix policies that try to use physical infrastructure as an incentive will fail without substantial commitments to develop the skilled labor force which is necessary to make these facilities a valuable asset" (Townsend, 2001).

Conclusion

While Internet and e-commerce technologies have the ability to transcend space and time, it is unlikely that Kamloops and other medium-sized cities will become recipients of major economic power shifts. Rather, Kamloops' business sector and consumer groups will experience larger efficiencies related to time and distance by being able to access increased regional, national, and global markets. As Evans (2002) demonstrates, the same economic power bases will continue across the regional economic landscape

since both large and smaller cities have access to the same Internet technologies within a relative framework. Given Evans' conclusions and the preliminary nature of the Kamloops' examination, it is argued here that major infrastructure and e-commerce activity will continue to locate in larger centres since the same types of benefits can be experienced anywhere, thus, the decision to locate in a larger marketplace presides.

In examining the theoretical literature in conjunction with the local Kamloops context, it is apparent that Kamloops possesses some of the major attributes for attracting and developing successful economic initiatives in the area of e-commerce activity. The potential for the city to become an innovator amongst medium-sized communities within the new economy depends on the careful nurturing of three areas: the Kamloops Community Network (KCN), the local skilled graduates, and the city's lifestyle attributes. The advanced infrastructure, combined with local talent and lifestyle, favourably position Kamloops as an e-commerce innovator. It appears that some of this nurturing is already taking place through the active involvement of many interest and professional groups. The key is having all of these areas work together in a seamless fashion.

It remains difficult to measure the extent of e-commerce in any city given crude measures of the hi-tech sector and the nebulous nature of on-line commerce and information exchanges both within and outside of a city. However, this study provides a current theoretical and qualitative snapshot of the nature of e-commerce and its supporting activities in Kamloops and acts as a preliminary framework for examining the industry as it moves forward in the new economy. While e-commerce activity may not re-position Kamloops within the hierarchy of regional economies, certainly it has the potential to diversify its current economic climate. Further study is warranted to more accurately track the nature of these changes.

Notes

1. Industry Canada (2002). Electronic Commerce in Canada. Available: http://ecom.ic.gc.ca/english/index.html.

2. Referring to the well-known notion, the six degrees of separation, whereby any individual is separated from another by an average acquaintance chain of six individuals.

3. Model taken from Weinhaus, Carol L. and Oettinger, Anthony G. (1988). Behind the Telephone Debates. Norwood, NJ: Ablex Publishing.

4. Statistics Canada Census 2001

5. UCC (now Thompson Rivers University) is recognized for its School of Advanced Technologies and Mathematics, particularly its Computing Science and Computer Systems Information Technology (CSOM) programs.

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