Does off-shoring IT make good business sense? Proceed with caution!

IT off-shoring has received much attention in the media for both positive and negative reasons. However, there has been a lack of empirical studies that have critically evaluated the practice of IT off-shoring. This paper reports on a qualitative study of the key factors facilitating and inhibiting the adoption of IT off-shoring by Australian industry. Empirical data was collected in a series of in-depth interviews drawing on the first hand experience of a number of senior business managers and senior IT executives. The findings indicate that organisations are generally positively disposed towards the practice of IT off-shoring but are quite selective in what IT they are off-shoring. The findings also revealed that the perceived cost advantages may actually be much lower than expected due to the considerable establishment and management costs associated with IT off-shoring. Furthermore organisations need to also consider the negative consequences such as the potential loss of IP and loss of valuable internal ICT knowledge and capability.

Keywords: IT off-shoring, IT outsourcing

Introduction

IT off-shoring on the surface would appear to be an attractive value proposition for organisations with significant investment in ICT because of the comparative cost advantages of significantly lower wages in off-shoring destinations like India, China and Eastern Europe. It is also a highly contentious and political issue. The practice is perceived to be detrimental to the local IT industry in developed countries like the USA, Europe and Australia which are only just recovering a significant long term downturn. Off-shoring of IT is seen as being driven purely by organisations' desire to drive down their ICT costs. However there has been a lack of empirical studies which have critically evaluated the practice of IT off-shoring in terms of both advantages and disadvantages. This paper reports on the first hand experiences of senior business managers and IT executives in relation to the practice of IT off-shoring.

This paper is structured as follows. First, the term IT off-shoring is defined as there some ambiguity as to what actually constitutes IT off-shoring. Next, we provide an overview to the practice of IT off-shoring and then discuss its relative advantages and disadvantages. Then the research questions investigated in this study are stated. The

research method used to collect data in order to provide answers in relation to the research questions, is described and justified. Then the results of the data analysis are presented and discussed. Finally, the conclusions and implications of this research for current knowledge and practice are discussed. The limitations of this research acknowledged and suggestions for future research are made.

Definition of IT off-shoring

There is no official definition of the term for 'IT off-shoring'. However, it signifies the actions of organisations relocating some section of their domestic IT operations to a foreign country (Lee, 2004). IT off-shoring can include ventures that are structured as off-shore IT outsourcing contracts (either with local firms or via multinationals), joint ventures, or wholly-owned subsidiaries (Lee, 2004; Trampel 2004). Given the political sensitive nature of IT off-shoring in the current business climate and the desire for large IT outsourcing vendors to reduce their costs, many IT off-shoring projects are through a non visible third party arrangement between the IT outsourcing vendor and a local firm. This practice is known as false off-shoring (Klafs 2004). Therefore IT off-shoring can be much more than purely the off-shoring of an outsourcing arrangement. Considering that ownership and control has its own advantages over the long-term, a number of organisations that started by outsourcing their IT offshore operations have or are already planning to shift those activities to a wholly-owned offshore subsidiary or a joint venture (Lee, 2004). This evolutionary transition in the practice of IT off-shoring is captured in a four stage maturity model for off-shoring (Carmel & Agarwal 2002) - see Table 1.

Table 1 IT off-shoring maturity model (source: Carmel & Agarwal 2002)

IT off-shoring maturity stage	Capability and adoption of IT off-shoring
Stage 1 Off-shoring bystander	Outsource IT only domestically because mindset is focused on domestic market only or lack the capability to manage geographically dispersed operations
Stage 2 Off-shoring experimenter	Typically off-shores one or two IT projects to cut costs but little or no coordination among groups
Stage 3 Proactive cost focus	Have the capability to manage off-shore relationships and are more willing to off-shore their non core functions such maintenance of current systems and/or testing of new systems Done to reduce costs and to provide external competition for internal IT department
Stage 4 Proactive strategic focus	No longer sees IT off-shoring as simply a cost reduction strategy. IT off-shoring is seen as strategy to encourage innovation, develop new products and establish a presence in new markets Growing trend as organisations engage more in a global market and are able to manage global operations

IT off-shoring destinations

The most prominent overseas IT off-shoring destination is India (Parry 2004, GlobalSourcingNow 2006). In a recent study, Parry (2004) found that more than one-third of the survey respondents have sent IT work there. China was the second most popular with 15% of the business, followed by Russia, Canada, Ireland and Eastern Europe. These countries have attracted the majority of IT off-shoring operations because they have well educated populations and well established ICT infrastructures (see Figure 1).

Figure 1 IT off-shoring locations' areas of specification (Source: Economics: digital economy and structure change (Schaaf, 2004).

IT off-shoring by industry sector

The phenomenon of IT off-shoring has been more widely adopted in some sectors more than others. Financial services providers, software firms, telecommunications companies, electronics and technology companies have off-shored more IT than other industries so far (see Figure 2). These business sectors will continue to take advantage of the cost benefits of off-shore locations. One of key drivers is that IT based processes have come to play such an important part in the cost structures of businesses in these sectors, hence it is not surprising that organisations seeking to reduce their IT expenditure through off-shoring of IT. For example, the proportion of spending as part of total expenditure by German banks jumped from roughly 11% in 1996 to 15-20% in 2002 (Schaaf, 2004).

Figure 2. IT Offshore market distribution by industry sector (Source: Economics: digital economy and structure change Schaaf, 2004
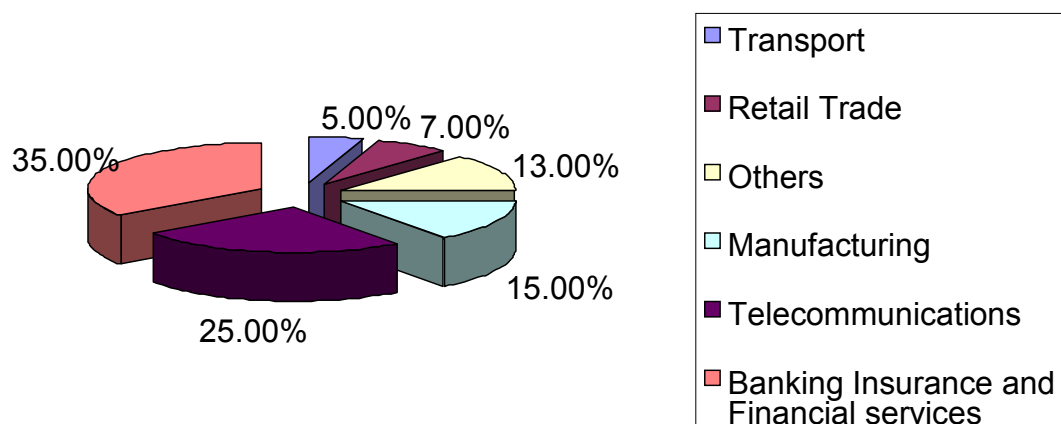
IT off-shoring has potential to change the structure of IT services as we know it, and provide similar to manufacturing a global supply chain model that is significantly

more cost-efficient and will force companies to rethink the way they manage their IT services (Schaaf 2004; GlobalSourcingNow 2006). Given the impetus of the global economy, it could be argued that the globalization of IT services is inevitable (Miller, 2004; GlobalSourcingNow 2006). For example, to meet the demands of stakeholders for lower costs and higher service levels, senior executives of US based IT companies – IBM, Microsoft, HP and Oracle have all off-shored business operations abroad (Rawat, 2005). These companies operate globally and make strategic decisions on such issues as sourcing and labour costs on a global basis in order to compete.

2.1 Advantages of IT off-shoring

Proponents of IT off-shoring argue that the benefits cannot be denied. Costs are not the only reason for organisations to outsource processes to other countries. As in earlier periods of globalisation, they are driven by a variety of considerations (see Table 2). Essentially, these can be summarized into three motivation groups, namely economic benefit, technological benefit and strategic benefit. But since more than one motive may be relevant simultaneously, the expected benefits cannot always be assigned categorically to one single cause (Schaaf, 2004).

Table 2 Main Motives for off-shoring IT (Source: Economics: digital economy and structure change, Schaaf, 2004).

Key motive for off-shoring IT	Benefits of IT off-shoring	Percentage Frequency of motive
Reduction in wage costs	Economic	74
Reduction in other costs	Economic	58
Enhancement of service quality	Strategic	42
Concentration of core competencies	Strategic	41
Acceleration of process cycles	Economic	40
Enlargement of service portfolio	Strategic	37
Avoidance of capacity constraints	Strategic	37
Subsidiaries in country of destination	Strategic	30
Access to technology infrastructure	Technological	25

Cost reduction is for most organisations the primary goal of off-shoring. In a increasing competitive and price conscious environment, organisations are continually

exploring various options that might help reduce costs and generate a better bottom line. This goal has stimulated profound changes in the shift of the job market in nature, geography and number on the global scale (Gentle, 2004). Companies must focus on cost optimization, improving their core processes to create a sustainable competitive advantage by building global operating capabilities. The most obvious cost-saving is in labour costs. The wage differentials for IT salaries between developed and developing nations are large, with wage rates in developing countries as low as one-tenth the rate of an equivalent resource in the USA Canada or Australia (see Table 3). They can potentially service customers at lower costs and often provide value added services increasing the total revenue per customer. So there are some compelling reasons for organisations to continue off-shoring IT (GlobalSourcingNow 2006).

Table 3 Salary ranges for IT roles in US$ for key off-shoring locations (Source: GlobalSourcingNow 2006)

Top IT off-shoring destination	Salary range per annum
India	USD 5,375 to USD 8,960
China	USD 6,360 to USD 9,540
Philippines	USD 4,250 to USD 6,800
Russia	USD 6,120 to USD 9,180
Israel	Does not complete on wage costs
Ireland	USD 25,500 to USD 35,700
Canada	USD 36,000
Central and East European Countries	Similar to Russia but differentiates on specialised IT Skills and high level of multilingual skills
USA	USD 60,000 to 90,000
Australia	USD 40,000 to 60,000

Other cost reductions

Additional savings come from reduced overheads, including lower costs for recruitment, national insurance and real estate. Some of the savings are inevitably lost to increased management overheads, communications costs, start-up costs and other administrative inefficiencies (Lee, 2004). There are also tax benefits in deferring income from foreign operations (Rawat, 2005). Companies can hire local IT workers

in low-wage environments to design and build cheaper IT capital equipment or manage other fixed costs of doing business. The move offshore also creates new (long-term) revenue opportunities for companies operating offshore, where new jobs alleviate poverty, improve general living standards, and provide the means to address health and environmental challenges (Farrell, 2004).

Acceleration of Process cycles and avoidance of capacity constraints Although the initial attraction of offshore is often cost savings, reduced time-to-market is another key benefit. By taking advantage of time zone differences, companies can potentially create a 24-hour workday allowing them to accelerate development of product offerings and technology applications (Lee, 2004). This is a common practice for IT projects, coined as the 'Follow the Sun Strategy' where developers in one time zone transfer their day's work to a group in another time zone for continued development or testing. An expanded work day can shorten the development cycle by more than half, while allowing people in each region to work normal business hours.

Establishing a presence in emerging markets One of the oldest rationales behind a commitment abroad is to tap into new markets. As a rule, a company's activities abroad are built up as a complement to its domestic engagements. Particularly in the case of near-end-user products, it is a good idea to use staff locally to take advantage of local knowledge of markets, requirements and tastes. Populous, dynamic growth regions like India, the Philippines or China hold substantial sales potential for manufacturers of mobile telephones through to the sale of business software (Schaaf, 2004). To exploit this, a local presence is necessary. Off-shoring also represents an increase in specialization.

Focus on core competency The division of labour capitalizes on the core competence of each country's labour force. Local IT staff in the developed countries such as Australia, USA and Europe are generally creative and innovative, but poor at routine and repetitive roles. Off-shore staff in developing countries like India and China perform well at clearly-defined jobs, but often show little initiative (Lee, 2004). Taking advantage of the benefits of off-shoring of IT without losing core competitive knowledge is always a strategic decision. It has been argued that off-shoring of IT should increase the wealth of industrialized companies by allowing them to focus on higher value activities such as product design and project management. Finally, location quality acts on the motivation to shift production facilities or services. A business friendly institutional framework with liberal rules on labour dismissal, subsidies and tax breaks can exert a pull effect on foreign companies (Schaaf, 2004). Restricted business scope, too much regulation or an excessively high tax load in the home country can act as push factors for IT off-shoring, driving production processes abroad.

2.2 Disadvantages of IT Off-shoring

Thus far, we have examined off-shoring largely from the economic rationalism and globalisation arguments. From this perspective, off-shoring appears to be highly advantageous. In practice, however, many serious stumbling-blocks have emerged, including cultural differences, political stability of destination countries, potential for loss of IP and loss of local IT knowledge and capacity.

2.2.1 Language and Culture differences

Language barriers and cultural differences can be a major challenge to organisations off-shoring IT, increasing the risk of miscommunication and a subsequent increase of errors in IT projects (Lee, 2004; Matloff 2005). The problem of linguistic mismatch in IT projects is not a new problem though it tends to take subtle forms in IT off-shoring. India is the dominant off-shoring site where many people have been speaking English since the start of their formal education. However, Indians speak their own dialect of English with pronunciation and idioms which are foreign to IT co-workers in developed countries such as Australia and USA. Previous experience has shown that language problems in IT off-shoring projects can have a detrimental effect on the quality of product and code resulting in significant rework (Matloff 2005). For example, IT Staff in India sometimes agree to a deadline even when they know it is unreasonable because they do not want to offend the customer. They would rather deliver late and then apologize (Lee, 2004, Plannenstein & Tsai 2004).

2.2.2 Political sensitivities

Political stability of the off-shore destination.

Developing countries tend to be more susceptible to political instability, which can increase risk exposure. India has been busy building and promoting its technology sector since the 1980s. Although it is currently safe to travel to India, tensions between Pakistan and India continue (Kearney 2004). On the other hand, the September 11 terrorist attacks in the US actually improved India's relative risk profile as an IT off-shoring location by demonstrating that any country can suffer from instability and business disruption

(www.ebstrategy.com/outsourcing/basics/definition.htm>).

In developed countries, IT Off-shoring is proving a politically contentious issue. Unions and other critics of IT off-shoring are becoming more active, claiming the off-shoring IT sacrifices local jobs and exploits underpaid workers in developing countries (Kirkpatrick, 2004). However, major technology players like IBM are unapologetic for the strategy of moving thousands of US based jobs offshore to lower-cost countries such as India and Brazil, which has rankled many people inside and outside the company who complain that corporate America has relegated employees to the status of commodities (Vinas, 2004). Indeed, in the U.S. there is a widespread negative view of IT off-shoring (Ho, Torres & Vu, 2004). In the USA and Europe there are laws preventing state agencies from engaging off-shoring businesses (Ahad 2004) and about 80 bills targeted at limiting outsourcing have been introduced in about 30 States. There is no proposed legislation dealing with off-shoring in Australia and the Federal government's stance has been ambiguous. The then minister for Communication, Information and Technology and the Arts Daryl Williams highlighted the potential for Australia as an outsourcing destination while at the same time suggesting that some jobs are better done overseas. The Australian Computer Society has entered the political debate regarding the relative merits of IT off-shoring and claims that the hidden costs and difficulties of off-shoring far outweigh the short term cost savings (Ahad 2004). Therefore, organisations considering off-shoring IT should be prepared for the possibility of objections from trade unions, anti-globalists, politicians and the media as well as strong resistance from their own IT employees and concerns about corporate responsibility and citizenship (Lee, 2004).

Potential loss of Intellectual Property

Off-shoring of IT is effective because of concurrent transfer of intellectual property (IP) of organisations to off-shore destination. But IP is not well understood and difficult to value and a significant proportion of the overall value of an organisation. Intangibles are the prime products of many industries and the value of many organisations is largely intangible and IP is a significant component. For example, consider the ERP software company SAP. The **book value of SAP** is estimated to be the sum of all tangible assets, or €6.3B. On the other hand, **SAP's market value** is much more, at €31.5B. The difference of €25.2B comprises intangibles of which intellectual property makes up a considerable proportion (Wiederhold 2005).

IP has many forms including research and development, reputation, marketing, patents, copyright, trade secrets covered by non disclosure agreements (Wiederhold 2005) The potential exists for loss of intellectual property when organisations off-shore their IT. How do you protect the IP associated with IT that has been off-shored when the culture, local laws and lack visibility of the client organisation on site mean that it is impossible to enforce IP legislation in many off-shore destinations? (Frank 2005; Heidari 2005).

Loss of ICT knowledge and capability

The Gartner group argues that CIOs and other business executives should not underestimate the potential negative impact of off-shoring IT on their business strategies, organisation and their employees (Morello 2003). Large scale off-shoring of IT could result in a shortage of skilled domestic IT professionals in developed countries like the USA, Europe and Australia if IT is considered to be a career with no future because of the perception that all of the IT jobs are going off-shore

(Plannenstein & Tsai 2004). This could result in a critical IT knowledge shortage in the longer term and impact negatively on organisational performance because a lack of trust between domestic IT employees and senior management. Six areas of core knowledge can be seriously undermined and damaged by large scale IT off-shoring and need to be protected (see Table 4)

Table 4 Six core areas of IT knowledge in organisations

(1) enterprise knowledge	How products, services and systems are integrated using IT
(2) Cultural knowledge	How things are done, beliefs, who makes decisions regarding IT
(3) Social network knowledge	Which roles and people form critical connective links in the IT department with the rest of the organisation
(4) Strategic knowledge	What are the objectives and competitive advantages of the organisation and is IT aligned/integrated with these
(5) Industry and process knowledge	How industry, competitors, suppliers and customers operate – business requirements for IT
(6) Activity knowledge	Which people are doing what today in the organisation and the IT department

Research questions and method

The two research questions investigated in this interpretative study of IT off-shoring are:

- RQ1: What do you consider to be the main advantages of IT off-shoring?

- RQ2: What do you consider to be main disadvantages of IT off-shoring?

A series of in depth interviews allowed the researchers to identify and explore the key issues that were raised in a set of semi structured research questions in an interpretative manner in line with the research objectives of this study (Miles & Huberman, 1994; Yin, 1994). The informants in these in depth interviews were senior IT executives and senior business managers. The informants were purposively chosen from 11 organisations to present the views of both users and providers of IT services in the Financial Services sector. The Financial Services sector was chosen as it is a

heavy user of IT services and organisations in this sector have or are strongly considering the practice of IT off-shoring. These semi structured research questions allowed the informants to express their opinions on a wide range of issues regarding the practice of IT off-shoring. Content analysis was considered an appropriate qualitative method to analyse and interpret the data collected from a set of semi structured research questions.

Using an interpretative approach allowed us to gain valuable insights into the key issues which need to be considered by organisations when deciding whether to and what IT to offshore. The notes from the in depth interviews were transcribed in a word document in preparation for the qualitative data analysis. The data was analysed using the software package NVivo which facilitates the management of the analysis process for qualitative data. NVivo allows researchers to code large volumes of qualitative text for recurring themes and patterns in a rigorous, verifiable manner. The data is then gradually reduced and abstracted by the researcher(s) into more generalisable theory and frameworks (Miles & Huberman 1994; Richards, 1999; Carroll & Swatman 2002; Gibbs, 2002). The data was coded independently by the two principal researchers in this study and then merged and abstracted after a reiterative detailed analysis and review process. The findings and results of the data analysis were verified by another researcher knowledgeable about outsourcing and IT off-shoring and also by the informants in this study to increase reliability and validity of our interpretation of the interview data analysed (Miles & Hubermann 1994; Yin 1994).

Overview of case organisations and informants

Table 1 shows a summary of the key issues regarding IT off-shoring identified in the analysis of the interview data. A detailed discussion of these key issues follows.

Organisation/Interview /Informant	Off-shoring IT Yes/No IT off-shoring Destination IT Off-shoring Maturity	RQ1	RQ2
1. Mortgage Brokering Services Medium sized organisation CIO	No Has a very negative view towards IT off-shoring	No advantages	Significant management costs Poor IT work Cultural and communication problems
2. Foreign Bank Medium sized organisation CIO	No Off-shoring Bystander but consider experimenting	Cost advantage	Lower IT skills Management is problematic Management costs
3. Manufacturing Company Large sized organisation CIO	Yes Experimenter but subsequently bought IT back onshore	Cost advantage CMM Level 5	Some IT not suitable for off-shoring Needs to be ownership of large projects by IT off-shoring vendor CMM level 5 addiction Lack technical flexibility and creativity
4. Outsourcing vendor /software development Medium sized organisation Managing Director	Yes India Proactive cost focus	Cost advantage	Communication problem due language and cultural barriers IP is problematic Significant threat to viability of local IT industry Cost advantage is not significant
5. Outsourcing Vendor Medium sized organisation Strategic Business manager	Yes China Experimenter	Cost advantage	Some IT is not suitable for off-shoring
6. Software development and outsourcing vendor Medium sized organisation Technical director	Yes India Experimenter	Cost advantage	Do not see a huge adoption of IT off-shoring Some IT not suitable for off-shoring IP is problematic Significant management costs Expects to see disaster stories concerning IT off-shoring coming out of India Off-shoring IT does not fit well with some businesses
7. Outsourcing vendor Large sized organisation IT Delivery Services Manager	Yes India Experimenter	Cost advantage Quicker delivery of IT projects	Some IT is not suitable for off-shoring
8. Outsourcing vendor Medium sized organisation Senior manager	Yes India Eastern Europe Experimenter	Value proposition if IT is considered a commodity Suitable for	Often not a cost advantage • Upfront establishment costs • Ongoing management costs • Risks associated with off-shoring

Organisation/Interview /Informant	Off-shoring IT Yes/No IT off-shoring Destination IT Off-shoring Maturity	RQ1	RQ2
		small projects	

Organisation/Interview /Informant	Off-shoring IT Yes/No IT off-shoring Destination IT Off-shoring Maturity	RQ1	RQ2
9. Wealth Investment and Insurance organisation Large sized organisation 2 Senior IT project managers	No Does not consider the practice to be beneficial	No advantages	Significant management costs Disaster story regarding Indian IT off-shoring Purely technical focus so lack business understanding
10. Senior Management Medium sized organisation Professional Development CEO	N/A Does not consider the practice to be beneficial	Cost advantage	Communication problem due cultural misfit/barriers Personal experience with DELL call centres off-shored
11. IT Security organisation Small sized organisation IT consultant	N/A Does not consider the practice to be beneficial	Do not see any advantages	Off-shoring adds to complexity of IT Cultural, Geographical, Time factors Huge establishment and management costs

Table 1: Summary of key findings

About half of the informants were negatively predisposed towards IT off-shoring and felt that there was little to be gained by off-shoring IT. The other half of the informant organisations had experimented with small selective IT projects with the exception of one organisation that had a well established wholly owned subsidiary off-shore with a proactive cost reduction focus. However all of the informant organisations which experimented or had adopted IT off-shoring as a cost reduction strategy and reduced time to market strategy were quite selective about the type and scope of IT projects and IT work off-shored.

RQ2: What are the main advantages of IT off-shoring?

The majority of interview informants felt that there were significant cost advantages in off-shoring specific aspects of the IT function such as testing and routine maintenance because of the significantly lower wages in off-shoring destinations like

India and China. The following comments from two informants emphasise the cost advantages of IT off-shoring:

"You get a lot of programming done by an Indian programmer for an $A100"

"We have achieved cost savings of 30 percent through off-shoring IT work to India"

One of the informants also felt that there are significant advantages gained because off-shoring of IT projects allowed IT project work to be pipelined 24 hours around the clock. This allows IT projects to be delivered quicker to the market. This informant noted that IT off-shoring had allowed his organisation to ramp up the delivery of IT projects because of pipeline effect of having software developers working on an IT project around the clock. Another informant took the approach that if a specific IT function or service was considered a commodity by an organisation then it was a strong candidate for IT off-shoring.

However these same informants also qualified their generally positive attitude toward IT off-shoring by stating that they were quite selective about type of IT work off-shored. For instance, one of the informants noted that: "we would only offshore highly specified work and price is not the only driver now". Another informant noted that "IT off-shoring in India has worked really well in certain areas where there is IT development on a really well defined application."

RQ2: What are the main disadvantages of IT off-shoring?

Generally, all of the informants felt certain types of IT work should never be off-shored. Although IT off-shoring destinations like India and China have very strong technological IT staff and many of the Indian off-shoring vendors have level 5 Capability Maturity Model (CMM) certification. However, these same organisations

did not have sufficient understanding of the core business of off-shoring organisation to develop systems that meet their business requirements. One of the informants commented that:

"It is only a matter of time before a number of disaster stories of IT off-shoring gone wrong start coming out in the press".

A number of the informants also felt that one of key positive factors, the cost savings to be gained from off-shoring IT was much less once you took into account the significant establishment and management costs associated. The true costs associated with off-shoring of IT are noted in the comments by the following informants.

"There is often no cost advantage to be gained from IT off-shoring because of the significant management costs and upfront establishment costs"

One of the informants, an IT consultant had some very strong negative views on IT off-shoring. He argued that accountants can present a very strong financial argument for off-shoring IT but they do not understand or ignore the operational complexity involved setting up and managing IT projects offshore. He felt that off-shoring of IT only exasperated the problems that are inherent with IT outsourcing: "Off-shoring compounds the complexity that already exists in IT outsourcing due to the significant cultural differences, geographical barriers and different time zones. There are significant overhead costs associated with setting up the off-shoring of an IT project and because of cultural differences, geographical barriers and different time zones there are huge ongoing management costs."

Another significant area of concern was how to ensure that an organisation was able to protect its intellectual property (IP) in an IT project which had been off-shored. Many informants were worried about losing control of their IP and subsequent loss of revenue as evidenced in the following comment:

"Controlling IP in off-shoring of IT work to India and China can pose serious threats to revenue and profitability"

5. Conclusions and implications

The findings of this study indicate that IT off-shoring is still being viewed cautiously by many organisations despite the comparative cost advantage of off-shoring destinations such as India, China and Eastern Europe. In general, organisations that are off-shoring IT are selective about what IT is off-shored. There is significant communication problems associated with IT off-shoring due to the language and cultural barriers and geographical distance. The frequently cited strengths of the Indian IT off-shoring companies, namely their technical skills, CMM level 5 and ISO 9000 standard accreditation is viewed sceptically by many organisations. This would reinforce the view of Matloff (2005) that there is actually a quality gap between the expectations of organisations off-shoring IT and what is actually delivered by off-shoring vendors despite their apparent CMM level 5 certification. The blind adherence to these process standards is also seen as a hindrance for certain types of IT projects which require flexibility and creativity. The perceived cost advantage of off-shoring IT to places like India and China is in reality much lower than what is generally published by the proponents of IT shoring. The cost advantage in getting IT

work done offshore against getting the same IT work done locally in the USA, Europe or Australia may actually in many cases be negligible. Indeed it would appear that there are significant establishment and ongoing management costs associated with off-shoring of IT which the proponents of IT shoring have tended to ignore. Organisations considering off-shoring IT need to factor in these establishment and management costs,

However, the findings also indicated that if organisations are selective about what IT is off-shored and that if the off-shoring relationship is managed correctly there are significant potential advantages. These include access to lower wage structures and shorter project timeframes as off-shored projects can run around the clock. At the same time, the findings also indicated that the potential for loss of IP and security and privacy of corporate information emerged as issues which are grossly underestimated by many organisations considering or involved IT off-shoring in terms of risks these pose.

This study provided rich insights into the practice of IT off-shoring from the first hand experiences of senior business managers and senior IT executives who are involved or have considered off-shoring IT. The key findings of this study indicate that IT off-shoring is a complex process that needs to be carefully considered and managed by organisations due to the significant cultural, language, geographical and time barriers. Depending on the type of IT work it may be more cost effective for the work to be done locally and organisations need to consider potential loss of IP if IT work is off-shored. One limitation of this study is that the informant organisations are primarily from the Finance and Insurance sector which is a heavy user of IT and the experiences

regarding IT off-shoring may differ in other industry sectors where ICT is not such a critical component in their core business.

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