Challenges of Outsourcing IT to China

A literature review

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Abstract

IT outsourcing has been studied by many scholars throughout the world in much detail. The People’s Republic of China, as one of the leading IT outsourcing markets in the world, nonetheless, is still considered as a developing market. Not many IT outsourcing studies have set their focus on China. Although there are summary overviews, few studies have sought to answer why China should be studied or what should foreign companies be aware of before searching for any Chinese service providers. Through a literature review of conducted research, this study aims to provide an overview of the challenges of IT outsourcing to China by answering the following research question: How does extant research portray the fundamental challenges of outsourcing IT to China? In sum, this study concludes that there are three main challenges including guanxi/relationship, legal risks, workforce/professional skills in outsourcing IT to China, offering insights as to why and how foreign companies need to understand and face these challenges before outsourcing IT to China.

Keywords: IT outsourcing, China, guanxi, legal, workforce, literature review

1. Introduction

IT outsourcing is generally defined as enterprises and individuals authorizing their information technology work to professional companies specializing in such work (Kliem & Ludin, 2000). Services involving information consultancy, system daily maintenance, equipment and software selection, and software system construction are often listed as the most outsourced services to China (Li & Li, 2009). Thus, IT outsourcing is also considerable as a way for enterprises to achieve digitization and improve the quality and efficiency of their services. A precedent was set for this type of business relationship in 1963 when the American Blue Cross, a federation of American health insurance organizations, entrusted their data processing business and employee information to another company called “EDS”. This was the first outsourcing of business historically. Since then, the business of outsourcing has developed rapidly, particularly with the onset of the Internet age, due to a lack of standardization of IT departments and of relevant employee experience (Qin, 2006). With the rapid growth of IT, the vast majority of companies started to acknowledge the importance of information systems for their daily operations. Moreover, companies lacking people with IT skills may not likely be able to afford the development and maintenance of their own IT work without outside assistance. Now, as Aalders (2002) argue, a decision to outsource IT processes implies a much heavier reliance on the quality of the service provided by the service provider. In addition, IT outsourcing can have spectacular results if done successfully by a competent service provider.

Outsourcing IT work to China is a common strategy for many foreign companies (Parikh & Tan, 2011; KPMG International, 2009). Meanwhile, outsourcing helps enterprises to focus on their core business driving further development (Lau & Zhang, 2006). Such flexibility derived from outsourcing is capable of enhancing the credibility of IT projects (Lau & Zhang, 2006).
Therefore, IT outsourcing services are no longer merely a trend but instead comprise a standard for industries. Geeniu (2016) cites that the 2013 global IT outsourcing market totaled 288 billion US dollars, equivalent to 1.8 trillion Chinese Yuan and is expected to grow by 5.8 percent, reaching 2.6 trillion Chinese Yuan by 2019.

But, why is this the case regarding China? China is believed to be the next best option for IT outsourcing after India. Parikh and Tan (2011, p.1) states “since 2006, China’s market for the outsourcing of technology services has experienced fast growth. Over the past 5 years, foreign and home grown IT service providers have established and expanded business operations in China.” Accordingly, the Chinese IT outsourcing market has now attained such importance that its value cannot be ignored by global sourcing strategists.

Among the reasons to choose China for this study are the facts that China has comparatively low labor costs and has already developed a very large domestic IT outsourcing market, thus China has the ability to offer a well-trained, experienced and skilled workforce to foreign companies. Gonzales et al. (2004) presents the case that over the years China has proven that its domestic labor is capable of providing among the cheapest, but nonetheless good quality services. Moreover, with increasing government investments in the IT field, China has the ability to enhance its infrastructure for IT outsourcing services making it possible for China to compete well in the global IT outsourcing market (Jones, 2009). With huge market potential and the ability to offer low-cost but relatively high quality services, China is becoming a leading choice for IT outsourcing the world over.

The study of IT outsourcing has been a prevalent topic in Western countries especially prior to 2010 (Liang et al., 2016; Lacity et al., 2010). Scholars from the West have shared their interests in this topic and published numerous articles about IT outsourcing. Accordingly, “IT outsourcing” is a subject that scholars have studied in the past (Liang et al., 2016; Lacity et al., 2010). Lacity et al. (2010, p.1) state that “during the past 20 years, a rich but diverse body of theoretical and empirical work has accumulated on information technology outsourcing. Liang et al. argue (2016) that during the period of 1992-1994 most IT outsourcing articles were mainly focused on risks and decision making, while from 1995 to 2001 their focus was client-vendor relationships. Moreover, Liang et al. (2016) adds that after 2003 vendor’s perspective, formal contracts and offshore outsourcing are the mainstream of IT outsourcing studies. Eltschinger (2007, p.5) defines IT offshore outsourcing as “the transfer of business or IT processes to organizations in other countries.

While current research has identified a number of challenges related to IT offshoring there is a need of particular understanding of the challenges associated with offshoring when the vendor is not only located geographically remote but also in a culturally different setting. This need is growing bigger as the offshoring market is growing bigger and offshoring is commonly arranged in between Western and Asian companies.

There are studies focus on China’s IT outsourcing market academically in last 10-15 years in particular (Jarvenpaa & Mao, 2008; Su, 2013). Lacity et al. (2010) state that China is particularly interesting to study further since the Chinese government has assigned a high priority to science and technology as they are future growth sectors. While current research has identified a number of challenges related to IT offshoring there is a need of particular understanding of the challenges associated with offshoring when the vendor is not only
located geographically remote but also in a culturally different setting. However, unlike other
countries, China has its own system and own way of doing business. It may literally be
difficult to understand the philosophy informing Chinese business. This need is growing
bigger as the offshoring market is growing bigger and offshoring is commonly arranged in
between Western and Asian companies. Hence In order to achieve success in the IT
outsourcing industry in China and disseminate knowledge about what we already known
concerning the Chinese context, it is important to make a literature review for future studies
and for foreign companies to understand what the challenges of outsourcing IT work to
China are.

To answer the question of ‘what are the challenges of outsourcing IT to China,’ a literature
review is conducted in this thesis. Webster & Watson (2010) believe that a literature review is
an essential feature of any academic project, as by conducting an analysis and synthesis of
the existing research, it can create a firm foundation for advancing knowledge. Hence, a
comprehensive literature review that analyzes the challenges of outsourcing IT to China is
imperative in gaining an aggregated view of this industry in China in relation to global
outsourcing ventures.

Through the literature review this study aims to outline the challenging environment for
clients utilizing China’s IT outsourcing industry. This review also aims to present the
importance of such challenges and create a direction for future researchers and practitioners
who do not understand the Chinese IT outsourcing market or who are interested in the
special circumstances of China’s IT outsourcing industry. Accordingly, the main research
question of this study is, how does extant research portray the challenges of outsourcing IT
to China? In exploring the research question this literature review identifies three
fundamental challenges for companies that seek to outsource their IT work to China:
relationships - the Chinese guanxi, legal risks and workforce professional skills. The
following five chapters cover related research, methods, analysis, discussion and conclusions.

2. Related Research

In this section related research will be presented that gives an introduction to the area of IT
outsourcing and offshoring, what we know about challenges in IT outsourcing in general and
the current trends of IT outsourcing to China.

2.1 IT Outsourcing

IT outsourcing is generally defined as enterprises and individuals authorizing their
information technology work to professional companies specializing in such work (Kliem &
Ludin, 2000). IT is typically portrayed as a fundamental tool for organizations to meet the
expectations and demands of customers in the market, enabling organizations to achieve
their business objectives (Cullen, Seddon & Willcocks, 2009). Small organizations usually do
not have the ability to call upon such resources for their own in-house IT efforts. That is
where IT outsourcing enters the picture. Earlier, in the 1980’s, the trend of companies
outsourcing their non-core business operations to others so as to cut operational costs began
to strengthen. During this period of time, outsourcing was predominantly done domestically
(Hätönen & Eriksson, 2009). Here, the relationship between clients and vendors heavily relied upon how contracts were formulated. More recently companies have started to outsource both internationally and domestically (Hätönen & Eriksson, 2009). However, it was not until the early 1990’s that IT outsourcing finally gained critical momentum due to the successes of previous cases that led other companies to jump on the outsourcing bandwagon (Grover, Cheon & Teng, 1996; Morgan, 1999; Lacity & Hirschheim, 1993).

Looking back, there are three main periods of time for IT outsourcing which are the 1980’s to the early 1990’s, the early 1990’s to the early 2000’s and from the early 2000’s onwards. Hätönen and Eriksson (2009) sum up the characteristics of these three periods in a straightforward way. They present the 80’s to early 90’s period as the “Big Bang,” the early 90’s to early 2000’s as the “Bandwagon” period, and the period thereafter as the “Barrier-less Organizations.” Each period has its own characteristics in IT outsourcing, the key terms for the Big Bang period are “domestic, outsourcing,” and “cut costs” whereas during the Bandwagon stage the prime motives were no longer limited to cutting costs, as capability enhancement and process improvement also became important at this stage. Organizations during this stage consider IT outsourcing as one way to gain a competitive edge. Later, during the ongoing ‘Barrier-less Organizations’ period the focus has evolved towards the transformation to outsourcing globally. In this case, more collaborative development has emerged during outsourcing and organizations are also using outsourcing as a tool to survive within their industries.

More specifically, the nature of outsourcing has evolved compared to the 1970’s. Grover et al. (1996) state that there are five differences between current outsourcing and outsourcing of the past:

1. larger companies are outsourcing,
2. a greater range and depth of services are being outsourced,
3. there is more functional outsourcing,
4. service providers are accepting management responsibilities and risks,
5. the nature of the relationship with the service provider is changing.

Unlike larger organizations using IT outsourcing as a way to obtain cost control and further development, smaller organizations turned to outsourcing as a way to survive due to their internal lack of IT resources (Aalders, 2002). Under such circumstances, many organizations are choosing which functions that they want to outsource while keeping control of certain in-house functions on their own as a parallel strategy. Now, since service providers are willing to face emerging management responsibilities and risks, organizations are also changing the nature of their relationship with their service providers, where often they may consider their chosen vendor as a part of their information partnership (Hou & Pan, 2011). Thus, selecting a vendor and processing outsourcing become a more complex and strategic issue to be determined by organizations than in years past.

IT outsourcing is a complex process that beyond its benefits also has potential risks which have the ability to destroy a project or damage a company. Kendrick (2009) believes that the decision of a company to outsource its IT functions is central to any organization’s business strategy. Kendrick (2009) states that IT is a core element in the business of every
organization. Entrusting such a core business tool to the right partner is critical to the success of an organization even if some organizations do not embrace IT as one of its core tools or is not addressing the need for an IT strategy as one of that organization’s top commitments.

The main objective for most organizations when choosing an IT outsourcing strategy is to generate the highest value for their organization. Certainly, organizations outsourcing their IT functions expect benefits. From a long-term perspective, cost reduction is able to clearly indicate outsourcing’s benefits in comparison to the consequences of not choosing to outsource (Aalders, 2002). In addition, there are other benefits to be gained from IT outsourcing. Outsourcing all or part of an organization’s IT functions forces that organization to define the required outputs and its basic needs; this means that companies can consider outsourcing as a tool to achieve improvements that cannot be achieved by an average IT department (Kendrick, 2009). Moreover, by outsourcing IT functions, organizations are forced to manage budget development while maintaining checks on any given project’s expenditures thus improving business processes (Aalders, 2002). In this way, the output from service providers will improve the definition of quality in services. With such improved quality of services, IT outsourcing as an IT strategy has the ability to increase one’s competitive advantage (Cullen et al., 2009). Overall, considering all of the varied benefits from IT outsourcing, organizations are able to increase their competitive advantage in the market (Bertschek, Erdsiek & Trenz, 2017).

While IT outsourcing is a general concept that includes different forms of outsourcing we will now move into IT offshoring, a particular form of IT outsourcing.

### 2.2 IT Offshoring

As previously mentioned, IT outsourcing is defined as enterprises authorizing IT work to professional companies specializing in such work. Offshoring is particular form of outsourcing where the service provider and customer are located in different countries. Current literature use different concepts of IT offshoring, some prefer using terms such as “global IT outsourcing” or “outsourcing IT to another country” instead of IT offshoring. However, in this section, IT offshoring will be used as a concept.

The term ‘offshore’ is defined as “an outsourcing term describing the provision of services from a country that is geographically remote from the client’s enterprises” (Eltschinger, 2007, p. 5). Postma et al. (2013) state that in the mid-20th century the offshoring of IT jobs and infrastructure became significant to global economic development; companies began tapping new workers to staff customer-call centers to fill jobs in information technology. Oshri, et al. (2009) state that by 2006, over 200 firms from among Forbes 200 companies and nearly half of the Fortune Global 250 had offshored their IT activities. By the end of 2009, IT outsourcing revenues exceeded over 250 billion US dollars, while the revenues from offshore outsourcing of business and information technology services exceeded over 60 billion US dollars (Oshri et al. 2009). Accordingly, offshore outsourcing of IT work has become a multibillion dollar industry, while the benefits of outsourcing are mainly related to cost reduction and lower labor costs (Sajeev & Ramingwong, 2009). Pfannenstein and Tsai (2004) state that the primary reason for offshoring IT work is cost reduction, which in some
cases can achieve a 50% reduction. Moreover, Pfannenstein and Tsai (2004) add that the hourly wages for IT workers in Asia are anywhere from 30 to 75 percent lower than that of IT workers in the West. Offshoring can also help companies to find experienced workers that they otherwise might not utilize in their home country’s labor market (Aspray, 2010). Wei and Peach (2006) concur stating that IT offshoring has the ability of benefiting a company by reducing labor costs and allowing access to global expertise not always available in their home country.

Moreover, the source countries of IT outsourcing are largely Western countries which include the US, the UK and Western European countries, while Asian countries (e.g., China, India, Malaysia, etc.) are attractive destinations for enterprises in those source countries (Sajeev & Ramingwong, 2009). Rapid growth in the offshoring of IT work by advanced industrialized countries to less developed countries in recent years has been accompanied by some amount of research on the subject of offshoring or outsourcing (Chadee et al., 2011). Aundhe and Mathew (2009, p. 418) state, “Offshore outsourcing, popularly known as offshoring, is an important global strategy for most organizations today.” Kyrki and Torkkeli (2011) believe that IT offshoring has been a growing trend since the mid-1990s, as IT companies in various countries are competing for sourcing contracts on that ground.

Globalization has become a term embedded in the IT industry’s vocabulary over past decades. One of the consequences of globalization is outsourcing especially when a company decides to ship their work outside of the country in which they are located (Wei et al., 2014). Oshri et al. (2009) state that the global offshore outsourcing market for IT exceeded 55 billion USD in 2008. Moreover, Oshri et al. (2009) add that in 2008 India exported 40 billion USD in such services, while China, Russia, and Brazil achieved 5 billion USD, 3.65 billion USD, and 800 million USD respectively. In addition, there are over 120 locations offering IT service or captive location (Willcocks et al., 2017). Aspray (2010) says that enterprises in the United States typically seek such services overseas in India or China, for example, sending software or IT - services work to an outsourcing provider overseas. Aspray (2010) adds that German enterprises on the other hand send this kind of work to Eastern European countries such as the Czech Republic where no crossing of customs borders is involved. King and Torkzadeh (2008, p.205) state that “the extent of offshoring of information technology-related services has been significant and the trend seems likely to continue in the foreseeable future.” However, offshoring processes may face challenges that are critical for the firm. Bhalla et al. (2008) argue that offshoring may include “hidden” costs as travel, transition costs, vendor search costs etc. Moreover, firms may also face risks stemming from the complexity of operations due to the geographic separation from the vendor. Hence, enterprise should be aware of the IT offshoring’s limitations in order to achieve their goals. In addition, Haried and Ramamurthy (2014) argue that IT offshoring usually involves high complexity because it requires interaction in cross-cultural project and control remotely. Hence, cultural aspects are a significant factor causing challenges in IT offshoring. While current literature has addressed many possibilities with offshoring Bhalla et al. (2008) and Haried and Ramamurthy (2014) show that critical challenges follow IT offshoring as well.

2.3 IT Offshoring Challenges
There are multiple general challenges related to outsourcing/offshoring that companies need to be aware of. Murray and Crandall (2006) identify a number of general challenges of IT offshoring including: data security risks, lack of professional knowledge, government oversight and regulation, cultural adjustment and political instability of foreign government. Palvia (2004) highlights six important challenges that must be navigated in IT offshoring; political issues, ICT infrastructure, government regulations, workforce, legal systems, language and culture. Rottman and Lacity (2006) also enumerate six categories of general offshore challenges: business, legal, political, workforce, social and logistical challenges. King and Torkzadeh (2008) consider that the new realities of outsourcing and offshoring usually present information systems executives with legal, cultural and managerial challenges. In their paper, King and Torkzadeh (2008) state that a number of studies have identified that research topics related to risks and challenges such as the vendor selection process and geographical and cultural differences are prominent upon review. Especially King and Torkzadeh (2008) emphasize that outsourcing IT projects to vendor firms located in a different cultural sphere can be an inherently risky endeavor. Rottman and Lacity (2006) look at enterprises based in the United States defining what they may face via these following categories of potential challenges:

1. Legal: inefficient or ineffective judicial system at offshore locale, intellectual property rights infringement, breaches in security or privacy, etc.
2. Political: political instability within the offshore country, optical instability between the United States and offshore country, etc.
3. Workforce: inexperienced supplier employees and poor communication skills of the supplier’s employees, etc.
4. Social: cultural differences as well as holiday and religious calendar differences, etc.
5. Logistical: time zone challenges, managing remote teams, etc.
6. Business: no overall cost savings, poor quality, etc.

Palvia (2014) on the other hand added IT infrastructure and government regulations into the framework of offshore challenges which differ from Rottman and Lacity (2006). Palvia (2014, p.14) states that “for global communications and collaboration over the internet, it is crucial that the outsourcer and outsource countries have similar levels of ICT infrastructure.” Moreover, Palvia (2014) believes that more relaxed government regulations should render benefits regarding tax incentives, foreign direct investment, import duties, etc. By comparing all the aforementioned researchers’ work and seeking the broadest commonalities among them regarding IT offshoring challenges we can summarize these in the following four categories: legal, political, workforce and social/culture challenges.

2.4 IT offshoring to China

China is emerging as one of the biggest service providers for IT outsourcing. China is the world’s most populous nation with 1.3 billion residents including 813.5 million workers and 4.3 percent unemployment (Overby, 2010). Moreover, the IT outsourcing market in China has a value of approximately 20 billion dollars (Wang, 2012). Global companies are finding that China is becoming a necessary part of their business strategy regardless of the successful
development of IT outsourcing industry from the West since the 1990’s (KPMG International, 2009). According to Li et al. (2014) Chinese government and organizations have focused their attention on this developing industry which bodes well for a bright future for IT outsourcing.

From the early 1990’s, the Chinese government established three major software development zones for businesses to take advantage of in Beijing, Shanghai, and Zhuhai (Liu, 2017). In addition, the government set forth numerous polices to encourage organizations to study India’s outsourcing market as the industry model while developing software outsourcing services during the last 20 years (Liu, 2017). Due to these policies and recommendations based on the experiences of the India market, the expansion of IT outsourcing teams was rapidly achieved during this period. However, generally the sizes of the enterprises at that time were still fairly small with low profits from their services (Cssoadmin, 2015). Although some organizations were doing IT outsourcing work for certain Japanese companies, there was still a large gap between China’s and India’s market for outsourcing (Li & Li, 2009). Eventually, the Chinese IT outsourcing industry has gone through a transformation and learned to develop its standards. Four cities (Dalian, Chengdu, Xian, Tianjin) have officially been promoted as the leading IT outsourcing bases in China (H3c, 2008). During this period, Chinese IT outsourcing also began to become attractive to foreign companies, while domestically, organizations began to embrace the idea of outsourcing their IT functions to another organization as a business strategy.

Qin et al. (2011) state that during the early stages of IT outsourcing in China, Japan was always the first target market for local Chinese organizations. The reason behind such a decision includes various factors such as similar language structure, thinking logic and geographical positioning etc. In addition, Qin et al. (2011) believe that the Japanese market was not only profitable, but more importantly, it helped domestic organizations to acquire much needed technological and management skills. Through outsourcing for the Japanese, organizations developed their industry standards meanwhile accumulating outsourcing experience for future international needs especially those of Western markets (Li et al., 2014).

However, China’s IT outsourcing industry still needs to compete in the international arena. As Overby (2013) argues, China’s service providers still need better talent and security to compete with powerhouses like India on the global outsourcing stage. Yet, still China’s IT and business process services industry seem to have had very little growth within recent years. Overby (2013) states, “China has a national goal to build up this industry as a new lever of economic development and this idea that they could leapfrog India.” However, the progress is considerably slow. Further, Overby (2013) believes that there is a lack of Chinese IT professionals that see IT outsourcing services as a viable career path. Chinese IT outsourcing providers are facing staffing problem as not enough talented professionals are willing to join the industry. Hence, organizations are not able to recruit and expand without offering premium salaries. Yu (2016) states that there are three major tasks for the Chinese IT outsourcing industry to grapple with. First, capacity building is the precondition for the development of IT outsourcing. As the traditional IT services are still dominating the domestic outsourcing market, the ability to capacity building for the organizations will be
significant where it will be a synergy between different business models. Second, global business expansion is the mandatory challenge for IT outsourcing organizations in China to face. Lastly, regarding the talent pool, no matter how good the strategy and business model are, the final implantation of IT must still rely on IT professionals. As aforementioned, China’s IT outsourcing has received attention globally; some even forecast that China will replace India as the next global IT outsourcing market leader (KPMG International, 2009). However, the market shows that the outsourcing industry is not yet meeting the expectations that many had predicted. Although some domestic organizations have opened up the global market in practice, however, China is still considered behind in comparison to leading Western and Indian outsourcing industries. China’s IT outsourcing markets account for only a negligible share of the world market, due to its slow global business development compared with that of other countries. Such small market share of the China’s IT outsourcing may also be cannibalized constantly (KPMG International, 2009).

Regardless of the size of China’s IT outsourcing market, foreign companies occupy a strong position in the market including software/hardware industry and IT services industry domestically, whereas, nonetheless, this huge market did not translate into China’s domestic IT outsourcing industry’s business growth (Eltschinger, 2007). In order to address this situation, entrepreneurs need to take advantage of its capital, in addition, similar to what India has achieved, the government’s prioritization of support will play a key role too (Zhao, 2011). The business model of IT outsourcing indicates an intelligence intensive focus on service delivery which determines that business operations and management capabilities are the core competencies (Zhang et al., 2008).

Overall, the size of China’s IT outsourcing market is fairly appealing, but it still requires much development. Therefore, this study focuses on the challenges in IT offshoring to China in terms of what should be known before making the choice.

3. Method

To answer the research question a literature review is conducted. In the following sections, the arguments for the literature review are presented followed by an explanation of the procedure for selecting literature and analysing the selected literature.

3.1 Literature Review

Webster & Watson (2010) believe that a relevant literature review is an essential feature of an academic project; it can create a firm foundation for advancing knowledge. When it comes to the field of IT outsourcing a lot of studies have been done, investigating varying issues of IT outsourcing. However, when it comes to the specific challenges of IT outsourcing in China we lack a coherent view of what we already know and what remains to be investigated. A literature review is thus a valuable way forward to fill this gap. According to Webster & Watson (2010) there exist two types of literature reviews. First, there is the type where an author deals with a mature topic where an accumulated body of research exists that needs further analysis and synthesis. Second, there is the type where an author could tackle an emerging issue that would benefit from exposure to potential authors. For the case of this
thesis the field of IT outsourcing has been studied for many years and many scholars have conducted research on challenges in IT outsourcing in general. However, in IT offshoring it is important to be aware of the specific cultural challenges of the country and not just general IT offshoring challenges. China is considered as a IT outsourcing market under development, following in the wake of offshoring to India. Companies interested in doing business in China need to understand the specific challenges in the country. A topic centric literature review will collect existing studies of IT offshoring challenges in China and offer an analysis and synthesis to enhance the knowledge of researchers and practitioners that are interested in the case of China’s IT outsourcing market.

Webster & Watson (2010) highlight that a literature review covers relevant literature on the topic and is not limited to one search methodology, one set of journals or geographic region. In order to compose a successful relevant literature section, a systematic search can ensure that the author compiles a relatively complete list of relevant literatures (Webster & Watson, 2010). In addition, Bryman argues (2012, p.8) “What is crucial is that you establish and read the key books and articles and some of the main figures who have written in the field”. In this case, all literature used in this review were searched for via the following database: Umeå University library. Umeå University library cover the common outlets for research in English.

A literature review is commonly structured as concept-centric, meaning concepts determine the organizing framework of the review; however, some authors take an author-centric approach and present a summary of relevant articles (Webster & Watson, 2010). This review is structured as concept-centric, the concepts of “IT outsourcing” and “China” determines the organizing framework of this review. Bryman argues (2012, p.8) “Concepts are important to how we organize and signal to intended audiences our research interest”.

Webster & Watson (2010) explain that the tone of a successful review informs the reader about what has been learned rather than being overly critical. The selected literature informs the reader about the knowledge of challenges regarding IT outsourcing/offshoring within the Chinese context. In addition, Webster & Watson (2010) believe that present tense is always more suitable for a review because it can give the reader a greater sense of immediacy and it is faster to process.

In this literature review, the focus is directed towards how extant research portrays the fundamental challenges in offshoring IT to China. Although the concept of IT outsourcing and the challenges of outsourcing have been studied in research, an overall understanding of challenges in IT outsourcing within the Chinese context is still underdeveloped. Hence, this review is a subject that would benefit from analysis and synthesis of a body of knowledge.

Hereafter, the details of the procedure for this literature review is explained.

### 3.2 Data collection

In the Umeå University Library database two different searches were conducted. The first search was done on ‘IT offshoring and China’ with additional filters including “Full Text available”, “English” and “Offshoring”. This search resulted in 315 hits. After adding the extra filter “Information Technology” the result was 48 hits. After scanning all 48 papers it was found that all of them were not Chinese context related. For example, the word China could
be mentioned but was not in center for the study or analysis. Hence, the search combination of ‘IT offshoring and China’ was eliminated from the study as it gave no relevant hits.

As a second search the term ‘IT outsourcing and China’ was used which resulted in 91,692 hits (Accessed 18th December 2017). To refine the results the filters of “English”, “Full-text available”, “Outsourcing”, and “Information Technology” was activated which narrowed the number of hits to 292. The next step was to read through the abstract and introduction of these papers to collect codes that is relevant for this study, in this case: challenges related, China as topic. Through this process, the relevant articles will be selected. The selected articles after screening are 17. Search results that were either not on a topic where China figured prominently or lacked a focus on IT-outsourcing, were discarded; only 17 hits remained. Three main were used in this stage in order to determine whether the article found via search would be included in the data reviewed for the study or not. These three qualifiers are: China as a topic of main focus, a topic of IT outsourcing/IT offshoring, and a topic on offshoring-related challenges.

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Table 1: Search result for broad search: ‘IT outsourcing and China’

Building upon what has been aforementioned in this essay regarding obstacles to China’s progress in developing this industry, the work of Hou & Pan (2011) and Su (2011) were taken into consideration in finding more relevant literature. As mentioned, Su (2011) argues that culture is a crucial element of doing business in China, culture can impact diverse IT initiatives, the recent rise of IT outsourcing and offshoring compels enterprises to gain a further understanding of culture. For example, in China, guanxi, such social relationship can play a critical role. Qi & Chau (2012, p.865) state that, “In China, relationship or guanxi is very important in business collaborations. Though we have a well-designed contract, we still believe the role of relationship is more important than contract in IT outsourcing success.” This citation just prior indicates the validity of culture especially the relationship or Chinese guanxi as one of the most fundamental challenges in outsourcing IT activities to China. As Qi & Chau (2012) argue guanxi is very important in business collaboration in China, hence, to investigate the challenges of IT outsourcing to China the term guanxi is added to the literature search.

In order to understand the importance of guanxi, a narrow search is needed. The search result for “IT outsourcing and China and Guanxi” brings 784 hits via Umeå University Library. After adding active filters including: “English”, “Full-Text available” and “Outsourcing” 46 results remain. After a screening of the 46 articles, 4 articles were selected as relevant for this study. Four (4) articles emphasized the importance of guanxi and how it
impacts IT outsourcing matters. The remaining search hits were discarded due to a lack of either China as a main topic or guanxi as a main topic.

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Table 2: Search results for narrow search on: IT outsourcing and Guanxi

There are limitations and consequences throughout the data collection process. The confusion of term IT outsourcing and IT offshoring makes a big consequence throughout the search process. Some scholars prefer terms outsourcing to China or global outsourcing instead of IT offshoring. Chinese scholars are more willing to use the term guanxi (relationship in Chinese) instead of relationship in their study to emphasize the Chinese context. Since this topic is originally related to Chinese context, therefore, adding China as search topic is understandable; however, in some cases, by doing that it will dramatically reduce the search result from over 100 articles to less than 10 articles. In addition, adding China as search topic will erase some articles that was Chinese context focused however, not labeling topic as China. Meanwhile, changing the order of active filters may affects the final search numbers. However, it will not bring serve damage to the search outcomes. Lastly, using the same search procedure in different period of time will give different results. Yet, the outcome will not affect the search outcome in great deal.

The overall number of selected articles after screening was 21. Those 21 articles consist of academic journal articles, Ph.D. dissertations, and research reports. 9 out of the 21 were written by Chinese scholars focusing on IT outsourcing in China while the other were written by Western scholars.

The Appendix provides the full list of selected literatures for the review analysis section in.

3.3 Limitations

Although it is possible to find studies in databases and general Google searches most of the published articles are using quantitative research approaches as their primary research approach, meaning that scholars are more likely to use numbers and equations to analyze this topic. Therefore, it is necessary to point out that there needs to be more qualitative studies done on this subject. Sometimes, it is without doubt that the articles were not relevant to the subject and different search terms sometimes bring confusion while it might focus on a different topic. For example, the term IT and Information Technology has the same meaning, whereas, during the search process, the terms 'IT outsourcing and China' and 'Information Technology and China' can show different search results due to the author’s preference. In addition, some targeted search terms show up in the keyword section of the article; however, the title of the selected articles was found to be somewhat misleading.

The discovery of the relevant articles indicates that the concept of IT outsourcing often range among various fields such as computer science, business, economics, finance, etc.
These different perspectives provided may cause some confusion for the reader. Hence, this literature review focused on the selected articles from the fields of information technology or digital technology thus enabling a proper approach.

Through the search process, it is possible to say although they are a significant amount of studies related to term “IT outsourcing,” that the search results from term “IT outsourcing and China” sometimes are not actually relevant to the IT field, meaning that somehow the article mentions IT in its title only but not in its actual content. Lastly, this literature review is by necessity not an all-encompass review, but a conceptual review of the field finding challenges for outsourcing IT to China.

3.4 Analysis Procedure

In this section I present how the selected articles were analysed. In order to build a theoretical framework a coding approach was used. As Saldana (2009, p.4) argues “code in qualitative inquiry is most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and evocative attribute for a portion of language-based or visual data.” The coding process began with a thorough reading of the abstract and introductory section of the articles found from initial search results, while collecting codes that were repetitively mentioned in the articles. The first cycle of coding of the selected papers contains many different codes ranging from general to detailed including codes such as “culture, language and culture, maintain relationship with vendors, intellectual property risks, lack of English language skills,” and so on. In the next step the initial codes gathered from the first cycle were recoded into descriptive codes that enable the identification of themes or topics grounded in the data collection process. Throughout the coding process, it is possible to develop certain codes from the text repeatedly (Saldana, 2009). Accordingly, one of the primary goals for making code is to find these repetitive patterns in action to document in the data. Hence, using the pattern coders can categorize data by collecting codes to understand what the text discusses and prepares them for further analysis. The descriptive codes were then clustered into three different themes based on the topical association from within the search results.

An example from a selected paper shows the importance of coding. Kennedy and Clark (2005, p.251) writes,

The sometimes difficult to navigate PRC technology licensing regime can at times create additional hurdles for outsourcing projects. a foreign company should become familiar with the applicable limitations under the PRC technology licensing regime in order to protects its IP rights and retain maximum ownership of deliverables and improvements.

This example, showing the influence of China’s technology licensing regime making outsourcing projects difficult, provides a basic example to understanding the process in which authors are trying to emphasize that it is important for foreign companies to understand the PRC’s legal system for their project needs. Hence, the initial codes for this quote can be generalized in concepts like “IP rights, legal risks, technology licensing” and so
The coding table for selected articles that was created in this study is presented in Table 3.

<table>
<thead>
<tr>
<th>Quote Example</th>
<th>Codes</th>
<th>Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>The contract—the formal control mechanism of a sound relationship; and the relationship - the informal control mechanism in IT outsourcing: that’s is how to manage the IT outsourcing process formally and informally. (Qi &amp; Chau, 2012)</td>
<td>Contract, sound relationship, relationship, informal control, management.</td>
<td>Relationship/guanxi (relationship in Chinese)</td>
</tr>
<tr>
<td>Business is influenced by paternalism, personalism, and high-context communications, whereas individualism, impersonalism, and formal communications were highlighted as characteristic of Western culture. From a guanxi perspective technology fears arising from mistrust, which is rooted in how a society’s socio-cultural structure affects economic activities (Li, et all, 2014).</td>
<td>Cultural cluster, communication, relationship based. guanxi</td>
<td>Long-term relationships, trust, mutual benefits, reducing risks.</td>
</tr>
<tr>
<td>For example, building long-term relationships with Chinese partners based on Chinese partners based on collaboration, trust and mutual benefits as well as conducting a rigorous prospecting phase and taking time to select the right subcontractor can have major impact on reducing risks (Fadil &amp; St-Pierre, 2016).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>China is known as relationship-based society. In Chinese cultural, informal personal relationships play critical role in business. Chinese guanxi, as a unique type of informal personal relationship in traditional Chinese culture, is believed to have the power to influence social norms as well as business norms (Lee &amp; Dawes, 2005).</td>
<td>Relationship based, Chinese culture, critical in business, guanxi</td>
<td></td>
</tr>
<tr>
<td>An outsourcing contract should include 11 key components: service level and incentives, vendor personnel, data protection, privacy and intellectual property, price protection, third party assignment, different legal systems... Etc (Qin, et all, 2012).</td>
<td>Contract, legal risks, protection</td>
<td></td>
</tr>
<tr>
<td>The sometimes difficult to navigate PRC technology licensing regime can at times create additional hurdles for outsourcing projects. a foreign company should become familiar with the applicable limitations under the PRC technology licensing regime in order to protects its IP rights and retain maximum ownership of deliverables and improvements (Kennedy &amp; Clark, 2005).</td>
<td>IP rights, PRC licensing, limitations, legal problems.</td>
<td>Legal risks</td>
</tr>
<tr>
<td>The results show that firms tend to share IP rights and restrict vendor’s business activities when they see the hazard of IP loss is high and when their partner are based in countries with weak IP protection.</td>
<td>IP rights, weak IP protection, legal risk, IP control.</td>
<td></td>
</tr>
<tr>
<td>China offers cost advantage and workforce availability, but lacks India’s English language fluency, depth and breadth of management and technical skills and historical ties with Western companies (Jones, 2009)</td>
<td>Lost cost, workforce, lack of English language fluency, lack of management in depth.</td>
<td>Workforce, professional skills</td>
</tr>
</tbody>
</table>
Much of the analyzed literature focused on specific research topics instead of being conceptual in focus. Some articles, in particular, explore general issues of culture to articulate the importance of knowing Chinese culture and the consequences of not being aware of this factor. Moreover, articles with titles involving IT outsourcing risks are focusing on the general understanding of risk, whereas, risk management is not taken into account. Therefore, during our analysis later herein, the term “risk” is elucidated upon under the scope of “risk management.” Since China is a heavily relationship-oriented country, to achieve success in business one cannot live without healthy relationships. Understanding the importance of the Chinese concept of guanxi means everything in business. Hence, the challenges focus on this aspect of relationships then legal risks and the workforce are looked at.

First, while many articles in relation to culture discuss the relationship between outsourcer firms and vendors, Chinese have their own understanding of what a “relationship” entails and what the maintenance of relationships can bring to the outcomes of IT outsourcing. Hence, to understand the story behind the Chinese understanding of guanxi is critical for foreign organizations seeking to partner with a Chinese vendor.

Second, as one of the developing IT outsourcing markets in the world, legal factors in as a primary concern for certain foreign organizations. Few scholars have been found to mention this issue in their studies. Problems with legal issues are comprised of various factors; in this case, it is difficult to determine which one is of greatest concern. However, in the selected papers, legal problems have been coded as a general risk for vendors and clients. Therefore, the majority of works did not portray this issue as a major concern; however, it is well-known that companies operating in China face a lack of legal support and different legal system and environment compared to Western countries (Oshri et al, 2009; Kennedy & Clark, 2006). The second section of the analysis herein afterward focuses on what potential legal problems might be faced in China. However, the legal issue is one that applies to all types of outsourcing in China. Thus, the selected articles are not solely limited to the field of information technology.

The third and final challenge to be explored in choosing to outsource IT work to China deals with the workforce. A skilled workforce can be a key determinant in choosing an outsourcing country because it represents that country’s capability to fulfill the outsourcers’ requirements. China in this case is always discussed in terms of being a competitor of India in regard to different factors affecting the workforce such as education, language skills and so on. Thus, in the last section, the workforce’s professional skills in China and India are compared to see what is underlying China’s IT outsourcing market.

4. Analysis
This section provides a selective overview of information from the articles selected for review. Through the coding process, three themes have been identified. Section 4.1 provides an overview of how relationships can affect business in China. Section 4.2 outlines the common legal problems faced in China that relates to IT. Section 4.3 explains the current status of China’s professional IT workforce. Section 4.4 provides a table showing the key references for each theme.

4.1 Relationship: The Chinese *guanxi*

Similar to other countries, IT outsourcing in China is facing numerous difficulties, especially as the IT outsourcing market in China has grown rapidly within two decades. However, China’s IT outsourcing market is still considered as a “newbie” as Qi and Chau (2015) believe that many immature decisions have been made in the process of negotiating contracts, especially regarding managing contracts and maintaining the relationship with vendors.

The IT outsourcer-vendor relationship in China can be complex, but it is crucial for both sides to reach a win-win result. Fadil and St-Pierre (2016) argue that research about IT outsourcing to China has focused more on the building long-term relationships with Chinese partners based on mutual trust and collaboration compare to other potential risks. A solid relationship between the two sides gives the IT outsourcing a stable arrangement which is important. A relational focus has always been suggested as a key differentiation between IT outsourcing’s success or failure; the relationship between firms is fundamental for understanding how firms perform to achieve success. Fadil and St-Pierre (2015, p. 229) state that “this means adapting to their ways of communicating and working and being more open to their culture, it is also necessary to convince them of the importance of a positive attitude and building good relationship with partners”. In the past, business relations between vendors and clients may have been much more adversarial in nature, some organizations were threatened by their business partners as they were competing with each other towards the same business goal.

Indeed, a Chinese organization takes the relationship i.e. guanxi more serious compared to firms in other countries. The following quote from Li et al (2014, p. 208) may help explain the importance of guanxi when working with Chinese companies.

> *IT adoption and use in China are influenced by unique cultural, social and institutional forces in the local context. For example, at the society level, the government blocks access to some websites hosted overseas for political reason; software piracy widely exists. At the individual level, ‘guanxi’ and ‘face’ are distinct characteristics of personal interaction among Chinese people including IT managers.*

Huang, Davison and Gu (2011) state that guanxi is the fundamental socio-cultural factor that relates to the way a Chinese engages in interpersonal interaction. The Chinese term guanxi has its closest direct translation into English in the term “relationship.” A way to emphasize the importance of guanxi is to say that Chinese people tend to treat business partner differently during social interaction. Lee and Dawes (2005, p. 29) explain the term guanxi as:
The Chinese phrase “guan-xi” consists of two characters. The character “guan” means a gate or a hurdle, and “xi” refers to a tie, a relationship, or a connection. So, guan-xi literally means “pass the gate and get connected.” The concept of guan xi refers to interpersonal relationships or connections and can be applied not only to kinship and friendship relationships but also to social connection, such as dyadic relationships.

There are three important aspects of guanxi. First, guanxi has its own level, for some people any stranger remains a stranger before developing any guanxi. Second, guanxi has no associated intentions; however, rather it is a necessary procedure for people or business partners to go through. Third, developing guanxi takes a lot of time. Lee and Dawes (2005) add that in the West, business usually means business, i.e., people can start a business conversation with a partner who is a total stranger. However, in China it is the total opposite, both sides must establish mutual trust and build a solid business relationship beyond that guanxi. Generally speaking, in business Chinese tend to emphasize the idea of reciprocity and a win-win situation from a long-term guanxi. Accordingly, the relationship is a crucial aspect of decision making in IT outsourcing not only in the West but also in China (Wong, 2007). Scholars and IT practitioners from the West too often forget the fact that China is different from rest of the world. Chinese in particular have their own interests in maintaining relationships vis-a-vis the concept of guanxi. Organizations from the West are often unaware that guanxi is a significant factor in all kinds of business for Chinese (Lee et al, 2016). Unlike foreign scholars, Chinese scholars tend to concentrate on guanxi as the main research topic and expand their subject of interest. Western scholars are more interested in analyses of the outsourcing industry from a more general, grounded approach such as performance, information systems, governance, etc.

After the initial coding process of reviewing the selected works, guanxi is found to be the most common reason for a failed IT outsourcing project between a vendor and their client (Qi & Chau, 2015). When both sides do not trust each other and are not willing to share their thoughts and strategies, this gap is seriously detrimental to any joint project. Accordingly, leading Chinese vendors have culturally diverse experience in dealing with foreign organizations. Su (2011, p. 75) believes that:

*It is crucial for the vendors to acquire the ability to simultaneously and effectively manage interaction with these distant cultures, many leading vendors are in a unique transition phase as many major vendors have been actively expanding their business in the Western market.*

This shows that there is an assumption that Chinese leading vendors have the ability to adapt themselves to cultural differences and to different foreign markets. However, the vendor-outsourcer relationship is still critical for the outcome of these IT outsourcing projects. Managing IT outsourcing projects has never been easy. Kim et al (2016) argue that recent studies emphasize the importance of IT outsourcing relationships. However, Qi and Chau (2015, p. 466) say that “in 2007, a low percentage of outsourcing relationships was considered successful, and at least 50 percent of outsourcing relationships were terminated
early”. Moreover, Qi and Chau (2015) add, “a global outsourcing survey found 48 percent of companies were unsatisfied with their IT outsourcing engagement.” As a result, these failed projects lead to back-sourcing and insourcing among famous vendors and customers. China is not different, as IT outsourcing in China also face serious challenges that can damage the success of an outsourcing project. Outsourcing can lead to conflicts between the vendor and outsourcing firm. To achieve success in China, the overriding factor is the orientation of culture in China. Lee et al (2016, p. 128) state:

Without proper handling of outsourcing conflict, especially in the highly relationship-oriented Chinese business culture, an outsourcer firm’s long-term orientation toward its suppliers might decrease, resulting in relational inefficiency, high transaction costs and disappointing performance.

Overall, these sources indicate the fact that the relationship is crucial for IT outsourcing; sometimes a failed relationship leads to a project’s disaster. Above and beyond other factors, Chinese see guanxi as essential. Guanxi contains mutual trust and development between the two parties through interaction and long-term equality principles. Guanxi is a relational network rooted in Chinese culture; it is the root of sustainable competitive advantage for a lot of firms in China. It can be considered as a unique type of norm in Chinese culture where it represents the idea of an informal personal relationship (Wong, 2007; Lee et al., 2016). Su (2011) states that guanxi can change IT outsourcing’s outcome in China in regard to whether the clients select or renew their contract with the vendor. Guanxi, the interpersonal connections and social relationships, sometimes plays a critical role beyond the rational decision making between two organizations. In contrast to the relationship ties between family members, the Chinese relationship has more intention towards specific occupations within business and the sales industry, as it creates “fundamental” ties that ultimately bring about conjunct values. Lee et al. (2016) argue that in the Chinese culture, the relationship is treated as an informal personal relationship that directly and indirectly influences business performance, especially in its role as an inter-organizational transaction. A solid relationship brings mutual trust and favorable exchange from the vendor and IT outsourcer firms. Li et al. (2014) believe that the West’s IT outsourcing industry highlights the short-term and equal reciprocity in relationship exchanges. However, inclinations are different in China where people are willing to maintain their personal guanxi for their entire life. This explains the reason why Chinese vendors tend to maintain their business relationships with outsourcer firms. In addition, it also explains the situation in China where guanxi between two parties can be destroyed if reciprocity has not been achieved.

IT outsourcing often involves two-way information exchange and mutual trust. Why Western companies need to adapt to Chinese culture, Chinese companies are also adapting Western culture. Accordingly, a hybrid culture is generated involving cross-cultural, cross-national identification to create a mutual understanding of their multiple contexts (Abbott et al, 2013; Du & Pan, 2013). Such hybrid culture creates a boundary between clients and vendors in regard to, for example, expected primary contractual obligation. A healthy outsourcing relationship seeks to reduce risk through coordination between vendors and outsourcers. Hence, this involves a significant amount of management on the part of the
vendor. With that being said, cultural differences between outsourcer firms and vendors still create boundaries that require more time to bridge in their relationship. Li et al (2014) believe the guanxi in China is coveted as symbols of basic foundation as considered important in China’s IT outsourcing industry and client management.

4.2 Legal Risks

As mentioned previously, China has been at the forefront of providing IT outsourcing services for some time. Certainly, this has highlighted a great deal of risks for foreign organizations that are willing to partner with Chinese domestic IT outsourcing vendors. In this section, the most common legal risks in China are outlined.

In general, certain negative consequences of IT outsourcing may occur. Kong et al (2007, p. 405) argue “Certain negative consequence of IT outsourcing my become potential risks for an organization, including loss of internal expertise and technical employees, loss of privacy and intellectual property and loss of flexibility, adaptability and evolvability” Although there are many risks worth mentioning in this study, however, legal risks are not limited to any certain type of outsourcing in China. As Kennedy and Clark (2006, p.250) state “this has highlighted one of the great risks of such outsourcing arrangements - the risk of loss or misappropriation of intellectual property (IP) rights and trade secrets.” Indeed, China is well-known to be a market plagued with plagiarized products, with organizations and companies unable to find much legal support to protect their products. This also quickly becomes the first issue for foreign outsourcer firms to worry about. Accordingly, some foreign organizations are not willing to outsource their high-end projects to Chinese vendors for fear of intellectual property theft or violations. Aghazadeh (2011, p.240) quote the former Indian Finance Minister, P. Chidambaram

I think this dispute about outsourcing is highly exaggerated ... What do they [the US] outsource? They outsource low-end jobs, call centers, and help centers. What do they in-source? They in-source orders from capital goods, for technology, for design, for brands, for trademarks, for intellectual property.

Indeed, China has a very different legal system sometimes causing conflicts among vendors and their clients. Outsourcing of various aspect of an organization’s business functions has been happening for years, in recent years, the IT area has been dominated. Studt (2007) argues that as a destination for outsourcing, China is still being held back due to its relatively poor IP protection and the vagaries of the Chinese legal system. Hence, Qin et al (2012) propose that every organization that is willing to sign a IT outsourcing contract with a Chinese vendors should first consider 11 key components including: service level and incentives, vendor personnel, data protection, privacy and intellectual property, price protection, third-party assignments, ownership of assets used or created by the partnership, possible conflicts between different legal systems, contingency planning and change management, notice of adverse material impacts, the right to audit and termination. Consideration of these 11 key components will illuminate potential risks in future outsourcing projects meanwhile reducing asymmetry between service providers and clients. Legal problems in IT outsourcing can be traced back to the general IT field in China regarding
government policies and regulations. Li et al. (2014, p. 216) state that “the weak legal system for protecting intellectual property led to a software piracy rate as high as 80% in 2008.” Indeed, Palvia (2004) argues that China’s IT outsourcing market suffers from several problems like maintaining complex software, rampant software piracy, lack of experience in development and so on. Hence, a stronger legal system is very much needed in the selected vendor country and the lack thereof is one of the factors detracting from China’s drive to become one of the leading IT outsourcing markets. The top three, prime outsourcing destination like the USA, the UK, and India, all have a stable legal system that benefits the potential outsourcer. Palvia (2004, p.16) explains the importance of this further in the case of India: “India’s stable legal system is based on that of the United Kingdom. India’s stable legal infrastructure benefits potential outsourcers and helps free them from having to learn many idiosyncrasies of a different legal system.” Kennedy and Clark (2006, p.250) have highlighted the key legal issues when considering outsourcing in China:

1. Understand the business and legal environment that the company will be operating in; 2. Understand the available legal protection for IP rights; 3. Understand the rules relating to transferring technology into China and limiting the risk from such transfer; 4. Understand what the legal provisions are in relation to IP created by employees or outsource suppliers; 5. Maintain the physical security of technology.

The major legal risk in China right now is related to intellectual property rights; in these circumstances, the biggest risk is the leakage of intellectual property. Moreover, Chen (2008, pp.61-62) says “information transferred between outsourcing parties for purpose specified in the contract is deliberately be used by the receiving party for purposes outside the contract, to its own economic benefit, and to the detriment of the party that provided the information.” Moreover, one potential risk in China can occur during the outsourcing process where Chinese vendors may become the possible competitor by gaining knowledge through the vendor’s client or current competitors. For companies seeking to enter the Chinese market, a legal contract is needed as Qu and Brocklehurst (2003, p.60) argue:

Legal contracts matter because, if the average contract length is over 3 years, then relational contracting is the fundamental instrument of offshore outsourcing and such contracting is inevitably based (respectively) on the buyer country’s, (the) seller country’s and international legal systems.

Historically, clients tend to have much concern about the protection of their intellectual property rights in China. Such a bad reputation impacting China’s IT outsourcing market results in foreign companies needing to put forth greater efforts and incurring costs by raising transaction costs with professional legal contract writing and extra intellectual property rights management measures.

There are potential difficulties or problems in protecting legal rights or intangible assets for those companies that are entering the Chinese IT outsourcing market. It is true, especially in the IT or computer science industries where vendors have the chance to engage in real
activities that are contrary to their client’s interests. China has unilaterally established legal protections to address such concerns. China has patent, trademark, copyright laws, at the same time making misappropriation of trade secrets an offense in regard to civil and criminal law. However, the major issue in China right now is the enforcement of those laws or the lack thereof (Kennedy & Clark, 2006; Chen, 2008). This specifically addressed this issue as Chinese civil procedural law is difficult to follow in that it cannot protect high technology patents and trade secrets. Kennedy and Clark (2006, p.251) detail this matter in three ways “first; the Chinese civil procedural law puts a very strong burden on plaintiffs to prove their case; second, there is no discovery in a civil proceeding; last, oral evidence is very rarely accepted in a civil proceeding.” There are legal issues resulting from the fact that it is very easy for high technology patents to be infringed upon, with the same being true in regard to trade secrets. Moreover, without discovery, it can be difficult to prove a case as parties are only asked to submit evidence that has been requested by the prosecution or court, not their own legal team. In addition, without oral evidence being accepted, the accounts from the witnesses and employees are possibly not taken into consideration. Noticeably, China does not allow that foreign court judgments are enforced although China is a member of the New York Convention. This Convention requires courts of signatory states to provide effect to private agreements to recognize and enforce arbitration made in other signatory states. However, China faces difficulty in real time practice enforcement where sometimes enforcement works against local protectionism. Although an arbitration clause can be added during the contract negotiation process, it can also bring about problems in preventing the theft/loss of intellectual property rights and trade secrets. King (2008) argues that the “potential client must be assured that such security is as carefully treated by the vendor as it is within the firm itself.” The potential client of China’s IT outsourcing market should be aware of taking measures to ensure their intellectual property rights are protected when selecting a Chinese vendor. It is important for outsourcers to ensure that their vendor knows of the viability of their intellectual property rights. Moreover, all legal rights should be negotiated and written into the contract with the Chinese vendor to make sure that it has the legal ability to obtain it. Indeed, most of the top Chinese vendors devote significant effort and resources to ensuring that their clients’ information is secure and their intellectual property rights protected. For vendors of China’s IT outsourcing market to persuade foreign clients it is important for vendors to present their security practices and norms in the best light possible to their potential clients.

Another issue that should be raised is that of copyright, although as Kennedy and Clark (2006, p.253) state “Under Chinese law, the author or creator of an original work is the first owner of the copyrights in work.” It is important to know that the company has the exclusive right of using the work within two years of creation. Although in China copyright is protected under the Berne Convention and as such, there are many Chinese vendors willing to break the law and use their work before telling the owner (Kennedy & Clark, 2006). Hence, it is important to ensure such a legal conflict will not occur before signing the contract to avoid unnecessary disputes.

4.3 Workforce Professional Skills
As mentioned prior, the quality of the workforce is one aspect that can make an impact on the decision-making process of selecting a country to outsource IT work to. In this regard, the professional workforce of China and India are very often compared and discussed by scholars. Both countries dominate the current IT outsourcing industry; however, there is a significant difference between the two in regard to their workforce’s respective professional skills.

As mentioned previously, China lacks high quality professional workers in the IT field which limits the capabilities of Chinese IT outsourcing companies. Jones (2009, p. 190) argues that “Chinese software companies are limited in what projects that they can effectively undertake and complete. The workers are primarily programmers, who do not understand business terminology and concepts.” Unable to utilize more professional business experience, Chinese IT professionals will have problems to deliver on the assigned tasks from clients. However, they do have a reputation of delivering accurate codes; yet, delivering code is not enough. Although China has some IT outsourcing experience with Japanese companies, China still needs to acquire more experience from English speaking countries such as the U.S., Canada, and the UK. Moreover, Palvia (2004, p.12) adds:

*China’s software services market suffers from numerous problems: rampant software piracy, little experience in developing and maintaining complex software, lack of expertise in project management, lack of proficiency in English language, lack of quality standards and processes, and an authoritarian political regime.*

Political reasons aside, Palvia (2004) states that the basic fundamental problem for the Chinese professional workforce is a lack of experience in developing and maintaining complex software, as well as a lack of proficiency in the English language. This means that China’s IT outsourcing service providers do not have the professional skills to deal with difficult tasks from the West. Li et al. (2014) explain that this situation is due to the language barrier and cultural issues. Chinese vendors enjoy working with Japanese clients because of the similarities in written language, geographic proximity and a similar cultural compatibility. Thus, one can say Chinese vendors or Chinese IT professional do not have the courage to approach new Western markets.

A lack of education and English language skills overshadows China’s workforce’s professional skills. As mentioned briefly prior, China is facing a problem of attracting new talents to the IT outsourcing industry because most IT professionals do not see IT outsourcing services as a viable career path to pursue. However, language is not a problem for India in regard to which Qu and Brocklehurst (2003, p.62) state: “On the other hand, language is an immense advantage for India. English is the official language in business and education in India and that is perfect for US and UK markets.” Palvia (2004, p.15) makes the following comparison between India and China in terms of their respective professional workforces:

*India has many prestigious technical universities, including the distinctive Indian Institutes of Technology, India produces 75,000 IT graduates annually.*
The Indian software industry boasts a large supply of over 415,000 IT professionals employed by export-only software companies. This statement illuminates the fundamental strength of India’s IT professional resources; India’s IT professionals have highly-skilled training and access to well-experienced enterprises. On the other hand, Palvia (2004, p.16) adds:

The Chinese software industry boasts a large supply of 400,000 IT professionals, with approximately 50,000 new entrants into the IT field each year. However, the supply of highly qualified computer and software graduates remains limited. Most Chinese universities do not teach software engineering, so software engineers are sought from computer science and math departments.

This statement makes clear that although China has a large number of new entrants to the IT field, both the quality and quantity of such new entrants may still be considered inferior compared to India’s professional IT workforce. It also alludes to the fact that there is a lack of educational support for software engineering. Although the driving forces of the IT outsourcing industry have not been contested domestically, Jones (2009, p.188) states that “China offers cost advantage and workforce availability, but lacks India’s English language fluency depth and breadth of management and technical skills and historical ties with Western companies”. Hence, China cannot compete with the market share of India in terms of European and US markets. India has the advantage of a highly-educated workforce and English language proficiency to steadily develop the delivery of ever higher value capabilities and reputation. Thus, it is likely India that will still dominate the markets so long as those conditions persist. However, Oshri et al (2009) state that the strength of the Chinese economy and also significant government support for the domestic software industry, with national policies and a growing economy leads China to believe that it can encouraging multinational firms to consider China as major complement to their IT outsourcing strategy.

4.4 Key findings

Table 4 summarizes some key references and key points in this chapter. These 11 articles are important references that reflect an overall understanding of the key points in this chapter. Hence, not all 21 articles are mentioned herein.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Key Reference</th>
<th>Key points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guanxi - relationship</td>
<td>Fadil &amp; St-Pierre, 2015</td>
<td>It is important to build a relationship with Chinese vendor and be open-mined and understand the Chinese culture</td>
</tr>
<tr>
<td></td>
<td>Lee &amp; Dawes, 2005</td>
<td>The definition of the Chinese phrase “guanxi” and why it is important to social connection.</td>
</tr>
<tr>
<td></td>
<td>Wong, 2007</td>
<td>How relationship benefits with business partners in China and how relationship is crucial aspect of decision making in IT outsourcing.</td>
</tr>
</tbody>
</table>
Given the level of high potential benefits and risks with IT outsourcing, it is somewhat critical to say that there is systematic and conclusive empirical evidence showing that the decision to outsource IT has the ability to return benefits (Gewbu et al, 2010). Under such circumstances, China is believed to be the next best option for IT outsourcing after India. However, China is different in comparison to other countries regarding culture, political system, legal providence, etc. Thus, doing business, including IT outsourcing, with Chinese is arguably different when compared to other countries. Since many foreign clients do not understand the Chinese way of doing business, it can potentially cause trouble for them when selecting a service provider in China. Therefore, the purpose of this study is to examine the fundamental challenges of outsourcing IT to China through a literature review.

The existing literature represents an important resource in all research. Bryman (2012) argues that a literature review demonstrates that author is able to engage in particular topic based on its reading and understanding of the works within the same field. Through a systematic literature search process with further coding, this study has identified three themes that comprise fundamental challenges foreign companies face in China; building *guanxi*, mitigating legal risks, considering the usefulness of the professional skills of the workforce.

**Table 4. Key references and key points**

<table>
<thead>
<tr>
<th><strong>Legal Risks</strong></th>
<th><strong>Workforce Professional Skills</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Kennedy &amp; Clark, 2006</td>
<td>Su, 2011</td>
</tr>
<tr>
<td>Kennedy and Clark points the great risks of outsourcing arrangements in China. Several key issues when considering outsourcing IT in China.</td>
<td>Chinese workers are primarily programmers, lacks of business and management knowledge.</td>
</tr>
<tr>
<td>The Chinese legal system is still considered as relatively poor IP protection.</td>
<td>Compare to India (competitor) Chinese workers do not have the advantage in English within business and education</td>
</tr>
<tr>
<td>11 key components should be aware of when signing a contract with Chinese IT outsourcing vendors.</td>
<td>The disadvantage that Chinese workers have. Especially, lack of English proficiency and lack of expertise in management skills.</td>
</tr>
</tbody>
</table>

**5. Discussion**

Given the level of high potential benefits and risks with IT outsourcing, it is somewhat critical to say that there is systematic and conclusive empirical evidence showing that the decision to outsource IT has the ability to return benefits (Gewbu et al, 2010). Under such circumstances, China is believed to be the next best option for IT outsourcing after India. However, China is different in comparison to other countries regarding culture, political system, legal providence, etc. Thus, doing business, including IT outsourcing, with Chinese is arguably different when compared to other countries. Since many foreign clients do not understand the Chinese way of doing business, it can potentially cause trouble for them when selecting a service provider in China. Therefore, the purpose of this study is to examine the fundamental challenges of outsourcing IT to China through a literature review.

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The Chinese concept of the relationship, i.e., *guanxi*, has its own position and must be taken into consideration by all business industries in China. *Guanxi* as mentioned previously is a complex social and cultural system, affecting organizations and business practices in China. *Guanxi* is rooted in Chinese traditional culture, and key to understanding the mechanics of relationships between two parties. The success of such initiatives is determined by a vendor’s value proposition. Hence, building quality *guanxi* represents the stable development of a successful venture between a client and a vendor through interaction. In China, IT outsourcing projects are usually growing to be portrayed as partnership-oriented outsourcing. As prior analysis has concluded, China is a highly relationship oriented country. The term *guanxi* represents a tie, a relationship or connection that has the ability to bypass professional contracts in some way (Lee & Dawes, 2005). Having a strong *guanxi* between a client and a vendor leads to mutual trust reducing the risk of having conflict (Lee et al, 2016).

There are a number of scholars who have published their work about *guanxi* such as Huang et al. (2011), Lee and Dawes (2005), Qi and Chau (2015) etc. Many of the selected works reviewed herein focus on this aspect of having *guanxi* highlighting the importance of relationships in China and how they are connected with doing business. A *guanxi*-based project rarely depends on a formal contract but rather relies on the relationship built by individuals that have a *guanxi*-based or family tie, whereas, normal IT outsourcing work requires formal contracts addressing all aspects of the work to be done. These scholars argue that in this case most Chinese vendors can define the business relationship, but it requires both clients and vendor to seek a stable, long-term relationship thus facilitating trust and client-focused development. Dan and Pan (2013) and Su (2011) highlight the Chinese vendor’s ability to adapt to foreign culture in order to fulfill a foreign client’s requirements, but this requires foreign clients to trust their partner meanwhile to maintain openness in their partnership.

The second theme examined in this study is legal risks in China. China is well-known for having a poor reputation in protecting legal rights and as such poses an intellectual property risk, adds to concerns regarding IT privacy, as well as in regard to copyright issues among other issues. Although China is believed to be the second-best option for IT outsourcing behind India, foreign companies from the West will continue to raise concerns about intellectual property protection in China. As such, authors including Li et al. (2014), Kennedy and Clark (2006) and Qu and Brocklehurst (2003) have highlighted the importance of having a professional legal contract in China in order to mitigate the existing legal risks, while taking measures to protect outsourcing parties’ interests. Moreover, these authors have emphasized the difficulties in China due to poor implementation of law enforcement and due to a number of weaknesses in the legal system. Intellectual property protection in China is still at an early stage of development vis-à-vis the global market. As authors argue in their findings a formal control serves to reduce IT outsourcing risks in China. However, due to the uncertainty of vendor behavior, a legal contract is the best way for handling such an unstable environment and limiting partner’s action. Kennedy and Clark (2006) also highlight the difference between the Chinese legal system and those in the West. Meanwhile, despite emphasizing the importance of understanding and learning of the Chinese legal system, numerous authors point out that there is a gap between legal policies and everyday reality. On the other hand,
the Chinese government has established a great number of policies dedicated to support intellectual property rights throughout recent years. China entered the WTO in December 2001. According to Objectiva software solutions (2007) prior to this, China amended its trademark law, copyright law and formulated intellectual property law including regulations on the protection laws and regulations in line with agreement of the WTO. Moreover, China’s courts and judges have begun to improve legal protections by following the guidance of WTO regulations. Objective software solutions (2007, p.5) states “More and more judges have been given formal education in science and technology field, given opportunities to communicate with their foreign counterparts and study in the US or Europe.” In addition to copyright owners, China’s legal system has begun offering the same legal protection to foreign copyright owners as to their Chinese counterparts. The newly-established copyright polices enable foreign copyright owners to seek legal help from local administrations. Foreigners whose works were first published in China will also receive copyright protection from the day their works are published.

Despite legal risks in China for foreign individuals and companies there is still a lack of clear understanding of how Chinese clients manages their client’s clients. Hence, as Lee et al. (2016, p.133) state “This study sheds light on this issue by investigating how formal control and Chinese guan xi help avoid or mitigate outsourcing task conflicts, because task conflicts can have critical impacts on long-term collaboration and outsourcing performance.” Although admittedly there are still many problems and difficulties for foreign individuals and companies to seek justice from local authorities, nonetheless, for this reason, a formal control is an effective failure prevention measure to avoid unnecessary conflict and legal risks. Following upon adopting some form of relational governance in regard to guanxi with vendors in China, this also serves the same function as formal controls that can reduce outsourcing conflicts. Moreover, for some Chinese vendors a formal contract might not mean anything to them. However, as guanxi increases between client and vendor, it provides the ability to monitor all outsourcing project’s process and risks factors.

The final challenge for companies to face before making the decision to select a Chinese vendor is the IT professional workforce. Studies have reviewed the situation and made comparisons between China and India. India’s IT professionals’ high-level education and proficiency in English language give them advantages regarding their ability to work with clients from English speaking countries. On the other hand, China has a similar culture and geographical proximity with Japan; therefore, Chinese vendors are more eager to work with Japanese clients. With low proficiency in English Chinese vendors find it difficult to fulfill services requests from Western countries. Meanwhile, the Chinese professional workers are also not achieving parity with Indian professional workers in terms of training and experience. Although Chinese vendors are able to provide cost reduction control and certain workforce availability to the clients, the lack of professional software design and engineering skills makes it difficult for foreign clients to offer high level work to Chinese vendors. Thus, Chinese IT professional workers have a good reputation in providing quality work but to lower standards, such delivering codes and building standard IT infrastructure. One of the key differences between China and the leading IT outsourcing industry in the world is system maturity. With great potential towards improving its own operations and management
capabilities, IT outsourcing enables customer satisfaction and a reduction of operating costs (Qin, 2006). However, such basic work requires serious dedication from all levels of management within an organization requiring skilled leadership (Qin, 2006). Moreover, it is argued Chinese university level education is still far behind compared to the targeted rival national IT outsourcing industry in India. Qu and Brocklehurst (2003) argue that IT professionals in India usually have a high-level educational background and most of them are fluent in English. Thus, Chinese IT outsourcing organizations are hindered by their lack of language skills and advanced training acquired from tertiary education where India excels.

As aforementioned, the professional workforce in China cannot match their counterparts in India’s professional IT workforce. However, the Chinese economy continues to be the fastest-growing economy in the world with 8 percent growth per annum on average. Meanwhile, in order to develop depth in its IT professional force, Oshri et al. (2009, p.4) state “a national policy entitled the ‘1,000,100 and 10 Plan’, begun in 2006 aims to support the establishment and growth of 1,000 software firms with global sourcing expertise.” Moreover, Oshri et al. (2009, p.4) add, “This program includes tax incentives, tax - free zones, local incentives to ease creation of software parks, and special tax rates for employers of IT staff.” Overall, what is needed is stable strong economic growth in the world with a government willing to support its domestic software industry. China has a prevalence of exporting IT outsourcing services to the global market which enables it to have the potential to increase China’s share in the global sourcing market.

Above all, these are the fundamental challenges that foreign companies will need to face before considering outsourcing their IT to China. In order to get rid of its poor reputation and weaknesses, the Chinese government tries to improve China’s IT outsourcing industry standards by establishing new policies, creating more professional educational programs, and developing stable economic zones, etc.

5.1 Suggestions for Future Research

Based on the literature review I suggest that more qualitative studies are needed on China’s IT market for outsourcing. The term IT outsourcing in China is still an empty basket in the IT field. Although there are works giving an overview of China’s IT outsourcing published online, however, most of them are general overviews of this subject without any detailed focus. Therefore, more scholars should study this topic in detail. Second, more case studies or focus studies of successful Chinese companies are needed. Case studies that provide detailed information as to how Chinese vendors or companies operate or face the identified challenges would be valuable. With more detailed case studies, insight into the Chinese IT outsourcing market would likely be gained.

6. Conclusions and Implications

This thesis set out to explore what are the fundamental challenges foreign companies need to face before making the decision to outsource their IT functions to China. Through a literature review the thesis has shown that there are three basic challenges for companies to face. Guanxi, the complex Chinese-culturally oriented concept of relationships, is the most
common challenge that either brings with it either benefits or damages to any given outsourcing project between a client and vendor in China. Legal risks warn enterprises to consider strongly the protection of their intellectual property rights and copyrights. The relatively low standard or more clearly lack of international level capabilities among China’s professional IT workforce means that Chinese vendors may well lack the ability to solve complicated tasks instead of delivering code.

In addition, this thesis set out to illuminate gaps in the current research, different perceptive of interests and approaches to a conceptual overview of IT outsourcing challenges in China.

The question is raised whether or not these challenges in China are important enough for IT outsourcing project managers to consider before making the final decision. This also raises the question concerning challenges for IT managers “Do we really understand China’s IT outsourcing market? Do we have everything in control to achieve success with our partner?” In fact, this author believes that these questions can be answered through the applications of reasonable strategies reviewed herein. Hence, it is hoped that this study enables decision-makers to make better informed decisions and also become more proactive. While much of the research reviewed focused on an individual preference for existing research the results of this literature review should benefit future research, industry applications and serve as a basic framework to anyone interested into the study of China’s IT outsourcing industry. Results from this thesis it is hoped will persuade scholars to take greater interest in this topic.

The implications for decision-makers are the facts and insights that this thesis provide through a summarized overview of the challenges to outsourcing IT to China. This highlights its importance and meanwhile offers a warning of the potential negative consequences that are related to relevant decisions made. This allows for decision-makers to better achieve optimal results from understanding the necessities of the real market in China.
References


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Appendix


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