

An Examination of the Development of Online Higher Education in Canada and
China: Keeping Pace and Making Space

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Abstract

This study examined the similarities and differences that currently exist between Chinese and Canadian online higher education, and explored the economic, political, and sociocultural environments that have shaped online education in these two jurisdictions. Furthermore, this paper discussed the efficacy of, and potential for, future development of online learning in higher education in both Canada and China. The research employed a collective case study design to gather information and data on the development of online higher education. The analysis on Contact North in Canada and the One-Man University in China provide a comparative perspective on the development of 2 typical online higher educational institutions in these two countries. The study revealed that the development of online higher education is influenced by the economic, political, and sociocultural factors of environment. Contact North and the One-Man University share similarities in many aspects, but are characteristically different. The Contact North can set an example for establishing and operating a self-regulated MOOCs platform. The study also generated implications for both organizations.

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List of Abbreviations and Definitions

CCRTVU: China Central Radio and TV University

CORE: China Open Resources for Education Consortium

CSCCL: computer-supported collaborative learning

ICT: Information and Communication Technologies

LMS: learning management systems

MIT OCW: MIT Open Course Ware

MOE: Ministry of Education of People's Republic of China

MOOCs: Massive Open Online courses

OUC: The Open University of China

OER: Open Educational Resources

SNS: Social Networking Services

STEM: Science, Technology, Engineering and Mathematics

UNESCO: United Nations Educational Scientific and Cultural Organization

UOOC: University Online Open Courses

WTO: World Trade Organization

CHAPTER ONE: INTRODUCTION TO THE STUDY

We cannot wander at pleasure among the educational systems of the world, like a child strolling through a garden, and pick off a flower from one bush and some leaves from another, and then expect that if we stick what we have gathered into the soil at home, we shall have a living plant.

(Sir Michael Sadler, 1900) *How far can we learn anything of practical value from the study of foreign systems of education?*

This research paper examines the similarities and differences that currently exist between Chinese and Canadian online higher education, explores the economic, political, and sociocultural environments that are at the root of online education in these two jurisdictions, and discusses the efficacy of, and potential for, future development of online learning in higher education in both Canada and China. As Sir Micheal Sadler (1900) notes in the opening quotation, comparing systems of education from two countries' jurisdictions requires prudence and informed judgement. This study examines an online institution in Canada and compares that with an online institution in China to discuss what these cases can tell us about online higher education overall.

Access to higher education is consistently cited in the global educational research literature as a primary factor in obtaining the skills and experience needed to attain career and professional success (Baldwin & Blackburn, 1981; Teichler, 1999; Schomburg, 2007). Traditional access to higher education has meant traveling to brick and mortar institutions of higher learning and dedicating some years of time and effort to obtaining certification or training within a specific field of study or profession. More recently, online higher education, including professional certification or skills training, has significantly changed

the traditional approach to higher education by providing increased access, time and place flexibility in scheduling, and reductions in both travel and housing costs for students (Garrison & Kanuka, 2004), as well as opening the door to greater opportunities for global education and for graduating global students (Brustein, 2007).

Most European and North American countries have adopted and use online systems to deliver or supplement the delivery of higher education programs at their traditional higher education institutions (Kim & Bonk, 2006). In some cases, complete online institutions have been created such as Athabasca University and Royal Rhodes Universities in Canada, the University of Phoenix and Liberty University in the United States, and the Open University, University of Derby in England, and Horizons University in France (Bates, 2004; Shale, 2002). China has been a recent convert to online higher education but its unique combination of economic power, political focus, and increasing internationalization and engagement in the global education marketplace is quickly making online higher education a major force in Chinese higher education (Delloite, 2013). But how does China's version of online higher education differ from that of Western countries and what can be learned by comparing the growth patterns and prospects of the two systems?

China's education system with its 9-year compulsory education structure and its more than 25 million students in higher education is rapidly moving to adopt and adapt the application of online education to its unique needs and conditions. For this effort to succeed, Chinese online higher education will need to be understood and discussed in the Chinese context and not simply as a clone or iteration of Western online higher education or even global online education.

This paper examines Western and Chinese approaches to, and the development of, online higher education in the context of the cultural, political, and economic forces that shaped those approaches in Canada and China, and that will continue to influence its development in these jurisdictions moving forward.

Background and Rationale

China, like most of the modern world, has experienced waves of technological reform in education over the past 30 years. However, until recently the West has led the world in the development and application of e-learning technologies and the use of the Internet as a vehicle for teaching and learning. All of this is poised to changing of China with its 25 million higher education students can access online opportunities developed by and for China.

E-learning is defined as using information and communication technologies (ICT) as a kind of distance learning through Internet technologies to deliver a broad array of educational opportunities that can enhance knowledge and performance (Rosenberg, 2001). The development of mobile computing and mobile tools, such as smart phones and tablet computers with assorted educational applications, follows in the path started by the use of ICT in education and continues the trend to anywhere-anytime educational access and delivery of instructional programs made possible by the merging of information and communication technologies (Beetham & Sharpe, 2013). Distance delivery of educational programming, particularly online teaching and learning for professional skills training, such as business and management programs, which rely on advanced computer and information technologies and learning management systems (LMS), has become a ubiquitous option to traditional versions of these programs in higher education. Online education has become the

primary driver and system for advancing the spirit of borderless education and lifelong learning in the West (Cunningham, Tapsall, Ryan, Stedman, Bagdon, & Flew, 1997) . However, the rise of online higher education has for a variety of political, economic, and sociocultural reasons not followed pace in China (Delloite, 2013).

China's higher education system tends to concentrate on performance, uniformity, and certification (Brown, Bull, & Pendlebury, 2013) and is deeply rooted in Confucianism and traditional Chinese attitudes towards teaching and learning which have existed for thousands of years. The traditional and historical Chinese approach to teaching and learning views the educational process as a "transmission model" of learning which has as its goal the propagation of doctrine, imparting professional knowledge, and resolving doubts about how, facts, culture, language, philosophy, and other elements of Chinese learning are taught (Zou, 2014, p. 179). It follows, therefore, that the transmission model elements of propagating, imparting, and resolving doubt which have shaped and continue to be a primary focus of Chinese education are very difficult to change and even harder to eliminate in the use and application of online technologies which in the West are seen as instruments of "democratizing" education or as a function of a "social constructivist" approach to teaching and learning (Palincsar & Herrenkohl, 2002).

Social constructivism, which emphasizes the social context of learning, and stresses the nature and importance of the development and construction of knowledge as a social activity, places the focus of education on students rather than teachers (Santrock, Woloshyn, Gallagher, DiPetta, & Marini, 2007). The social constructivist approach which has been a key element of Canadian higher

education for nearly half a century is, for cultural and political reasons, only recently starting to be adopted in the Chinese model of education. This change which shifts focus from the transmission of learning to more student-centered approaches paves the way for a new approach in China's online education system, an approach that augments and assists learners in the construction of knowledge.

A Brief History of Chinese and Canadian Education Systems

In Canada, as in most Western nations in the 21st Century, education is considered a governmental or state responsibility and is governed by sets of standards and regulations that are developed or approved by governmental agencies. However, this was not always the case. In Canada, the history of education, including higher education, begins in Eastern Canada in the 1850s as a form of religious denominational training and evolves by the time of Confederation in 1867 into a proscribed provincial responsibility and public institution (Harris, 1976).

Today, Canadian education covers 10 provinces and three territories all with Ministries of Education (Klinger, DeLuca, & Miller, 2008). There is no federal or national Ministry of Education for Canada; therefore, educational policy, regulation and procedures, including funding for public education (and in some provinces for separate religious education) is systematically different by province, although each province centralizes and controls education through a similar hierarchical structure of regional school boards that govern and operate schools and support services in the respective regions (Young, Levin, & Wallin, 2007).

Decision making about education in Canada, especially higher education and higher online education, has been and continues to be strongly influenced by

a set of four complex and interconnected forces that Young et al. (2007) and O'Sullivan (1999) list as politics, economics, ideology, and logistical or practical concerns and issues. In Ontario, Canada's most populous and historically most economically influential province educational policy direction and focus since the turn of the century has generally been driven by global competition and economic concerns which resulted in the educational privileging of science and math curricula over the arts and an increasing realization that education is globally interconnected (O'Sullivan, 1999; Rust, Portnoi, & Bagley, 2010).

Canadian higher education consists of universities and community colleges. Canada has 97 universities and 132 community colleges, among which 138 institutions offer online education programs (Association of Canadian Universities and Colleges, 2014). A significant change in Canada's higher education system occurred at the start of the new millennium when some colleges were given degree-granting authority by their provincial governments and the practice of credit transfer was established (Association of Canadian Universities and Colleges, 2014). Degree transfer increased both flexibility and inclusiveness with regard to national access to higher education, and spurred the adoption and spread of online higher education in Canada.

In contrast, across the Pacific in most Asian countries there exists totally different political systems that influence education as viewed, organized, and practiced. China's political leadership is a multiparty cooperation system led by the Communist Party of China. The Ministry of Education is in charge of overall planning, coordination, and management of education including educational reform and development at various levels (Chinese Ministry of Education, 1995). Generally, since the 1950s, China's government has made education, especially

in science, technology, and the professions, a priority in order to revitalize the country and keep its economic progress growing. A 9-year compulsory education policy for basic education was instituted in the 1970s. However, education is a huge undertaking in China as the educational governance of China includes 23 provinces, 5 autonomous regions, 4 municipalities, and 2 special administrative regions, involving more than 200 million students all of whom may be seeking higher education opportunity.

Since the reform policy of 1978, Chinese higher education administration has showed a periodic transformation tendency from high centralization to decentralization of the central government (Xu, 2012). This tendency could result in a decentralized higher education system and an online higher education more like Canada's than ever before. However, it should be stressed that reform and decentralization in China is still subject to the will of the central government.

In China, higher education is offered in universities, colleges, institutes, and vocational colleges. By 2012, China had 2,138 higher education institutions including 879 regular universities and colleges, for a total population of 1.34 billion people (Chinese Ministry of Education, 2013). A shortage of higher education resources for this large population has triggered high-risk competition among students across the country for access to scarce places. The need for innovation in how educational resources and access are provided to all of China's students is an urgent issue for the Chinese higher education system in the 21st Century. The current educational development path for China has been influenced by an educational paradigm shift in higher education that rests on two main pillars: (a) Decentralization of educational development, and (b) globalization and marketization of education.

Decentralization of Educational Development in China

Higher education reform started in China in the mid-1980s flowing from the Cultural Revolution in the mid-1970s when China experienced a shortage of qualified teaching staff, sufficient resources, and appropriate curricula. Realizing that overcentralization could kill the reform initiatives and the support of local educational institutions, the Chinese Communist Party called for decentralization and more local educational governance (Lewin, 1994). Increasingly decision-making power was moved from the central government to individual higher education institutions (Mok, 2003), with greater flexibility to local governments and educationalists in directing the course of development, including great support for the input of external education theories and techniques. This paved the way for experimentation, including the implementation of online options for higher education.

Globalization and Marketization of Educational Development in China

In addition to educational decentralization, higher education development in China has been affected greatly by globalization and marketisation (Bray, 1999; Kwong, 2000). In order to cope with the limited resources and facilities, China endorsed borrowing knowledge, techniques, and technologies from the West and applied these foreign ideas across the nation (Mok, 2010). In 2003, China's Ministry of Education released the *Regulations of the People's Republic of China on Sino-foreign Cooperation in Running Schools* policy document, followed by the *Implementation Measures* statement (2003), which were both aimed at incorporating the "best practices" of the West into China's education system.

In order to reduce China's financial cuts for educational development and reform, the government adopted market-related strategies to engage institutions

and academics in “the education business” and render them open for public financing (Mok, 2010). In 2012, the Ministry of Education issued *Encourage Private Capital Flow into the Education Field to Enhance Private Education Development - Advice on Implementation* policy document (Chinese Ministry of Education, 2012), which supported private education at the legislative level and established it with equivalent status to public formal education. The influence of this document is reflected in the increased number of private schools which were established across China, many owned by or licensed to foreign corporations. According to the *2012 China Statistical Yearbook*, the number of private postsecondary institutions in China has increased by a factor of 698 and is maintaining a steady growth (Delloite, 2013).

The twin forces of privatization and marketization encouraged the forming of joint ventures with established foreign schools for formal and vocational education that supported China’s emerging and in-demand disciplines (Delloite, 2013). These forces hold potential increasing for joint ventures in online education to supplement the original 68 authorized Chinese universities able to offer online education.

Efficiency and sustainability have become the major themes of educational development in China in the 21st Century. The “knowledge economy,” defined as the use of intellectual capital to generate tangible or intangible values, has contributed to a shifting educational landscape where global educational resources and information technology will play important roles in determining China’s education future.

Distance and Online Learning in China

In the late 1970s, the China Central Radio and TV University (CCRTVU) was set up as a branch of the Ministry of Education (Zhang, Zhao, & Li, 2012), which paved the way for a series of supporting policies to facilitate distance/online education. By 2013, there were 68 conventional universities approved to offer degree programs online (Chinese Ministry of Education, 2013). The first completely online University, The Open University of China (OUC), was established by the China Radio and TV University system in 2012, directly administered by China's Ministry of Education, and dedicated to both degree and nondegree continuing education. The universities in China are divided into three layers, each of which shares a different standard of educational resources. The stratification of universities render quite a large number of students not having access to educational resources concentrated in first-class universities. One-Man University, which is the focus of this paper, is an example of an unofficially established public online university, sharing domestic higher education resources with the advantages of ICT, in order to popularize the quintessence resources of higher education and to boost scientific research innovation.

The development of online higher education in China has been an evolution extending over the last 4 decades starting with what might be termed Chinese online education version 1.0 which describes a system of one-way information playback using video technology. Version 2.0 evolved from the original video based system to provide a personalized and collaborative web-based learning environment using a variety of Learning Management System platforms (Delloite, 2013). Given the 25 million registered higher education students in China, the development of Massive Open Online courses or MOOCs

which enable students to have access to learning seems both timely and practical. According to Bonvillian and Singer (2013), MOOCs are key components of an emerging globalized educational world made possible by improvements in broadband Internet access and new mobile devices. However, while MOOCs have been in existence for more than a decade in the West, the MOOC platform in China is just in its start-up phase.

Hong Kong University of Science and Technology (HKUST) launched Asia's first MOOCs; they expected modest interest from students mostly from greater China. Their courses are provided through the Western MOOCs platforms including Edx and Coursera. The university attributes the success of this trial to the technology of big data supported by MOOC platforms, which helps the course provider to evaluate the effectiveness of the online courses and follow up students' performances. For further development of the online courses, HKUST is attempting to link the online courses to the credential system, in which students could study the basic courses from the MOOCs and accomplish their study on campus.

In 2012, a newly created Chinese Non-governmental Organization (NGO) educational initiative known as the "One-man University" was conceived as a Chinese MOOCs that could break down the provincialism and localization of education in China and help establish online learning communities similar to Western educational MOOCs, such as Coursera, Udacity, and edX, which have been successfully offering online courses to millions of learners worldwide for nearly a decade. The primary forces or barriers that kept Chinese higher education learners from joining these Western MOOCs included language barriers, differences in pedagogical practice and philosophy, and the degree of

governmental control of education in China (Zhang et al., 2012), but these barriers were largely eliminated in the One-Man University start-up.

The language barriers to participation in Western MOOCs is easily understood. The operational language of institution as well as the instructional approaches in MOOCs are primarily English. Language is only one piece of the barriers to Chinese enrollment in Western MOOCs. According to Wild and Henderson (1997) and many other educational researchers, instructional materials designed from a dominant culture remain a challenge for those learners with different culture backgrounds. The question of how to engage international students or students from other cultures in Westernized culturally derived online learning communities is a key factor in learning how to establish Western online learning models in China (Zhang et al., 2012). The language barrier and pedagogical gap for Chinese students interested in online higher education through Western MOOCs were factors which prompted calls for the reorganization of China's higher education resources and the establishment of a public online course platform for China's students.

This study explores what China can learn from the development of online higher education in the West by examining the economic, political, and sociocultural factors that shaped online education in Canada and comparing that experience with that of a newly established online university in China.

Personal Rationale

I trace the desire to study online education to my life as an undergraduate when I worked as a teaching assistant in Golding Academy which was set up as an international joint-venture between the New Zealand Culture Center, the Golding Academy Group Limited, and Central South University in China. The

joint educational venture was regarded as a great experiment in international collaboration with the aim of providing blended education in English language training for Chinese students.

A computer-based English study platform, my first experience with online blended learning, was implemented with the additional online synchronized tutorial. What students and I found most stimulating was the online tutorial led by several native English speakers in Australia who were educators registered with the Teachers' Registration Board. While the Golding experiment did not survive for a variety of reasons, my experiences with the blended delivery of language curriculum began my interest in and questioning why a well-designed online curriculum implementation which benefited students could fail in China. During these years, as online education was starting in China, I continued to examine the resources and information available on online education from academic articles and experience. My working experience in a conventional English language training center that highlighted the issues and challenges associated with face-to-face skill training inspired me to learn more about how Western online systems for higher education might be applied successfully in China. Therefore, this study is conducted to pursue the answers of what we can learn from the global development of online education for myself and for those who are working on the frontline of online education.

Purpose of the Study

The purpose of this study is to examine the similarities and differences that currently exist between Chinese and Canadian online higher education, and to explore the economic, political, and sociocultural environments that are at the root of online education in these two jurisdictions and discusses the efficacy of,

and potential for future development of online learning in higher education in both Canada and China.

The One-Man University of China is used in this study as an exemplar of a nongovernmental organization which represents a new era in online education in China. It is discussed as a unique outcome of the latest developments of economic, political, and cultural forces shaping Chinese online higher education. The aim is to provide a Chinese perspective from which to view the new environment and market in Chinese online education, and discuss the future of this type of higher educational system in China's social context.

This paper examines how online NGO initiatives, such as the One-Man University in China, compares with a similar online education institution in Canada and discusses how educators across China can learn from Western experience to create sustainable and unique Chinese online learning communities in higher education.

Conceptual Framework

A literature review was conducted to support a broad-based examination and discussion of the past, current, and future state of online higher education in both Canada and China. Themes and perspectives from the literature review are discussed in terms of recent developments and trends in higher online education in both countries and a conceptual framework based on economic, political, and cultural forces shaping online higher education is developed to analyze and discuss the landscape of online higher education in both countries.

A comparison of the One-Man University, as an exemplar of a NGO Chinese online education institution with Contact North, as a Canadian exemplar, will be undertaken and results generated from the comparison will form the basis

of a discussion and analysis of online education development in the two jurisdictions.

Significance of the Study

The results from this study will contribute to greater understanding of the development trends in online higher education in China and the supporting factors influencing those trends. The findings fill the gap in understandings of the state of nonprofit MOOCs platforms in China. The comparative analysis of platforms under different social contexts, the One-Man University in China and Contact North in Canada, provides new perspective on globalized online education systems.

China has witnessed dramatic improvement and rapid change in online higher education since the start of the new millennium. With the support of technology development and market liberalization, the shape of online education in China is changing dramatically. This study maps the landscape of the development of online education both in Canada and China by comparing the development of a MOOCs platform in each jurisdiction using economical, political, and social markers to draw some lessons for future online higher education development.

The findings from the study also have important implications for prospective practice in online international collaborative education, especially for the future of such initiatives with China.

Limitations of the Study

The findings of this study are generated from the latest nonobtrusive data and information sources available including reports, journals, and online published statistics. The paper does not provide qualitative data from teachers,

students, and other stakeholders needed to understand online higher education from a user's perspective.

Moreover, as the data and information about online higher education of China used in this study are mainly collected from urban areas that in terms of population are many times larger than Canadian urban areas, conclusions about marketability access and sustainability may not be universally applicable. Further study of the online systems of higher education in Canada and China using a variety of methodologies and approaches is recommended.

CHAPTER TWO: LITERATURE REVIEW

The aim of this study is to explore the environmental factors that influence the development of online higher education in Canada and China, and compare them in these two jurisdictions. Before any comparison can begin, it is important to map the landscape that will frame the discussion. In this chapter, the scope and definition of online learning and online education are discussed with some terminologies within the domain. Various literature perspectives on the political, economic, and sociocultural contexts of online education in Canada and China are presented. The development and implementations of online higher education in Canada and China are discussed, focusing on the opportunities and challenges of online education in both jurisdictions through an examination of the political, economic, and sociocultural forces in play. At the end of this chapter, the literature reviews the unprecedented potential of ICT based higher education, through the development of Open Educational Resources and universal access. The origin, definition, goals, benefits, and challenges of Open Educational Resources are presented as a lens for discussing online higher education development in Canada and China in Chapter Four.

Online Learning and Online Education

The distance in education, geographical, social, or psychological, necessitates the introduction of an artificial communication medium to deliver information and provide a channel for interaction (Moore & Kearsley, 2011). Essentially, this means that if online higher education is to work in China, a way needs to be found to overcome the language, cultural, and pedagogical “distance” that are roadblocks to its use in China. The pursuit of new methods of bridging distance and increasing access to education can, if implement wisely, benefit

from the use of electronic media and ICT to deliver knowledge, often as e-learning or online learning (Rosenburg, 2001). Online learning is also referred to in the literature as computer-supported collaborative learning (CSCL), and one of its primary strengths in distance learning is that it can address or compensate for social as well as geographic distance. With the advancement and popularization of personal computers and the Internet, online learning has become the dominant form of distance education. The development and rise of ICT and the Internet allows both synchronous and asynchronous virtual classes, as well as instructional and self-access learning, that some researchers (Passerini & Granger, 2000; Hrastinski, 2008) suggest break the barriers of interaction between teacher and students, and democratizes teaching and learning.

Distance education is viewed as a planned learning process in which the teaching normally occurs in a different place from learning, requiring communication through technologies, as well as special institutional organization (Moore & Kearsley, 2013). Soren Nipper (1989), in his early analysis of distance learning, identified three generations of distance education: the first was correspondence teaching; the second was multimedia teaching, integrating the use of print with broadcast media, cassettes and to some degree computers; and the third generation was identified with the new interactive communication technologies. The addition of web-based delivery through the Internet can be viewed as an extension of Nipper's third generation of distance education. However, distance education and online education certainly are different, with some degree of overlap, even if both of them strive to eliminate the barriers of education created by distance. Online learning addresses more of the nongeographical aspects of distance delivery than the first three generations, and

changes the power relationship of one-way teacher to learner delivery and may democratize higher education in the process. Thus, online learning is considered to be the crucial tool of distance education in a new era of technology innovation.

A cognitive constructivist view of distance education was introduced by Garrison (1993) which examines the assumptions of teaching and learning relationships in online environments. Beldarrain (2006) notes that the current trend in distance education indicates a changing pedagogical perspective and theoretical framework, emphasizing the constructivist learning environment, and democratizing potential of new distance technologies. There are emerging new technology tools, such as wikis, blogs, and podcasts, to foster student interaction in online learning (Beldarrain, 2006), and these social software tools appear as the major component of Web 2.0 movement on which online higher education is based (Alexander, 2006). Although research on the educational use and class performance of these emerging technologies is limited, studies have shown that the innovation in communication technologies used in distance education has enhanced the collaboration and interaction among students and teachers while bringing some new challenges at the same time (Di Petta et al., 2002). The research recognizes these technologies as efficient tools in building a constructivist learning community (Bruns & Humphreys, 2005), and supporting online education by enabling the development of argument formation capabilities, increased written communication skills, complex problem-solving abilities, and opportunities for reflective deliberation (Kanuka, 2008).

De Castell, Bryson, and Jenson (2002) note, however, that e-learning technologies result in another form of cultural colonization, originating from curricular development designed to mimic the cognitive styles of learners (as

cited in Kanuka, 2008). It is manifest that the new era of online education brings more opportunities as well as challenges for globalization of education, especially for developing countries.

With the worldwide trend of Open Educational Resources and increased access to online technology beginning in the 20th Century, self-access online learning has enriched and driven the development of distance education globally. Moore and Kearsley (2011) take a system view on distance education, which provides an innovative perspective on the components of online education. They suggest that distance education includes subsystems of content, design, communications, interaction, learning environment, and management, and each of these subsystems can influence how the others work. Add to these systems the complexities of global economics, geographical and cultural forces, and it becomes clear how complex online higher education can be.

Forces Shaping Online Higher Education in China

There are a number of perspectives on the influences that have shaped and continue to impact online education in China. As mentioned in Chapter One, the primary influences addressed in this paper are economic, political, and sociocultural factors. The relationships between these influences and the development of online education in China are not merely causal in effect, as the development of online education also has feedback influences on those factors.

The economic influence on online education development in China can be traced to several factors that are historically or environmentally rooted in Chinese society. Naturally, a nation's openness in economy could bring about more opportunities of communication and interaction in other areas of the society. In China, a series of leading reforms in economy also trigger China's commitment

to the flexibility of educational services. China's entry into the World Trade Organization (WTO) has broadly opened the market and served as a representation of China's further commitment to openness since the landmark reform and opening-up policy in 1978, which first introduced market principle and attributed to immense changes in Chinese society. As a result, the Chinese government's management of the education system needed to meet the requirement corresponding to relevant WTO provisions (Ding, Yue, & Sun, 2009). The economic provisions and standards established by the WTO have moved China increasingly into world markets. Therefore, education in China is also open to the world market, and that means the educational process of formulation, legislation, and delivery of education in China are expected to be more transparent and open, including more autonomy for online education market in welcoming investment and capital from companies both domestic and foreign.

Along with national economic forces, regional economic development has enhanced the diversification and spread of online education in China (Wan & Ran, 2005). According to Wan and Ran, the growth in application and integration of online educational and communication resources, as well as broadening of online education capacity and development of new and more student-centered educational techniques, has largely been funded through the regional economic development. Accordingly, online education has become a significant component of regional economic development as a means to stimulate other associated industries, and to enhance the professional development through talent training and educational investment (Wan & Ran, 2005).

Undeniably, one of the principle forces behind the economic factors that influence China's online education development is the Chinese government (Ji &

Gu, 2011). Institutional factors are believed to be the primary forces affecting the development of online education in China, but politics, specifically the plans and policies of China's central government, are clearly shaping the landscape of online higher education. Action Plan for Invigorating Education toward the 21st Century, a general guideline that sets the roadmap for educational development of China in the 21st Century, emphasizes the development of online education with the goal of forming open educational network and lifelong learning system. Also, the advancement of the development process of online education relies on the leadership of the Chinese central government. For example, Announcement Regarding Recruitment and Admissions for Online Higher Education was issued in 2006 to ensure the clarity and fairness of online higher education recruitment. This announcement timely solved the emerged problems in recruitment and admission, such as the vagueness in online education providers' recruitment plan and advertisement.

It is apparent from political statements that China is using a series of policies to make online education and distance education more accessible to domestic and foreign audiences. In 1998, Chinese Ministry of Education (MOE)'s Modern Distance Education Initiative approved four universities to offer online programs, which broke the monopoly of China Central Radio and TV University (CCRTVU) in online higher education (Zhang et al., 2012). Since the end of the 20th Century, China's central government has clearly emphasized the importance of emerging online education as a means for educational reform and advancing quality education (Zhang, 2005). The process of introducing a series of policies to provide online higher education reflects the struggle of the Chinese government to balance between regulation and flexibility (Zhang et al., 2012).

As Ji and Gu (2011) have observed, politics has a leading and controlling power in the development of online education. The leadership is applied directly through national authorities. For example, the central education ministry sets online education legislation, appoints administration staff, and oversees teacher training (Ji & Gu, 2011). Moreover, social politics influences online education indirectly through economic leverage (Ji & Gu, 2011). The allocation of educational funding is determined by the central government; therefore, the government actually grasps the development speed and scale of online education in China. Also, ideological and political tools are applied to lead the curriculum provision, instruction outlines, and teaching materials (Ji & Gu, 2011). As Li (2002) emphasizes, the Internet is also a kind of mass media, which can become a powerful method of ideology and politics.

Apart from economic and political factors, sociocultural factors, which refer to a set of beliefs, customs, and behaviors that exist within the society, have also influenced the development of online education in China in invisible but profound ways. China's social values and large population base are the two main aspects notable from this perspective.

Usually, the sentiments on education from the society are correlative with its sentiments on talents inherently. Under the influence of a mainstream of the knowledge based economy, China is undergoing the shift from a specialized and knowledge mode of talent cultivation to a quality and application mode (Ding, 2001). Therefore, the development of online education is accelerated because of the appeal and demand of more quality and application types of talents.

China's large population has prompted the call for online education to meet the nation's large educational demands. Meanwhile, the age structure,

quantity, and scale of the population all contribute to the scale and demographics of the online educational service users, which indirectly influences on the development of China's online education. In return, the development of online education could enhance social stratification as the feedback effect. Many students receive online education diplomas and reselect or obtain higher-level career positions, and attain corresponding social status through their effort, generating more economic and cultural assets for society (Ji & Gu, 2011).

However, once the institutional and political factors are restrained, it would be very difficult for other factors, including economic and sociocultural factors, to continuously influence on the development of online education because China is a democratic nation with a single-party system. The speed that China's legislation provides space and support for the openness of online education actually reflects the extent of democracy that is entrusted to education.

The economic, political, and sociocultural influences co-function and intertwine, and become the soil in which China's online education is cultivated and will boom. The development of online education, while providing educational access to more people with ICT, also contributes to a substantial change to these factors, although sometimes the presence of these influencing factors can hardly be distinguished from each other because these subsystems of the society are themselves highly interlinked. Accordingly, the economic, political, and sociocultural influencing factors also have an interactive effect on each other. The institutional or political factors take the essential control in providing space for such kinds of interaction, and their influence on the development of China's online education. There are also other factors that set up the base for the construction of an online education network, like the

technological and infrastructure factors, which would not be the focus in this paper.

A Brief History of Online Education

The gap between the global demand for education and the supply is where online education, based on various cultural and constructivist online learning strategies can find a significant role to play. Online education has become an avenue other than on-campus education through which people can receive education. Online education represents a particular aspect, component, or delivery method in the broad inclusive forms of e-learning (Salmon, 2004; Bates, 2004; Anderson, 2008). The history of online education can be traced back to the 1960s when the first virtual classroom was created by scientists at Illinois University using linked computer terminals. In the 1980s, online tools started to be utilized to minimize distribution costs and software training programs were offered for commercial use. However, the high expenses for computer terminals was still a barrier to the proliferation of online courses.

In the 1990s when universities like the University of Phoenix began to offer degrees for online degree programs, first online higher education came of age and by the turn of the centuries, higher education systems are challenged by online education technology (Guri-Rosenblit, 2005), and embracing it at the mean time (Bates, 2003). Apart from the open universities that offer online courses, there is also an emerging trend in higher education to blend text-based asynchronous online learning with face-to-face learning—often referred to as simply blended learning (Garrison & Kanuka, 2004). An international comparative survey on the current and future use of ICT in Higher Education shows that technical problems and relatively low perceptions from instructors have become one of the concerns

(Collis & Wende, 2002). A prudent consideration of educational goals, structures, and processes is required when institutions decide to move to online higher education, as the technology can be disruptive as well as supportive of educational goals in practice (Archer, Garrison, & Anderson, 1999; Di Petta et al., 2002).

As new technologies for online learning have developed, new terminologies have also emerged for defining and describing online learning. Distributed learning, e-learning, tele-learning, and networked learning all seek to provide specific perspectives on this interactive learning technology (Ally, 2004). These terms, although slightly different in perspective, are used more or less interchangeably by scholars and policy makers (Twigg, 2001). And for this paper, generally they all refer to as “online learning” and “online education.”

Online Higher Education in Canada

Since the end of the 20th Century, Canada has increasingly moved to online education as its primary form of distance education. Most Canadian postsecondary institutions have become involved with ICT based online education (Shale, 2002). Online education and distance learning have become large economic concerns for the century. As McGreal and Anderson (2007) emphasize, a principle characteristic of online learning in Canada is provincial jurisdiction over education. Each Canadian province provides significant educational resources toward online higher education efforts specified in the jurisdiction, but an absence of a national structure is also clearly seen in Canadian online education (Johnson, 2011).

Current studies in online education in Canada have examined the role of government in shaping the environment for online teaching and learning.

Although Canada possesses a highly decentralized higher education system with long-established traditions of institutional autonomy, each provincial government is challenged to seek influence on institutional behavior to foster efficient teaching, learning, and skill development. Online education has been viewed as a means of ensuring cost-effective educational investment in Canada's remote areas (Bates, 2011). Canada's population is distributed over a 10 million square kilometers' geographic area with above 80% of the population concentrates along the Canada/USA borders. The Canadian government has viewed ICT and telecommunication as an essential undertaking for the establishment of educational networks that support all Canadians wherever they are in Canada (Shale, 2002). Canadian researchers suggest that for Canada to reach more Canadians in online higher education, it may be necessary to create a national Open University, a national open content consortium, and a national center for digital learning, in order to formulate a national distance education authority (Johnson, 2011), and thereby move in a strategic way to continue to grow Canadian online education nationally and internationally.

The Review of Distance Education in Ontario Universities by Smith and Snowden (1983) reported that only a few universities in Canada's most populated provinces were involved in online education, and those that were seldom offered online courses; it was not until transfer credits and credit value were applied to online courses that they started to grow.

Moreover, the literature on online higher education in Canada suggests an interesting relationship between traditional and innovative pedagogies. Shale (2002) indicates that some distance education providers start to form study groups and student cohorts online, which are familiar in conventional educational

institutions, and traditional classroom settings and administrative structures are built reflective of distance education.

As new instructional strategies for ICT developed, various types of institutions are distinguished themselves by how they applied these new pedagogies to the roles and levels of distance education at the institutions. Dual-mode universities in Canada refer to universities offering both on-campus instruction and distance education while mixed mode universities provide distance education as an add-on, or integrate distance delivery into regular programs called blended programs (Bates, 2004; Shale, 2002). The newly designed Master of Professional Education program at the University of Western Ontario which replaces the former Master of Education program is an example of a blended higher education program offering some of its courses online and a core set of courses in face-to-face format.

As the technologies used for distance education become increasingly pervasive in Canadian universities, the line between online education and face-to-face education becomes increasingly hard to find. For the purpose of study, contact north set a great example of how a Western online learning platform was created and developed with the influences from economic, political and sociocultural contexts.

Contact North

Contact North is a bilingual (English and French) online education network in Ontario that delivers online courses or programs through audio and video conference facilities in over 130 sites across Northern Ontario, Canada (McGreal, 1994). It was established by the Ontario government in 1986 as a network to connect the course resources of colleges, universities, and high schools across

Ontario. The initial aim in setting up this provincial network was to expand distance education to remote communities and to improve and upgrade provincial educational technologies (Paul, 2012). The project was led by the Ontario Ministry of Colleges and Universities (MCU). However, Contact North was not established as a governmental agency, but rather it was to be directed and managed by northern institutions on a contractual basis with Ontario (Paul, 2012).

Northern Ontario refers to a large area which occupies 9/10 of Ontario, the most populous province in Canada (McGreal, 1994), but only 1/10 of Ontario's population resides there. Moreover, several of the communities in the north are geographically isolated from transportation networks. These areas have long been challenged to provide public services including education, medical services and social services to their residents. Many communities in this area are First Nation groups, predominately Aboriginal and Metis with a comparatively lower college and university entrance rate to the rest of the province. The government put great effort and investment in local infrastructure, expanding roads and bridges, and improving health and education services. For example, in 2007, the *Good Places to Learn* initiative invested \$255 million for the maintenance and renovation of local school facilities across the north (Ontario Ministry of Infrastructure, 2007).

One of the primary influences on higher education in North America in recent years is the growing adoption and use of the Internet technology to deliver courses and programs. Contact North originally used funding from the Northern Ontario Heritage Fund Corporation to expand broadband and cellular services across Northern Ontario. This effort ensured technological support for the fledgling distance education network, which was established to cater for the urgent higher educational needs of Northern Ontario. The Ontario government

also invested \$1.5 million to help Contact North expand the distance education network in Northern Ontario (Ontario Ministry of Infrastructure, 2007).

Carter and Graham (2012) observed that higher education in these remote areas tends to favor face-to-face classrooms with physical interactions, and there is resistance to using fully online methods to provide higher education. Blended higher education is, therefore, considered to be more applicable and acceptable to the northern communities for providing college or university courses. Contact North has over 110 sites in 67 communities in Northern Ontario, offering audio-conferencing, two-way videoconferencing, and a variety of e-learning technology supported programs (Bates, 2011). Contact North's access centers are located within colleges, secondary schools, or community centers, providing blended courses to local students.

The expansion of distance learning network to Northern Ontario provides local students with access to courses and programs from colleges and universities across the province and increasingly from around the world. In 2006, approximately 13,000 course registrations were recorded in 589 credit courses wholly through or with the support of Contact North (Ontario Ministry of Training, Colleges and Universities, 2006).

Contact North represents a joint-effort organization that integrates resources from both government and public groups and organizations. The Contact North approach can be described as fitting into Nipper's third category of distance education system, identified with new interactive communication technologies. The key to Contact North's success is the spirit of partnership and collaboration among the various institutions and providers that are part of the project (Paul, 2012). The early Contact North management committee included

representatives from leading education organizations and institutions in North Ontario, like the MCU, the Ontario Ministry of Education (ME), Laurentian University, and Lakehead University. To build a team in which consensus for significant decisions could be made, Contact North focused on involving each institution in the network in governance, policy-making, and goal setting. Although challenges and implementation issues accompanied the development of Contact North from the very beginning, the network managed to involve the team of educational institutions and providers in the collaboration effectively, and the universities, colleges, and secondary schools involved all created a distance learning atmosphere that enhanced overall education in the North. By 2006, colleges partnered with Contact North included Cambrian, Canadore, Confederation, Northern and Sault College, as well as the French language Collège Boréal (Ontario Ministry of Training, Colleges and Universities, 2006). Lakehead, Laurentian, and Nipissing Universities were also part of the collaboration, and since 2006, a number of Southern educational institutions now participated in the network. Contact North content providers are now distributed across Ontario, from the North to the South, including the University of Toronto, McMaster University, and Brock University. By 2014, more than 1,000 programs and 18,000 courses were available online providing unique online learning experience for about 4 million Ontarians(Contact North, 2014).

The success of Contact North can be measured by the numbers of registered students it has achieved, which is 40,000 annually (Contact North, 2014). Many Northern Ontarians have benefited from access to higher education through Contact North, gaining credentials and qualifications which they might not have attained otherwise for a variety of reasons including expense and

distance. Apart from the benefits to individuals, Contact North is a vehicle for improving communication, and the economy of the North. The network helps to counter or prevent labor outflow from remote communities, and reduces the social and cultural isolation of the North. For example, the 112 learning centers distributed across the North link many communities, enhance the interaction between them, and help with the local professional development. Students with a variety of careers and social backgrounds experience online professional training through network created by Contact North.

Moreover, as Paul (2012) notes, Contact North increases educational demand in Northern areas, which is helping to transform the northern communities into learning communities, with a better chance for surviving and prospering in the global online higher education marketplace. As Paul has observed and mentioned in his report on the 25 years' practice of Contact North, many people have changed their attitudes towards distance education through the learning experience in Contact North.

The reason of attracting large number of students to experience Contact North not only relies on the efforts to offer better online learning opportunities, but also on the low cost. According to Contact North (2014), there are five strategies to reduce cost in online learning, including increasing efficiency in teaching and learning, sharing services to reduce development and support costs, exploiting new sources of educational content, reducing space and infrastructure demands, and developing new revenue streams. Therefore, students pay a much smaller amount of tuition and administration fees than that of a normal educational institution, for the same educational resources.

Moving forward, Contact North faces a variety of challenges such as

financial realities, the need to balance bilingual programs with English language programs, capacity and capability of courses and programs, as well as difficulties associated with resistance to change, and the need for cooperation and collaboration among partners (Paul, 2012). The success and challenges of Contact North as an educational network are derived from economic, political, and social cultural factors that will be discussed further in Chapter Four.

Online Higher Education in China

China's history with distance education is older than Canada's but its history with online distance education is relatively new. China offers higher education to more than 25 million postsecondary students spread across land of 9.6 million square kilometers (Chinese Ministry of Education, 2014). The large population base in need of higher education and the unequal distribution of social resources have opened the door for online education and e-learning to fill the gap between educational demand and educational capacity for inclusive and high-quality education in China. Apart from the high demand, higher education in China is challenged by the disparity and inequality in the allocation of educational resources and education attainment (Li, 2009). Online education is viewed by Chinese educators and authority as a means to provide students with alternative modes of access to high quality education (Wang, Zhu, Chen, & Yan, 2009), but there are concerns about adopting Western ideas, technologies, and practices wholesale without taking China's unique character into account.

Generally, the development of the alternative modes of higher education has experienced three generations, similar to those proposed by Nipper (1989) for distance learning, correspondence education, broadcast and TV education (tele-education), and online education. The generation of online education, which can

be viewed as an extension of distance education, was made possible by the development of ICT (Bates, 2004).

The popularization of personal computers and the introduction of the Internet in China have in part opened the door for Chinese e-learning. Studies indicate that China is undergoing the diffusion of Internet rapidly and extensively, with an increasing rate in rural areas over urban areas (Foster, 2001; Yang, 2013). Online education is seen by China's government as another means for connecting citizens to higher learning and skills development (Li, 2009). The dramatic increase in access to higher education from online technology in China suggests it is a promising tool for educational development. Around the turn of the century, China produced approximately 100,000 graduates a year through distance education (Potashnik & Capper, 1998), among which only 2,931, or roughly 3%, were graduates of online higher education. In 2010, graduates from online postsecondary programs have increased to about 1.1 million per year (Chinese Ministry of Education, 2014).

The capacity gap in China's higher education sector suggests that the integration of ICT with education to create greater access to education through online courses and programs is a viable approach to addressing the gap. According to Wang et. al (2009), the rapid development of China's economy enabled it to provide better infrastructure and other necessary conditions for online and traditional universities. Also, the political climate in China favors internationalization and greater openness; therefore, Western education ideas and collaborative educational development is the rising tide in China's approach to its educational expansion in higher learning (Huang, 2003). Similar to the Western studies on ICT based education, research in China also suggests the advantages in

lower cost and greater access through ICT based distance education compared with face-to-face programs (Li, Chen, & An, 2008).

The impact of online higher education in China is profound and notable, and it is only just starting. Apart from the 68 certified universities which are approved by the Ministry of Education to offer online programs, China also has a notable system of radio and TV universities, which forms the largest open and distance learning system in the world. An evolving process of online higher education development is undergoing in China, partially drawing inspiration from Western experience and partially drawing on uniquely Chinese ideas and experiences.

In 2012, the Central Radio and TV University was reorganized with the integration of other radio and TV universities to become the Open University of China (Chinese Ministry of Education, 2014). Li (2009) notes that this transformation has established a uniquely Chinese educational platform using ICT, open to all Chinese citizens, and committed to share educational resources, promote equity, and satisfy increasingly diverse educational needs across China.

However, challenges abound in the development of China's online higher education system. First, there are limited models of teaching other than the transmission of information (Li, 2009). Although research on the student-centered instruction models followed in the West has begun (Zhou & Wang, 2002), China's distance education is still trapped in the transmission model and introducing the latest Web 2.0 tools to enhance the interaction in teaching and learning is difficult both philosophically and practically. Second, the quality of online higher education programs in China is difficult to ensure and assess (Ding & Wu, 2005). Some scholars recommend creating a national regulation policy or framework for

a quality assurance system, and a comprehensive national online education network (Jiang & Kuang, 2007; Li, 2009). Additionally, there are researchers who argue for allowing market forces to play a greater role in the distance education market place in China, something that at least philosophically counter to long established political ideology (Dahlman, Zeng, & Wang, 2007).

Overall, effectiveness and competitiveness have become the main foci in discussions of how the development of online higher education in China should proceed. For the purpose of this study, the One-Man University sets an example of the development of a Chinese online education network influenced by its unique environmental factors.

One-Man University (OMU)

The One-Man University, established in China in 2012, is a not-for-profit organization with the goal of increasing access to higher education, by providing self-learning courses and materials using an Internet based teaching platform for a LMS (Learning Management System) designed specifically with China in mind. By April 2014, the number of online users passed 129,000 (One-Man University, 2014). “One-Man,” a homophone for “ten thousand doors” (also “Wan men” as Chinese pinyin) in Chinese, represents a vision of opening educational doors and increasing access opportunities for Chinese learners who are “distanced” from higher education by cost, geography, or academic background and who could achieve learning by themselves in a student-centered self-directed way online.

In China, “education without distinction,” which means education for all people in need without stratification in age, races, and social background, has been upheld as the spirit of education for thousands of years. It is first claimed by Confucius in *The Analects of Confucius* and became the doctrine for Confucian

education. Unlike the formal 9-year compulsory education system which has achieved general equity for basic education in China, higher education is still in transition from elite education to mass education for a variety of reasons including cost and regional access and availability (Bai, 2006). By 2012, the enrollment rate for higher education reached almost 75% (Chinese Ministry of Education, 2014), but the increased enrollment has created serious problems for universities and the employment market in China. Since the capacity of China's higher educational resources has not been improved accordingly, the growth in higher education enrollment becomes the ever-expanding denominator that gives each student a shrinking share of the educational resource pie. Likewise, the excessive graduates from elite education increase the employment pressure and lower the social expectation for a qualified university graduate. Therefore, the capacity building of higher education in China has become the key solution to the current situation. With the support of ICT, the OMU is established for the purpose of enhancing the integration of domestic educational resources, and providing students with better access to higher education.

In addition, a large proportion of educational resources are concentrated in prestigious universities under the titles of "Project 211" and "Project 985," which only account for about 1% of total universities in China (Zhang, Patton, & Kenney, 2013). Project 211 and Project 985 are two constructive educational projects which strengthened about 100 institutions of higher education as the key universities in quality of education, scientific research, management, and institutional efficiency, aiming at facilitating the development of higher education (Zhang et. al, 2013). However, the number of students enrolled in these universities only accounts for approximately 4% among all the graduates.

Therefore, there are still a large number of students who are in need of access to quality higher education resources.

The One-Man University's mandate is to provide quality educational opportunities for everyone. Students who are interested in specific subjects are guided by the self-study learning plans provided and materials that are designed and supported by qualified scholars in a learning community that is led by students for the benefit of students. The OMU is an attempt by a Chinese NGO to bridge the access gap to higher education through online technology and a unique curricular approach that is only slightly based on the open university and MOOCs models that have developed in the West.

While the development of ICT in higher education provides increased access and significant improvements for student-centered learning in China (Li, 2009), it is the development and application of Online Educational Resources (OER) that have been gradually realized (Atkins, Brown, & Hammond, 2007). First, online education has the inherent nature of resource identification. As the Internet allows the free discussion and criticism, open educational resources would be under strict filtering before receiving high popularity. Efficient educational optimal choices would be formed under mass communication. In this stage, One-Man University initiates the trial of allocating the existing domestic higher education resources from the scope of Pareto improvement. Third, the sustainability of educational resources has driven higher education institutions to open online courses in order to diminish the cost for propagation (Wiley, 2006; Downes, 2007). In China, 750 courses have been made available to the public by the efforts of 222 university members of the China Open Resources for Education (CORE) consortium (Yuan, MacNeill, & Kraan, 2008). The advantages of OER

all catalyze the need of establishing a MOOCs platform that is to integrate the open domestic courses systematically and optimize the educational resources of Chinese higher education.

Similar to Khan Academy in the United States, the online learning platform of the One-Man University is started up with the educational videos in several limited areas like Physics, Computer Science, and Maths, with a current number of 403 online courses (One-Man University, 2014). To open more online courses in comprehensive subjects becomes one of the goals in the development of the One-Man University, in order to create a MOOCs platform with domestic high-quality resources that cover comprehensive subjects. Currently, the online courses of One-Man Database are open to everyone for free. It helps to attract Chinese students to get involved in the open online learning groups with self-directed and self-regulated operation systems. The future development of certificate and credit systems of the One-Man University may refer to the existing systems created by Coursera, which has been charging certificate and credit for a fee.

The One-Man University has developed 7 departments with 54 faculties, 4 extra interest groups, and above 20 site-based university associations located in renowned Chinese universities (One-Man University, 2014). The online learning platform does not especially target on students who are not from the universities supported by the Project 211 and Project 985, and self-taught learners, but rather for everyone who intends to explore more knowledge through exchange and collaboration. The operation model of the OMU reflects the flexibility of combining three types of educational communication. Their online video classes focus on knowledge enlightenment and transference. According to the framework

of online class illustrated by Knowlton (2000), teacher-centered pedagogy is featured by the orientation and leading role of instructors, while in student-centered classrooms, based on constructivism, instructors serve as facilitators to develop dynamic collaboration with students. The online class, off-class discussion interest groups, and site-based association activities facilitated by the OMU combine teacher-centered and student-centered pedagogies together, and achieve the “like” and “lecture” leading roles in learning. Also, the OMU practices Problem Based Learning (PBL) through discussion groups and periodic online competition in each department, which are characterized in the facilitating role of tutor, self-directed and self-regulated learning, and elements designed or inquiry (Savery, 2006).

While the start of the OMU wins considerable attraction and expectation, it also, without exception, faces some challenges including funding, pedagogical innovation, and academic support. Moreover, the leaders in each department of the learning system of OMU, which is highlighted as self-directed and self-regulated, are appointed by the president directly. With the autonomy given by the organization, the ways department leaders practice their leadership and the outcome may diversify between one and another.

Open Educational Resources

There is also an emerging trend in providing greater access to educational materials, generally known as “Open Educational Resources (OER).” Since the end of 20th Century, the development of information communication has made the openness of resources available. To meet the diverse and massive learning needs of nowadays students, educational institutions are dedicated to open access to resources and online learning to the public.

OER was first proposed by United Nations Educational Scientific and Cultural Organization (UNESCO) in 2002, as a calling for the openness of global educational resources for nonbusiness use. OER is claimed to be the open provision of educational resources enabled by information and communication technologies, for consultation, use, and adaptation by a community of users for noncommercial purposes (UNESCO, 2014). Organisation for Economic and Co-operation Development (OECD, 2007) indicates digitized materials of OER are offered freely and openly for educators, students, and self-learners to use and reuse for teaching, learning and research. Driven by the altruistic motivation of sharing, and nonmonetary gain within the community (OECD, 2007), more high-quality courses and materials are open to the public by higher educational institutions, among which the famous video lectures as Yale and Harvard Open Courses, and well-known programs as MIT Open Course Ware (MIT OCW), Connexions initially funded by Rice University (Yuan et al., 2008). According to OECD (2007), more than 3,000 open access courses are currently available to the public from over 300 universities worldwide.

The definition of OER has gradually been broadened not only limited within digitized materials. As the UNESCO (2012) has described, OER refers to the teaching, learning and research materials in any medium, digital or otherwise, that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions. (p. 1)

The idea of opening educational resources not only attracts educational institutions and scholars, but also public fundings. For example, in 2002, Hewlett

Foundation launched the Hewlett Foundation Open Educational Resources Initiative to catalyze universal access to and use of high-quality academic content on a global scale (Atkins et al., 2007).

Literature also clarify the principles and usage of OER educational materials. The most cited defining range of media notes that open educational resources include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials or techniques used to support access to knowledge (Smith & Casserly, 2006). The “openness” of OER are recognized in two important aspects as with free availability over the Internet and as few restrictions as possible on the use of the resources (Bates, 2011).

Introducing OER as an intermediary tool to promote quality higher education, to strengthening academic ties, and to benefit more students and scholars worldwide would be profound for the Information Era with the spirit of shared knowledge. Great opportunities and encouragement are provided to higher education students by OER. Meanwhile, as the main provider of OER, colleges and universities also realize the incentives of sharing educational resources. In a 2011 study of the use of OER in higher education in Britain, Oxford university researchers Masterman and Wild identified the key benefits to individual educators as lying in:

- Enabling resources to be seamlessly integrated into students’ learning environments;
- Addressing learners’ specific needs through providing opportunities for supplementary learning, skills development and presenting content in different ways to address students’ interests and preferences;

- Saving teachers effort, through enabling them to offer their students learning materials and TEL activities where they lack the skills or the means to create these themselves;
- Benchmarking their own practice in terms of content, approach and general quality;
- Enabling them to teach topics that lie outside their current expertise;
- Stimulating networking and collaboration among teachers;
- Improving possibilities for new collaborations in researching fields of common interest. (as cited in Bates, 2011, p. 9)

There are huge potential benefits of OER initiatives for all of the key stakeholders in higher education, but realizing them will require clear strategies, concerted energies, and strong support (Bates, 2011). For faculty members, the most significant barriers among colleagues in their teaching with the support of OER are pointed out as lack of time and skills together with the absences of a reward system (Hylén, 2006).

Changes in technology always mix opportunities and challenges. While the OER has been utilized with the integration of information technology in order to facilitate the access to educational materials and to maximize the educational opportunities, challenges have also been indicated. Literature on this mostly focus on social, cultural, technical, and economic concerns.

Atkins et al. (2007) emphasize the major challenges as:

- Sustainability
- Curation and Preservation of Access
- Intellectual Property Issues
- Content Quality Assessment and Enhancement

- Computing and Communication Infrastructure
- Scale-up and Deepening Impact in Developing Countries. (p. 28)

These challenges faced by OER call for a comprehensive evaluation of how to initiate the “openness” of educational resources in practice, and to gain the optimal and sustainable advantages of the high-quality resources.

When looking at the two jurisdictions this paper deals with, literature from China and Canada both reveal the above opportunities and challenges. In China, the pace of opening educational resources started in 2003. In order to improve the quality of teaching and personnel training in university, the Ministry of Education launched the project of National Quality Curriculum Construction. Under the domestic and worldwide paradigms for education internationalization, China Open Resources for Education (CORE) was established with the collaboration of MIT OCW, introducing high-quality educational resources and pedagogy to apply in curriculum, while promoting the Chinese higher education and culture of quality to the world (Wang, 2009). Chengo, an online Chinese language learning system currently in the public domain is funded by Hewlett Foundation (Atkins et al., 2007).

In Canada, when the SchoolNet Project was established earlier, the OER movement brought about the SchoolNet Web. The SchoolNet Website links to more than 5,000 teacher-approved learning resources, accessing Canadian teachers and students to an immense source of online educational resources (Shade & Dechief, 2004). Contact North (2011) also notes that OER strategies allow Canadian postsecondary institutions to revitalize respective courses through collaboration.

However, the progress of OER is still at the stage of embracing available materials, improving the communication channels, and expanding the influence. According to Tuomi (2006), a higher level of openness is about the right and ability to modify, repackage and add value to the resource (as cited in Yuan et al., 2008). OER is also advocated with the initial that educational resources are open to be freely accessed, reused, and modified (Downes, 2007). The “openness” does not simply mean to set no limits to access, but rather with the receptiveness for academic enrichment.

Generally, the development of OER has built and enhanced the capacity for shared educational resources in the globe domain, which provide the fundamental conditions for the development of online learning and distance education.

The literature review of the study provided a lens for the history and features of online learning and online education, discussed the economic, political, and sociocultural influences on the development of online higher education. As the fifth generation of distance education, online education has both potentials and challenges as it is ICT based.

The unique history of the online higher education in Canada and China has been summarized in this chapter. It has been revealed that the emergence and development of online higher education in these two countries has its historical and environmental reasons. The One-Man University and Contact North as two typical online higher education institutions were established when the development of online higher education in these two jurisdictions reached a certain stage. Ultimately, the literature review showed the development of Open Educational Resources and its feature of universal access while giving the

examples. Literature discussing its challenges were also provided as an insight into the worldwide trend.

CHAPTER THREE: METHODOLOGY

This study applied a qualitative research design using an unobtrusive case study methodology to examine and compare an online higher education organization in Canada with a similar organization in China. According to Creswell (2013), qualitative research is an inquiry process of understanding to explore a social or human problem with a distinct methodological approach to inquiry. The researcher builds a complex, holistic picture; analyzes words; reports detailed views of participants; and conducts the study in a natural setting (Creswell, 2013, p. 300).

Case Study Approaches

In this study, an instrumental, collective (multiple) case study approach was used and combined with a literature review to inform a critical discussion of the similarities and differences that exist between Chinese and Canadian online higher education. Multiple case analysis is described as a specific issue focus study rather than a case focus study (Stake, 1995; Creswell, 2013). Two online course platforms selected from Canada and China, respectively, were compared to explore the economic, political, and sociocultural environments that are at the root of online education in these two jurisdictions, in order to discuss the efficacy of, and potential for, future development of online learning in higher education in both Canada and China.

Creswell (2013) summarizes several defining characteristics of qualitative case studies: First, a case study identifies a specific case defined and bounded by a specific place and jurisdiction. Yin (2009) notes that case study research involves the study of a case within a real-life, contemporary context or setting (as cited in Creswell, 2013). For this study, China's One-Man University and Contact

North in Canada have emerged from a certain set of similar development conditions but in enormously different sociocultural, economic, and political settings. Therefore, the identification of the two cases will help to gather accurate information of the mechanism of the influences on online education from these various social settings.

The second characteristic of collective case study Creswell (2013) mentions is the intent of the case study. As Stake (2000) has noted, collective case studies are intended to understand a phenomenon, a population, or a general condition and may be considered an extended form of instrumental case study. As an instrumental collective case study, this research endeavors to understand and examine the application of online education to the unique educational needs of higher education in two countries, which may generate implications and research suggestions for other educational institutions around the globe. To achieve this goal, the study compared and contrasted two representative online higher institutions by discussing their organizational structure, operation, and the key economic, political, and socio-cultural forces that affect them. The investigation of the similarities and differences between China's One-Man University and Canada's Contact North informs a discussion of how political, economic, and sociocultural forces influence online higher education and what both jurisdictions can learn from each other.

Creswell's (2013) third category for collective case study is the use of mixed methods data collection. He notes that in order to accomplish an in-depth understanding of the cases, the researcher uses multiple ways of qualitative data collection, ranging from interviews, to observations, to documents, to audiovisual materials. In this study, more than one form of data collection is used to provide a

comprehensive and insightful understanding of the cases. Part of the data was gathered from the researcher's personal observation and participation as a member in one of the interest groups of the One-Man University. Other data sources include academic journals and reports which provided some important professional perspectives on the development of online higher education in China and Canada. However, as the One-Man University is a relatively new organization and not a traditional online higher education institution, the literature sources are extremely scarce. As part of this study, questions on the development of the One-Man University and Contact North were emailed to administration offices to obtain data for comparison. The data collected in this way provide publically available information on enrollment, costs, and programs.

Finally, Creswell (2013) notes that the selection of approaches to data analysis will differ in accordance with the different purposes of the case studies. As a collective case study, this research compares the results of the analysis of two educational institutions based on themes, issues, or specific situations that are identified by the researcher (Creswell, 2013). Themes of cultural, political, and economic forces that shaped Western and Chinese approaches to online higher education and that will continue to influence the development of open online course platforms in these jurisdictions are described, analyzed, and discussed in this study. Additionally, Creswell states that these themes or issues should be arranged into a chronology and analyzed across cases for similarities and differences that may contribute to the development of a theoretical model. The themes and issues that emerged from the analysis of the literature and case studies form the basis of the conceptual framework for this study and provide new theoretical insights both on the development of online higher education learning

communities in those two cases, and general lessons as conclusions based on the cases in accordance with Creswell's categories. However, Stake (1995) emphasizes that as each case in this methodology is an integrated system, within which the focus is more on particularization than generalization. The generalizability of the findings from this comparative case study are restricted, therefore, to broad themes and issues that impact online higher education.

Case Study Research Design

Creswell (2013) notes that collective case study is a type of design in qualitative research in which the investigator explores real-life, contemporary multiple bounded systems over time as an object of study, as well as a product of inquiry. Building on Stake's (1995) and Yin's (2009) approaches, Creswell argued that the procedures for conducting an instrumental case study will have to: (a) determine whether a case study approach is appropriate for investigating the research problem; (b) identify which case or cases to select through purposeful sampling; (c) draw on multiple sources of information to accomplish the data collection; and (d) make a detailed description followed by identification of key issues or themes with analytic strategy to understand the complexity of the cases, and report the meaning of the case which comes from learning about the issues of the case. For this study, the only category that does not match perfectly with Creswell's criteria is sampling. The two cases selected for comparison as a sample of convenience in that public information about the two organizations Contact North in Canada and the One-Man University in China is readily available and accessible to the researcher. Therefore, the instrumental collective case study approach is appropriate for this research because the One-Man University and Contact North represent two distinctive samples of online higher

education in these respective jurisdictions, and represent the emergence and development of online higher education in China and the West.

According to Creswell (2013), a typical format for collective case study is to provide a within-case analysis, followed by a thematic analysis across the cases, as well as assertions or an interpretation of the meaning (p. 101). During the data collection phase, this study collected documents about the contextual influences on the development of online higher education in both of the jurisdictions. Direct observation was also applied, and a modified Delphi technique was used through email to gather nonobtrusive expert opinion from the sampled educational institutions through email general questions to administrative representatives of the two institutions. Samples of the general questions are presented in the Appendix.

This research sought to discover the One-Man University in China and Contact North in Canada emerged from, and react to, the political, economic, and sociocultural forces that the research literature suggests impact online higher education. Erickson (1986) notes that the most distinctive characteristic of qualitative research is the emphasis on interpretation (as cited in Stake, 1995). In this case study, theme analysis with appropriate interpretation of collected information informs important discussion of the results and conclusions represented in the cases.

As Yin (2009) suggested, the multiple case studies design method uses the logic of replication, in which the inquirer replicates the procedures for each case (as cited in Creswell, 2013). The comparison between the One-Man University and Contact North examined the political, economic, and sociocultural forces that may have influenced the development of these two online higher education

systems within these respective cases. The examination of how online initiatives, such as the One-Man University in China compares with a similar online education initiative Contact North in Canada, followed by informed discussion on what can be learned from Western experience in building online learning communities to create unique Chinese online learning communities is a significant contribution to the literature on global online higher education development and criticism.

CHAPTER FOUR: RESULTS AND DISCUSSION

This study examines the similarities and differences that currently exist between the development of Chinese and Canadian online higher education, explores the economic, political, and sociocultural factors that influence that development of online education in these two jurisdictions, and discusses the future development of online higher education in both Canada and China. A qualitative research design in the form of an unobtrusive case study methodology was used to compare an online higher education organization in China with a similar organization in Canada.

This chapter presents the results of comparing China's One-Man University and Canada's Contact North in terms of organizational framework or structure, market, and operational system from the perspectives of the political, economic, and sociocultural influences that have shaped the development of these two organizations.

The One-Man University and Contact North

The One-Man University (OMU), representing China's newest iteration of online higher education institutions, and Contact North, representing an established Canadian online higher education platform, are organizations at different stages of development. They were selected as cases to compare and analyze because they both represent regional attempts to "democratize" online higher education providing access to a wider range of people, and breaking the geographical, social, and psychological "distance" barriers that exist with traditional "brick and mortar" higher education distance delivery methods. The structure of the two institutions, including funding, leadership, and organization, basically determines what the OMU and Contact North are able to do and how

they do it. Comparing the two institutions informs a discussion of how the factors that are common to both result in differences because of the political, economic, and cultural environment in which they exist.

Organization and Structure Comparison

The OMU and Contact North share a mandate of affordable “education for all” and provide increased access to educational resources for higher education, but their target students and operational goals are slightly different owing to the backgrounds of the organizations. The OMU project was initiated in 2012 in China as a means of addressing the social access problems to higher education which originated 30 years earlier when China reinitiated national college entrance examinations. During these 3 decades, the Chinese government put much effort on expanding higher education enrollment, which was very successful, but that increased enrollment resulted in a shortage of higher education resources and capacity in China. The goal of the OMU, as its President Tong states on its website, is to increase access to Chinese higher education, by providing self-learning courses and materials using an Internet based platform (OMU, 2014).

Contact North’s primary goal is expanding higher education in Canada to remote communities and improving and upgrading provincial educational technology infrastructure (Paul, 2012). The difference between the OMU’s goals and those of Contact North is that the OMU is focused on access issues for individuals, while Contact North is aimed at technology infrastructure problems that originated from unbalanced regional development in Ontario, especially in education and communication. The North region of Ontario is short of higher educational resources and technology infrastructure which has contributed to access issues for higher education in the North. Contact North, collaborating with

universities across Ontario, provides online courses with credentials or certificates for the courses to people in this area. Both the OMU and Contact North are concerned with access to higher education, but the OMU has it as a primary focus while Contact North has it as a part of a larger regional development mission. The goals of the OMU and Contact North determine the ways they operate and the strategy planning, infrastructure, staff development, and curriculum they employ to meet the goals.

Funding and Organizational Independence

The OMU is unlike the other authorized universities in China which provide online higher education courses with credentials or certificates. The OMU as a “free” online education provider represents a new direction for online higher education in China. That is because the OMU is neither funded nor administered by the Central Chinese government. Because of a lack of higher educational resources and an unwillingness from Chinese traditional universities to share resources at the beginning stage, the OMU could not initially provide any degree courses or credentials. However, the OMU, like other MOOCs internationally, is attempting to partner with traditional universities to provide courses with certificates and credentials to benefit its students. In order to maintain the operation, the OMU will ultimately charge tuition for its courses but this tuition would likely be lower than the average university tuition, at least initially.

The information age reflects a worldwide trend towards greater educational openness where educational resources are shared, discussed, and re-integrated, instead of being the sole property of a small group of people (White, Manton, & Warren, 2011). As China continues to open its markets and enhance

cross-border cooperation in response to the free market provisions of the World Trade Organization (WTO), the OMU represents the move of Chinese online higher education in that direction.

Contact North, although first funded by the Ontario government, became a self-regulated institution that is governed by a committee which consists of administration representatives from a collection of traditional higher educational institutions (Paul, 2012). The Contact North funding and organizational model represents a Canadian style system for online higher education. Initially, Contact North was funded and developed using provincial economic and technological resources, and then the administration and governance of the organization was transferred to a public group of institutional partners in a collaborative organization committee.

The OMU follows the Contact North model in reverse. The OMU is an attempt to set up a self-regulated online higher education platform modeled on Western MOOCs, while maintaining the decision making structure of traditional Chinese online universities in administration and pedagogy authorized by the Ministry of Education. While Contact North began as a government project that went independent, the OMU represents an independent project in China that is seeking to link to traditional Chinese higher education.

Given the differences in governmental input and influence on the two institutions, it is understandable that the structure and organization of Contact North and the OMU differ. The OMU follows the hierarchical structure that is commonly seen in traditional universities. A team consisting of president and vice presidents governs and administers the educational organization, while departments are divided according to academic disciplines, from arts to science.

Contact North, on the other hand, is governed by a Board of Directors which chooses a president and oversees three departments: Recruitment & Student Services, Faculty & Instructor Services, and Central Support Services. The division of the departments in Contact North serves for three groups it is communicating with. As President Jean-Louise mentioned in the response, “always recognizing that Contact North | Contact Nord is a support network, the students it serves are students of the colleges, universities and training providers and that it exists to serve the colleges, universities and training providers” (Contact North, 2014).

It is interesting that the OMU, a “free” university, has a larger administrative structure than Contact North, a more traditional online institution. Mostly it is because, compared to an independently established online university as the OMU, Contact North is more like a coordinator facilitating access between the traditional universities and the students.

Funding and finance is another element where the two organizations share some similarities and show some differences. Contact North is primarily funded by the Ministry of Training, Colleges and Universities in a long-standing arrangement (Paul, 2012). Students using Contact North’s services to take their programs or courses pay tuition to the college, university, or other educational institution offering the program or course through the educational platform. There is no extra cost to the student to use the services of Contact North. The cost of operation is totally covered from provincial funding and the government views the funding as an investment in regional development. As President Jean-Louise described in the response,

In 2013-2014, over 90% of Contact North | Contact Nord's core operating budget was provided by the ministry with the remaining funding from other projects and sales of services. Students do not pay any additional fees (beyond the tuition and fees paid to the college, university or training provider offering the course) to use Contact North | Contact Nord's services. Colleges, universities, and training providers do not pay any fees to Contact North | Contact Nord to use its services. (Contact North, 2014)

Comparatively, the OMU is funded by public and the private enterprise as an investment opportunity. According to the responses of the representative of the OMU (Contact North, 2014), currently, it does not charge students for courses, activities, and services. But as the president mentioned in his online introduction, the OMU will charge for individualized services in the future including mentoring and online question answering (OMU, 2014). The fees charged for these services form part of a cost recovery and sustainability plan. Both the OMU and Contact North share a nonprofit model of funding that benefits the public, but the similarity ends there. The OMU investors view the initial public benefit to China as a means to attaining a significant return on investment in the future, or as a means to developing online social networking clients for other telecommunication offerings which they also own.

As the OMU is in a start-up phase of development, funding is inevitably an urgent and important issue that requires ongoing attention. There are three types of financing for online higher education in China, namely, government investment, education treasury bonds, and equity financing (Li & Li, 2011). Generally, online higher education institutions in China are public-funded universities connected to and affected by national finance interests. The OMU is

different because it does not follow the traditional public funding model. It faces funding problems arising from limited understanding of, and experience with, “for profit” funding models. However, as China’s markets are increasingly welcoming invested capital from the general society and collaborating with enterprises outside China, the trend for funding online higher education in China is clearly the “for profit” model (Li & Li, 2011). An increasing number of online education providers including the OMU are exploiting various “for profit” funding opportunities and collaborations with national and international partners.

Funding is one of the areas where China’s OMU is adopting and adapting Western models of operation. As in the West, some of the MOOCs platforms are nonprofit organizations, like Khan Academy and Edx, while some are for-profit organizations, like Udacity and Coursera. In its start-up phase, the OMU is employing the “nonprofit” model to attract and build its audiences or client base, and to promote the spirit of “education for all,” while exploring a “for profit” model as a long-term strategy. Moreover, the OMU is adopting and adapting the Western model of commercialization of online higher education, exploiting curriculum development collaboration or curriculum purchasing as a way of developing its offerings. Once curriculum is developed, the difference between Canada and China in online higher education remains market size and make-up.

Market Comparison

Higher educational institutions in both China and Canada serve audiences and groups within society, and partner with external organizations to address societal needs and concerns. However, the market differs in a variety of ways.

Both the OMU in China and Contact North in Canada have a specified target audience to connect with. But in the OMU case, that target audience is an

order of magnitude larger than the audience for Contact North. Based on the Social Networking Services (SNS) of Renren Network, which is the biggest real-name online student community in China, the OMU has a target audience of over 30 million students, which it reaches mostly through the Renren network. The OMU hosts its own website offering a series of video courses, but most of its recruitment of students and its activities connecting with students is accomplished on the Renren SNS platform.

Figure 1 shows the home page of the OMU on the Renren Network. The navigation bar of the homepage including Resources, Status, Forum, Album, and Log indicates that the educational platform of the OMU is more of a social platform that can attract students from an existed and mature social network. It also leads to its models of student-centered operation and self-directed learning.

Contact North differs from the OMU in that it does not have one large supported social network as its student base. Instead, Contact North has 112 centers located across Northern Ontario for connecting with and supporting its users. In the Contact North case, the primary contact with the great majority of students is through the local center coordinator at their 112 locations (Paul, 2012). Meanwhile, Contact North has an online presence provided by two online access portals, one for students and one for faculty members. Figure 2 shows a snapshot of the homepage portals for Contact North. These portals provide instructional and institutional support for students and instructors, which reflect the managerial structure of the organization.



Homepage	Resources	Forum	Status	Album	Log
One-Man	Logs (122)				
University	<i>How to Become a Good Theoretical Physicist</i> by Gerard't Hooft (1999 Nobel Laureate in Physics)				
	Free OMU French/Spanish Open Class Admission				
	The "OMU Cup" 1 st Internet Finance Knowledge Contest				

Figure 1. Snapshot of the OMU homepage on Renren Network (Translated).

Source: <http://page.renren.com/601533749/index>

Contact North | Contact Nord
Ontario's Distance Education & Training Network
Le réseau ontarien d'éducation et de formation à distance

FRANÇAIS | STAFF LOGIN

[e-CLASSES login](#) [e-Channel login](#)

Are you a student or prospective student?

[Enter the student portal](#)

Are you a faculty member or instructor?

[Enter the faculty & instructor portal](#)

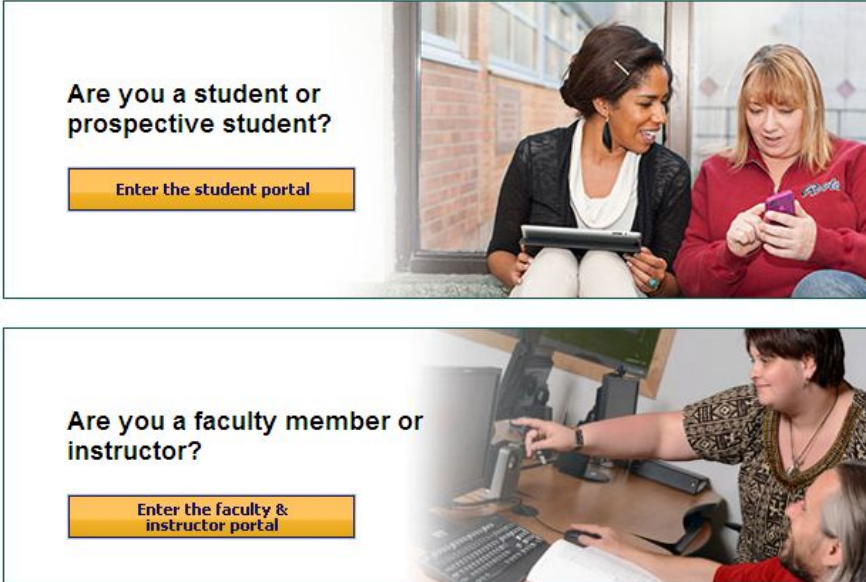
The image shows two panels of a website. The top panel features a photograph of two women sitting on a bench outdoors, looking at a tablet together. The bottom panel features a photograph of a woman pointing at a computer monitor while another woman looks on. The text and buttons are overlaid on the left side of each photograph.

Figure 2. Snapshot of Contact North portals.

Source: <http://contactnorth.ca/>

Comparatively, the OMU is more of a student self-regulated organization than Contact North organizing students in a loose administrative structure. Students who participate in the OMU have more autonomy in organizing activities and academic discussion than students in Contact North programs and courses. The OMU, like Contact North, has a presence at other institutions through 20 site-based associations located at major Chinese universities. These site-based associations extend the online component of the OMU courses with offline discussion opportunities that enhance communication among students. These site-based communities are wholly operated by students. Various workshops, lectures, and seminars are held by these associations on a regular basis.

In terms of the collaboration among partners, Contact North demonstrates a good example of collaborative partnership. One director from the Contact North management committee is quoted in Paul (2012) saying: “Contact North reinforced my own personal view about collaboration. My experience convinced me that the collaborative model in Contact North resulted in a project implementation that was effective, responsive to a broad range of community needs and fast.” Paul also suggests that Contact North opened up a new spirit of collaboration among the educational institutions involved in the Contact North collaboration that overcome jurisdictional barriers to accomplish the underlying goals of reducing regional disparity in the North around infrastructure and educational resources and increasing access to higher education for people in the North.

In terms of the curriculum, the OMU and Contact North share the same democratic spirit that relies on Open Educational Resources. However, there are

several differences. As a mature institution that has been established for 27 years, Contact North has developed most of its own introductory courses and shares them across the institutions that make up the Contact North collective (Paul, 2012). The courses on the Contact North platform are provided by different higher education institutions across Ontario, which is the Contact North strategy for developing curriculum to meet the needs of regional communities in the North. Contact North relies on collaboration among the institutions that make up the network to develop, offer, and administer curriculum that meets individual institutional requirements and the needs of learners in Northern communities.

The OMU, on the other hand, is a young online higher education platform which could learn from curriculum development experience of Contact North. The departmental structure of the OMU follows that of traditional universities in China, which places the operation of departments and the development of educational resources on the department heads. Each department provides students with the educational resources that are created and integrated into units and lessons by selected volunteer scholars. The units and lessons include various online activities like group discussion and competition, as well as activities off-line organized by the site-based associations. In operation since 2012, the OMU only provides video courses on a few key STEM (Science, Technology, Engineering, and Mathematics) subjects, such as Theoretical Physics and Advanced Mathematics. Although the OMU has developed seven main departmental units that cover 54 subjects from natural science to social science, the development of these departmental units are not in the same pace.

Figure 3 provides a list of some of these courses from the OMU website. As a private funded educational organization, the disciplinary development of the

OMU in its start-up phase is mostly based on the founders' preference and capacity, so that it is less comprehensive than a government organized institution as Contact North. Contact North helps students have access to various online courses provided by the partner universities across Ontario. And these universities develop online courses based on their existed mature curriculum system and abundant teacher and educational resources. Therefore, the advantage of Contact North in curriculum is to be a link between students in the North and these educational resources.

课程列表

知识, 乐趣, 分享
与万门不期而遇

万门大学

课程列表

课程名	描述	
可计算理论-有限状态自动机	万门大学公开课	查看
计算理论	万门大学公开课	查看
广义相对论	万门大学公开课	查看
理论物理一月特训班	万门大学公开课	查看
热力学与统计物理	万门大学公开课	查看
理论物理科学家班-概论	万门大学公开课	查看
量子力学	万门大学公开课	查看
线性代数	万门大学公开课	查看
高等数学	万门大学公开课	查看
数学物理方法	万门大学公开课	查看

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Program List

Courses	Description	
Computability Theory-FSM	The OMU Open Course	For More Details
Computing Theory	The OMU Open Course	For More Details
General Theory of Relativity	The OMU Open Course	For More Details
Theoretical Physics Monthly Training	The OMU Open Course	For More Details
Thermodynamics & Statistical Physics	The OMU Open Course	For More Details
An introduction to theoretical physics	The OMU Open Course	For More Details
Quantum Mechanics	The OMU Open Course	For More Details
Linear Algebra	The OMU Open Course	For More Details
Higher Mathematics	The OMU Open Course	For More Details
Methodology of Mathematical Physics	The OMU Open Course	For More Details

Figure 3. Snapshot of partial list of online video courses on the OMU video link website (Translated).

Source: <http://www.wanmen.org/>

Comparatively, the OMU was established as more of an online educational platform of STEM courses. The OMU is making an attempt to collaborate with more universities and improve the shared educational resources that it can offer students. But for now, the OMU operation relies on student self-study among using a set of activities which are designed to help participants deepen their understanding of specific subject matter by interacting with others in online and off-line discussion forums. As a representative of the OMU responded to the question: What are the major challenges for the future development? the OMU believes that this collaborative self-directed learning model will appeal to many Chinese higher education students but there is a concern that the model will be resisted or rejected by traditional universities with whom the OMU wants to establish a working alliance.

Accountability and measurable goals and standards are important for all higher education institutions, but doubly important for online higher education institutions. Contact North and the OMU both view and treat accountability as a key organizational mission component, but they differ in how they approach that component. Compared with Contact North, the OMU is less formalized and explicit in regulating its curriculum and setting goals and standards. Contact North conducts formal continuous organizational analysis in the areas of finance, political impact, technological and cultural improvement, and curricular and learning expectations, as well as outcomes.

On the other hand, the OMU is less standardized in creating an academic environment for learning and in its start-up phase resembles an educational platform where online forums have overwhelmed online learning standards, specific curriculum, and standard evaluation practices. For example, the

departmental units which do not possess video courses now appear to be organized as interesting groups. A student who wants to study Accounting would receive a book list which is recommended and sorted out for beginners by volunteer scholars in this field. Then the student could do self-learning through reading these books and participate in group discussion and activities organized by the students or departmental leaders. However, the OMU should have put more effort in measuring each phase of the learning experience to ensure the learning outcome. If the OMU is to meet its goal of helping China's "distanced" learners by providing increased access to quality higher education, then the OMU must do a better job of designing standards and curriculum in a more consistent way that works for the Chinese population it is attempting to reach, and for the goal it intends to accomplish. A curriculum corresponding to a specified standard or measurement that ensures students' achievement is essential for the future development of the OMU.

The OMU reflects the political, economic, and sociocultural influences of China just as Contact North reflects those conditions in Canada. The difference is that Contact North has had decades more time and millions less people to accommodate than the OMU.

Funding and Economic Influences

Industrialization or commodification of education is a controversial topic both in Canada and China. It means marketing and treating education as a business product, where market forces and economic considerations play a primary role in educational decision making and resource allocation. Profound transformations in public education have occurred in both Canada and China in

the past 3 decades as a result of viewing higher education as a commodity rather than a public service (Mok, 2003; Tudiver, 1999).

The Canadian government in the 1980s introduced a “free market system” in education that highlighted several important identity questions for Canadian education, such as: should higher education be publically owned or privatized and should universities serve one purpose or a diversity of purposes. Similarly in China, as the country focuses on its economy, people are starting to view higher education itself as an industry and online education is increasingly viewed as a new type of education industry, one that both Canada and China are trying to come to terms with as either a public good or as an economic engine of national and international growth.

While some people are worried about whether educational industrialization is opposed to the spirit or nature of public education, the industrialization of education continues because of the relationship between economic inputs and talent outputs that governments are focused on in competitive times (Fleisher, Hu, Li, & Kim, 2011). The economic inputs generally refer to the funding that governments provide to public educational organizations, while the talent outputs refer to the return on investment and the economic benefits expected from higher education (Belfield, 2000; Brand & Xie, 2010). For a nation with severe scarcity of higher education resources, the industrialization of education in China means an opportunity to introduce international education exchanges, benefit from international collaborations, and learn from their partners how to improve the efficiency in educational resources development and integration. The OMU’s private and business funding model is

an example of how China is taking what it has learned from international higher education and applying it to the Chinese context.

Industrializing online higher education in Canada means more choices and options for people seeking top-quality institutions and more access opportunities for a much broader portion of the population. Therefore, it can be argued that the industrialization of education, especially online higher education, is not necessarily opposed to the nature of education for the public good, as it is sometimes blamed for. The industrialization of education specifically through online delivery in Canada and China is of increasing importance to both countries and demands that governments strictly define and steer the direction of its development if it is to serve the public good.

Industrialization of higher education continues in Canada and China as the funding of online higher education becomes an investment opportunity. In China, several online educational organizations and institutions, including the One-Man University, have benefited from private investment and funding from private companies, especially those companies associated with Social Networking and Information Technology, such as the Renren Networking which is the largest social network in China with a membership of 280 million. These companies view the association and investment in the OMU as a business opportunity and a corporate good rather than a public funding act. Funding for Contact North conversely is less of a business opportunity than a public utility that is funded by the provincial government and its partners in the business and education sector.

The costs of operations and fundings are still the major challenges which online educational organizations like Contact North and the OMU face, but each has approached the issue differently based on its political, economic, and cultural

roots. Next we will examine the institutional issues and political forces that impact the OMU and Contact North.

Institutional Issues and Political Influences

Canada has a longer history of public education than China. Ontario was the first province that embraced public education based on legislation that emphasized secularism, acceptability, and diversification (Manzer, 1994; Moodley, 1995; Wotherspoon, 1998). Moreover, public education in Ontario has evolved from a monopolized system in which government held full command to a more competitive and open system in which more alternatives are provided to the public. For example, each province has both English, French, and Catholic school boards that are responsible for leading different types of schools for students who have varied backgrounds. Contact North was set up in this relatively mature education environment with a flat decentralized structure that is primarily government funded but also operates as a self-regulated educational organization. The relationship between the government and Contact North is complex. Contact North's organizational committee is authorized by, and collaborates with, the government but Contact North is largely independent in its decision making and day-to-day operation.

The OMU derives from a different governmental environment and experience. Chinese online higher education policies make it clear that each move in the development of online higher education in China was carried out by the Central government through specific legislation. The pace of establishing and improving online higher education in China also suggests the importance of Chinese government involvement in this educational reform and growth. However, the detailed and nuanced reform policies of China's central government

on online higher education do not reflect a change in the relationship between the government and educational institutions. The Chinese government is still in complete control of education. Online higher education institutions like OMU have emerged largely because the government has deemed internationalization and open markets necessary for its economic plans for China.

Sociocultural Influences

The last decade of the 20th Century saw the emergence of global strategic alliances and networks in online higher education. In Canada, many universities formed alliance networks for online higher education in order to increase access to higher education and benefit from economies of scale and curricular collaborations (Harasim, 2000). Owing to the constitutional provincial responsibility for public education, most of these online educational alliances in Canada were formed by universities within the same province. These alliance networks optimize the advantages of educational resources and feed back to the development of regional economy and communication (Castells, 2011).

The introduction of ICT into traditional higher education institutions in Canada that resulted from the development of the alliance networks has created much demand for network platforms in each province in Canada linking these educational institutions together to reach more students who can benefit from hybrid or online programs. Similarly in China, the demand for online higher education has grown as institutions develop and adopt ICT as a core function or option for the institutions.

The differences between Canada and China's approach to online higher education are in part due to differences in the demographic and regional development between Canada and China. Both countries have a large

geographical area with various nationalities and unbalanced regional development, which contribute to problems of sociocultural compatibility when planning for online education. The majority of students who receive higher education credentials from Contact North are First Nation and Aboriginal people who were “distanced” from higher education for a variety of reasons. Similarly in China, it is the ethnic groups who have the least access to higher education because of a lack of basic education infrastructure in rural regions. Online higher education provides them with the opportunity to obtain higher education. From a societal perspective on both Canada and China, online higher education helps solve social contradictions and to balance regional development, but sociocultural factors in both countries also provide online higher education with challenges. In China’s case, thousands of years of cultural experience focused on conforming to specific norms of behavior make the development of Chinese online higher education complicated. Chinese culture tends to equate higher education to elite education, and Chinese people have taken a longer time than Canadians to accept online higher education as an option.

Intellectual property (IP) is another area where online higher education in Canada and China are similar in spirit but different in developing pace. IP is a specific concern for Contact North and the OMU as the development of OER in Canada and China has involved many educational institutions in sharing and developing educational resources. In China, although distance education has evolved to Moore and Kearsley’s (2011) fifth generation of development, which is web-based education with the support of ICT, the evolution in the development of instructional support, curriculum, and educational resources in online higher education has not kept pace. Unlike the various collaborative OER networks that

exist in Canada, only a limited number of universities in China have joined the China Open Resources for Education (CORE) network. One of the reasons is that the intellectual property protection system in China needs improvement and more legislative development and articulation. In this stage, the OMU will represent a milestone in China's development of online higher education, a move from Open Online Courses to Massive Open Online Courses, involving a wide range of higher education institutions across China providing open educational resources that will be collaboratively developed and available through the OMU.

Generally, online higher education systems in Canada and China are established by or linked to traditional higher education institutions. Online higher education in both countries is also strongly influenced by the sociocultural factors inherent to those countries. The comparison in this study of the political, economic, and sociocultural factors that influence online higher education in Canada and China shows similarities and differences in these key factors and establishes them as the reasons why online higher education in these two jurisdictions can look alike but still be totally unique.

CHAPTER FIVE: CONCLUSION

This research paper examined the similarities and differences that currently exist between Chinese and Canadian online higher education, and explored the economic, political, and sociocultural environments that have shaped online education in these two jurisdictions. Furthermore, this paper discussed the efficacy of, and potential for, future development of online learning in higher education in both Canada and China. The metaphor by Sir Michael Sadler (1900) quoted in Chapter One reminds us that the educational systems of the world are characteristically distinctive. One cannot expect that an educational approach that works for one specific environment will fit equally well into another jurisdiction.

The One-Man University (OMU) is China's version of the privately funded western Massive Open Online Courses (MOOCs) platform. It inherits the MOOCs democratizing spirit of providing access to higher education resources for great numbers of people using the social resources and networking capabilities of ICT. The case study of the One-Man University experiment suggests that the OMU's future rests on how the economic, political, and sociocultural environment of China shapes and uses the MOOCs platform to meet higher education goals.

Contact North conversely represents a case study of the establishment and development of a more traditional or typical online platform for higher education as a collaboration between government, universities, and regional communities. A comparison and investigation into the political, economic, and sociocultural factors that shaped these two online higher education institutions reveals areas of similarity and difference that combined with a review of related literature informs a discussion of what the OMU and Contact North can learn from each other and

what educators and administrators can learn about the future of online education in China and Canada..

China's rapidly growing demand for higher educational resources and diversified approaches to providing access to education opportunities for its population is a driving force for online higher education development in that country. While the OMU endeavors to create an online community based on the social network, some public universities in China are also starting their online platform for higher education called UOOC (University Online Open Courses), which was signed by the first 56 universities in May of 2014 (UOOC, 2014). It is also a remarkable effort of traditional universities with the spirit of OER and MOOCs. Learning how Contact North developed and operates its online higher educational platform is meaningful for China, just as learning how the OMU uses social networks to link and support millions of students is meaningful for Western institutions. The OMU, as a public and private educational organization, is an experiment for China in how to develop a self-regulated online educational organization. Its experience will set the example for future online educational practices and could reshape the landscape of China's traditional higher education system. Contact North, which is still growing and evolving, may want to examine some of the social networking and student engagement strategies of the OMU to find new ways to connect with its distance learners in Northern Ontario.

Summary of the Project

The study examined the environmental factors that influence the development of online higher education in Canada and China, as represented by the One-Man University in China and Contact North in Canada.

A literature review of the development and implementation of online higher education in Canada and China, focusing on the opportunities and challenges of online education in both jurisdictions suggested a combination of political, economic, and cultural forces as the key development drivers of online higher education in the two settings. The literature supported the unprecedented potential of ICT based higher education to increase access to and student engagement with higher education through the development of Open Educational Resources and universal access.

The comparison of the OMU and Contact North cases on organizational structure and operation patterns revealed that the differences in organizational structure are largely the result of differences in domestic higher education philosophy and policy, approaches to institutional funding, and how curriculum and educational resources are developed and used. Sociocultural factors, including attitudes towards traditional higher education, population size, and the amount and nature of government involvement, have also affected the operation patterns and scale of the OMU and Contact North.

Communication within and beyond the organization is another area of difference between these two institutions. The OMU and Contact North reflect both vertical and flat communication patterns in their efforts to stay connect with students, but the groups they connected with and how, differ substantively. The OMU structure and decision-making procedure emulate the existing structure of traditional universities consisting of president, department leaders, and interest group leaders working in a team with subordinate relationships. In the OMU communication pattern, the president, department leaders, and interest group leaders present a traditional vertical and hierarchical approach, while Contact

North, which at first glance seems to be a traditionally oriented organization, is greatly influenced by marketization and present a flatter and more egalitarian communication structure. In a modern developed educational organization, students are regarded as customers who receive services from the education providers. Therefore, the inner structure of the Contact North organization tends to differentiate functions and service for students and instructors, as well as the provision of central support for local communities. Contact North's collaborative leadership structure, therefore, presents a flatter and more democratic communication picture than the OMU. However, as the OMU is not at this time associated with traditional higher education in China and is less concerned with student and program certification or credentialism than Contact North, students are given more autonomy in organizing learning activities and leading study processes; therefore, the communication patterns of the OMU reflect greater inter-student interaction and involvement in the operation of the courses and programs.

It is interesting to see how organizational structure and target groups affect communication patterns in these two organizations. The OMU, which has a top-down hierarchical structure in its organizational governance, reflects in its courses and student interactions a more democratic or looser pattern of communication than Contact North. This difference may in part result from the fact that Contact North courses and programs are government certified and lead to degrees or professional designation while courses and programs with the OMU are not. The aim of the OMU, like Western MOOCs, is to build capacity for online learning but not solely for credential or degree processing or graduating students, as much as, helping students reach individual learning goals.

This study provided a comparative perspective on the development of two representative online higher educational institutions in Canada and China. The comparison of the organizational structures and operational systems is shown in Table 1. The differences and similarities in the economic, political, and sociocultural factors of influence on the development of the OMU and Contact North are shown in Table 2.

Table 1

Comparison of Organizational Structures and Operational Systems

	The One-Man University	Contact North
Model	Non-profit (Currently)	Non-profit
Funding	Private and business	Public funding
Target groups	College students	North Ontarian
Organizational Structure	Top-down	Horizontal
Communication pattern	Horizontal	Instructional
Platform	Renren Networking	Contact North Portals
Charge of services	Free (Currently)	Free

Table 2

Comparison of the Economic, Political, and Sociocultural Factors on the Development of the OMU and Contact North

	The One-Man University	Contact North
Economic environment	Marketization and industrialization of education	Marketization and industrialization of education
Institutional environment	Centralized education system	Open and diversified education system
Sociocultural environment	Unbalanced educational resources integration;	Unbalanced regional development;
	Traditional higher education;	Higher education alliances;
	OER	OER

Implications from the Cases

The study generated implications for the two online higher education platforms with regard to future development. As a mature online higher education provider, Contact North can serve as an exemplar and representative of how to gather joint effort in building the instructional and operational capacity, and how to create a learning community in reaching the local people as target population. For the OMU, a hierarchical structure is efficient for the formation of an effective leadership team, but slows the pace of a balanced development of departments, owing to the lack of a guiding principal. The findings from the comparison between the structures of the OMU and Contact North indicate that a flatter structure enhances the probability of collaboration between and among units.

As self-regulated organizations, the OMU and Contact North show many differences in their operation, from which recommendations can be made. For example, the OMU's interest clubs located in various universities across China are highly efficient for involving students, as the clubs are self-managed by students who are involved in academic discussion or practical activities by interest. Contact North could learn from the OMU student club experience and introduce more interaction between students to provide more opportunities for self-organized activities both online and in local centers. On the other hand, the OMU could benefit from Contact North's work in cooperating with traditional universities to create more academic resources.

Both the OMU and Contact North are facing challenges including funding and the continued pace of technology development. Exploring a long term financial sustainability model is important both for the OMU and Contact North in order to continue to "respond to all needs from communities within current

funding” (Jean-Louise, August 14, 2014). Nowadays, an increasing number of higher education institutions have established online or blended programs offered to increase access, reduce space and delivery costs, and increase revenue. How to improve competitiveness in both tuition and pedagogical models to attract more students remains a question for all online higher educational institutions. A clear positioning in target audience and funding models is essential both for the OMU and Contact North.

Maintaining a high standard of instructional quality to ensure students’ learning outcomes can be either a challenge or opportunity for both of these organizations. Contact North is a program coordinator between students and universities in Northern Ontario, but it can also learn from the OMU and become better at facilitating students involvement in higher education and providing them with a better experience of higher education. For the OMU, generating interest in higher education and developing the MOOCs platform is just a start. The OMU can learn from Contact North how to ensure high quality online and on-site activities that meet curricular and societal goals and needs.

Implications for the Development of Online Higher Education

The cases of the OMU and Contact North present the development of two online higher educational platforms in China and Canada. Both of the countries have developed models for online higher education, and are exploring for unique paths in various areas like collaboration with the public and private partners, technological improvement, instructional resources, and quality.

The role of government has been and continues to be the dominant force shaping the development of online higher education in Canada and China. This study revealed that government authority is the major financial and political

factor in online higher education in Canada and China. Therefore, an unauthorized and non-government funded online institution like the OMU in China has found it difficult to fit into the current higher education system. However, the OMU experiment is important for the development of online higher education in China because of its uniqueness and innovation. The trend of marketization of education has started in Chinese higher education but it is only beginning in online higher education. Both private online educational organizations and the Chinese government will need to cooperate and adapt to this trend and be open to the economic and social opportunities it brings.

On the other hand, the regionalization of educational resources is a problem both for Canada and China. In Canada, the higher education alliances are mostly formed regionally. Although each province now has its own online higher education network providing access to their populations, regional boundaries in online higher education are clear. To break the regional boundaries and provide online higher education to all audiences across all provinces is essential for the future development of higher education in Canada. In the OMU, one of its goals is to break the boundaries between each university and provide all Chinese students with access to quality higher education using the ICT. The unbalanced integration of educational resources in different universities in China requires a higher education alliance across China's provinces and cities so that high quality academic resources will no longer be the private property of the top universities and can be shared with all online higher education institutions using the MOOC's platform.

The key theme for the next decade of the online higher education development in these two countries is cross-border collaboration. The "border"

mentioned here implies both geographical borders, institutional borders, and social distance boundaries. Cross-border collaboration between education and other industries, and between different districts or even nations would enhance the integration of educational resources and also create a win-win situation for business, individuals, and society. The collaboration between Ontario colleges and universities to form the self-regulated online higher educational institution known as Contact North represents a good example for breaking distance and institutional borders using ICT based technology, while the collaboration between the OMU and the Renren SNS (Social Networking Service) provides a win-win model of an online higher education institution using a communication platform effectively as a technological means to support online higher education.

According to the equilibrium theory of social resources, it is not possible to increase one's benefit without decrease to another (Barr, 1993). However, improvement in allocation of educational resources allows a change to create benefit for resource providers and communities through proper integration of the resources. Online education itself represents a social improvement using the leverage power of the Internet. For the future development of online higher education in Canada and China, the collaboration between the traditional higher education and innovative online higher education platforms, between the education industry and other supportive industries, and between one nation and the other could bring about more win-win situations, and also increase the international cohesion and economic growth.

Breaking geographical borders also means that international student enrollment can contribute to national jobs and prosperity by creating jobs and economic growth. Canada's Comprehensive International Education Strategy, for

example, seeks to double the number of international students and researchers in Canadian higher education by the year 2022 (Foreign Affairs, Trade and Development Canada, 2014 January). As noted by McLoughlin and Oliver (2000), technology can amplify the cultural dimensions of communication and distance education can use online technology to engage international audiences interested in Canada's strong education resources and performance, but only if cultural differences and distance is overcome.

The comparison of the One-Man University in China and Contact North in Canada provides a glimpse at the cultural, social, and economic distance that the development of online higher education in these two countries and organizations must address. It is clear that the economic, political, and sociocultural environments, as well as the needs of the respective communities in both Canada and China, will continue to have significant meaning for the development of online higher education in China and Canada. It is also clear that the jurisdictions and organizations can learn from each other.

Recommendations for Future Study

Although the results of qualitative research is not intended to be generalized to the population, its value lies in its ability to enlighten and to catalyze new ideas for further study (Creswell, 2013). Because of the limitation in time and methodology, the paper does not provide qualitative data from teachers, students, and other stakeholders needed to understand online higher education from a user's perspective. Further study should provide a deep investigation into administrators, teachers, students, and other stakeholders' views and experiences of online higher education.

As Sir Michael Sadler (1900) so eloquently reminds us in his quotation in Chapter One, comparing systems of education from two jurisdictions requires prudence and informed judgement. This study examined two online higher education organizations in Canada and China, which generates implications on the development of online higher education in these two countries and suggests an insight into their environmental factors on economic, political, and sociocultural perspectives.

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Appendix

General Questions to Administrative Representatives

1. What is the key to the success of the organization? And what is the difficulty to be dealt with?
2. What are the functions of the local online learning centres?
3. What support does the organization provide through the students' online learning experience?
4. What is the funding model?
5. Are there any sociocultural factors influencing the decision making?
6. What are the major opportunities and challenges for the future development?