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Understanding and Mitigating Service Provider's Risks in Offshore Information Technology Outsourcing: A Conceptual Analysis

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Abstract: *Existing research on risks involved in offshore IT outsourcing focus overwhelmingly on risks that client firms face while contracting out their IT operations and measures to be undertaken for mitigating those risks. This study seeks to understand what risks service providers face in such outsourcing and how to mitigate them. Despite proliferation in number of offshore outsourcing providers in the field of IT,little attention has been placed on this topic. This study fills a knowledge gap by proposing a framework of offshore IT outsourcing providers' risks and suggesting some mitigating measures to minimize those risks. From a comprehensive examination of past literature, published cases and documents, a number of potential risks have been identified. They have been categorized as two broad groups- a. project-specific risks, and b. relationship-specific risks. A qualitative approach is applied to conceptually analyze data which offers future researchers to formulate proposition and build theory. The insights that are generated through this qualitative synthesis of the literature will be valuable to the managers in the field of offshore IT outsourcing.The framework enlighten the scholars about the significance of understanding the providers' risks for overall outsourcing success*.

Keywords: *offshore, IT outsourcing, risk, mitigation, service provider.*

1 Introduction

In 2017, IT outsourcing contributed a significant portion to the global revenue of the industry, generating 64.3 billion U.S. dollars (Statista, 2018). Offshore IT outsourcing (OITO) means transferring an organization's IT assets, people and/or activities partly or fully to venders located outside of the client's country of operations (Mao and Lee, 2008). IT outsourcing continues to be popular for years and increasing number of firms are adopting IT outsourcing for harnessing potential economic, technological, and strategic benefits. IT outsourcing allows businesses cost reduction, access to new technologies, improving technical competence, focusing on core competencies, improving customer service, and even gaining competitive advantages (DiRomualdo, 1998; levina and Ross, 2003).According to HarveyNash/KPMG CIO survey 2017, offshore IT outsourcing remains high on all the CIOs' agenda. More than 50% of the respondents of the survey were planning to increase their outsourcing commitment in order to free up their own resources, gain access to new skills and to reduce cost. Steep and ever growing competition among companies put them under continued pressure to reduce costs and widen skill- base.

Any outsourcing relationship involves two main agents: 1) client on the demand side, and 2) vendor on the supply side. The client wants on time delivery of defect-free reliable product at competitive price. The vendor looks for a viable profit making project to be done in a planned timeframe within estimated cost without any surprise element. Till date, there are ample research on IT outsourcing that focus on the benefits achieved from this outsourcing process. However, outsourcing relationships also involve risks. Mehta and Mehta (2010) found that 78% (approx.) of the client vendor partnership in IT outsourcing fail in the long term. Other

researchers (e.g. Natovich, 2003) also agree that IT outsourcing involves a high degree of uncertainty, consequently leading some outsourcing projects to terminate early with unsuccessful experiences. Researchers, therefore, attempted to find out the risks that are associated with IT outsourcing. However, those studies predominantly examined the risks that client firms face while contracting out their IT operations and offered measures to mitigate them. Risks that the vendors or the service providers face remains mostly unexamined and, thus, unexplained. Depending upon the principal-agent relationship, perceived project risks of clients and vendors vary significantly (Taylor, 2007). Understanding the risks that service providers face and the ways to mitigate them is equally important like in case of clients since successful outcome of any outsourcing depends on both parties. Therefore, the two main objectives of this research are to find:

1) What risks do the service providers face in offshore IT outsourcing?
2) How can those risks be mitigated to achieve desired level of performance?

Existing research on IT outsourcing in general and offshore outsourcing in particular employed different types of methods- field survey, case study, observation, and semi structured/unstructured interview and a great variety of findings have derived from those research. These scattered findings complicate academic researchers' and managers' of OITO service provider firms efforts to build a clear and comprehensive understanding of what risks they may encounter when involving in OITO and consequently why some IT projects succeed and others fail. A broadened perspective is presented in this study to draw insights from a meta-analysis of the evidence on the risks factors of OITO from service provider's side. A conceptual framework identifying the risk factors that underlie OITO for service providers and client-project-market contingencies that moderate these risks is offered.

By identifying the risk factors for service providers in IT outsourcing, this study will extend the existing literature on IT outsourcing. The insights that are generated through this qualitative synthesis of the literature will be valuable to the managers and academics in the field of offshore IT outsourcing. The managers from vendor organization would be able to understand better the outsourcing risks scenario and might benefit from applying the risk mitigating measures suggested by this study. Future researchers could empirically test the proposed framework to provide a generalize view regarding the provider's risks in offshore IT outsourcing.

2 Literature Review

With growing concerns over increasing tendency of IT outsourcing, growing trend of offshoring and growing examples of IT project dissatisfaction and failure (Weakland and Tumpowsky, 2006), research on IT outsourcing have gained considerable attention. An extensive amount of research identified the risks associated with IT outsourcing in general, and offshore IT outsourcing in particular. Challenges such as, hidden costs, operational risks, service debasement, contractual difficulties, over dependence on vendor, loss of organizational competencies, etc. have been recognized in most previous research. As far as offshore outsourcing is concerned, complexities might occur due to differences in culture, language, geography, time, organizational practices, infrastructure, governance and regulations. These differences make communication, co-ordination and integration challenging for the outsourcing partners. Offshore outsourcing risks, therefore, can be related to international inter-task interdependency (Kumar et al., 2009 and 2012, Raman et al., 2013), communication and co-ordination of offshore activities (Srikanth and Puranam, 2011; Raman et al., 2013), limited control on the outsourced activities.

While examining the outsourcing risks, the transaction cost economics (TCE) (Williamson, 1985) has widely been used as a basic framework for understanding the operational and behavioral aspects of outsourcing parties. Based on the assumptions of the theory of bounded rationality and opportunism, service providers' opportunistic behavior has been much reported in the outsourcing literature. Some opportunistic vendor behavior such as shirking, poaching, and renegotiation (Aundhe & Mathew, 2009; Aron et al, 2005) have been identified in previous research. The distance between both parties, in terms of geographical, political, cultural, economic and social aspect, increases the likelihood of significant information asymmetries. Both parties may make efforts in favor of them that are unobservable by the other party (Elitzur et al., 2012).

When a vendor deliberately underperforms but claims for full payment as if he conforms to the contractual terms is called shirking. Poaching is an illegitimate practice where vendors misuse the client's critical business data to make extra revenue and is serious concern in offshore outsourcing. Finally, over the course of time, the service providers gain more knowledge on clients' IT services, sometimes even more than the clients themselves and consequently earn more bargaining power. This may lead the service providers to demand more money for the same service. Another major risk in offshore outsourcing is overdependence on a particular supplier. In such case, "companies don't have a plan B to resort to in case that the supplier of outsourced products and services fails to perform its tasks in time" (Quelin, B., and Brohman, K., 2003).

In their research works, based on nine published unsuccessful cases, Abdullah and Verner (2012)developed a risk framework for the IT system development outsourcing project. They identified several critical risk factors for a client and grouped them into ten categories: contract, complexity, execution, legal, financial, planning and control, the team, the users, scope and requirement, and organizational environment. Other than that, a variety of risks that are associated with outsourcing include contractual difficulties, hidden costs, service debasement, and loss of organizational competencies (Aubert et al., 1998), operational risks, the intrinsic risks of atrophy and location (Aron et al., 2005), loss of valuable know- how, etc.

Previous research argued that outsourcing risks can be mitigated via complete contracts and complementary practices. According to Handley and Benton (2009), effective contracting practices result in improved alignment of goal and reduced strategic risks. Development of strategic partnership (Holzweber et al., 2012), relational due diligence (Kern and Willcocks, 2001), proper coordination and information sharing, (Raman et al., 2013), relational investment (Mehta & Mehta, 2010), vendor's IT capability, trust building, commitment (Srinivasan et al., 2011), consistent monitoring mechanism, etc., have been suggested as measures to mitigate outsourcing risks and thereby increase the chances of successful outcome of outsourcing. A model for IT outsourcing management was proposed by Kim, Lee, Koo, and Nam (2013) which considers governance effectiveness facilitated as key indicator for success.

All these risks so far identified and discussed focused on the clients risks in IT outsourcing (offshore or not). Except few (Aundhe and Mathew, 2009; Raman, et al., 2013; Mao et al., 2008), most past research focused on the clients' perspectives of risks. Efforts in investigating service providers risk in offshore IT outsourcing is scanty.

3 Methodology

This research is qualitative in nature and the data is collected from a thorough literature review, analysis of different published OITO cases, trade journals, blog post of out sourcing providers, physical artifacts such as manuals. To identify the common and critical risk factors along with their mitigators, this study conducted

keyword searches of electronic databases using such words as "IT outsourcing," "offshoring," "ITO service providers," "client-vendor relationship", etc. It also performed searches of leading information systems and management journals where articles on IT outsourcing and client-vendor partnership are most likely published (MIS quarterly, Journal of MIS, Journal of operations management, Information and management, Management Science, etc.).This study then applied the coding process recommended by qualitative researchers such as Dey (1993), Verner et al. (2009) and Abdullah and Verner (2012) on the challenge, uncertainty and risk factors discussed in the articles, documents and cases. Special care was taken to ensure that conceptually similar variables would not be coded separately, since different authors use slightly different labels to similar constructs. NVivo, a computer-assisted qualitative data analysis software (CAQDAS) was used as a repository for the coded data. NVivo was selected as the data analysis tool because it is very suitable for dealing with data in qualitative data analysis process (Elaine, 2002; Leech and Onwuegbuzie, 2011). This tool helps this researcher in organizing and analyzing the data.

4 A Proposed Framework for OITO Providers Risks and Risks Mitigators:

Conflict is intrinsic in any kind of inter-organizational relationship because of the prevalence of goal divergence, partners' opportunism and cross cultural differences (Goo, 2009). In offshore IT outsourcing, it is quite common that the geographical and cultural gap between the contracting parties are large, which is why they are likely to have huge difference in attitude, behavior, goal, cost, communication technique, etc. Therefore, the degree of conflict, risks and uncertainty is even higher in case of offshore IT outsourcing.
In Aundhe and Mathew (2009)'s work, three broad categories of service provider's risks were suggested:

- The first is the project specific risks. According to the authors, it mainly occurs due to the factors that affect the project delivery. The identified factors were (mis)management of schedule and budget, client expectations, requirements capture, staffing and knowledge transfer.
- The second category of risks are relationship specific risks which might be resulted from the factors of change in the client's corporate structure, asset specificity, inexperienced clients, client culture and size.
- The risks that fall in the third category are macroeconomic risks which are caused as a result of exchange rate fluctuations and changes in government policies.

Other than the above, four contextual factors were also identified, which are- relationship maturity, nature of contract, nature of service or project, and nature of client. These factors are identified to influence the degree of risk.
Based on Aundhe and Mathew (2009)'s work, this study categorizes offshore outsourcing providers' risks into two broad groups: 1) project specific risks 2) relationship specific risks. The third category of risk, that is the macroeconomic risks, is generic and beyond the control of the outsourcing partners. Therefore, this factor has been placed as control variable in the model.

4.1 Project Specific Risks

This category of risks is associated with the specific projects to be delivered to the clients. Past success do not guarantee success for all the future projects. In reality, established vendors also face challenges in the areas of human resource management, leadership and team management, frequently changing client policies and

requirements, and costs and information security (Mehta and Mehta, 2010). Byanalyzing past literature, and different cases, this study identifies the following risk factor that may result in project specific risks:

4.1.1 Schedule and Budgeting Management

The loss of a major business account may lead to insufficient financial resources to support the project. Some risks arise from the vendors desire to win business in a highly competitive marketplace. Vendors anticipate that a tight timeline would place it ahead of rivals. They appear to be expecting too much without adequately examining whether it would be possible to accomplish the task within the tight timeframe. In fact, both vendors and clients are in risk for overoptimistic schedules and budget (Hazel, 2006).

4.1.2 Staffing

Due to high demand of IT professionals, ITO providers face challenges in staff retention. Sometimes availability of human resources become uncertain for some specific product. This uncertainty is even worse when it is of short duration or when there is an urgency to deliver the project quickly. Lack of required skills might be a challenge. In many cases it was found that providers lacked appropriate qualities to carry out the project and had difficulties in project management and technical leadership (Abdullahand Verner, 2012).A client, for example, may want provider to work on a new platform and they don't have experts on that platform.

4.1.3 Requirements Capture

Sometimes the clients either failed to communicate the requirements clearly or the vendors failed to capture clear requirements of the clients. In another case, providers may face frequently changing client policies and requirements. In consequence, the project requirements remain unclear and development team fails to understand the functional and /or non-functional requirements.
A classic case of 'scope creep' is *British Sky Broadcasting's call center (BSkyB).* The project took 6 years to complete but failed to deliver the intended benefits. One of the major causes of failure reported by the court was unspecified requirements- the specification delivered to the vendor was incomplete and unsatisfactory.

4.1.4 Legal Tangle and Lack of Understanding of the Contract

When service provider fails to clearly understand legal implications of a contract, clients may capitalize on that and use it in their favor. It is quite common for many outsourcing providers to give due considerations to legal issues and experience outsourcing failures.

4.1.5 Knowledge Transfer

Knowledge transfer involves conveying and diffusing knowledge to the OITO providers to leverage the ways it can be used to solve problems and strengthen performance (Kess et al., 2007).
Transfer of knowledge is pivotal for successful offshore outsourcing (Williams, 2011). It effectively contributes to decreasing development cost, increasing the quality of the product delivered, and subsequently fostering a strategic partnership (Rottman, 2008). Offshore projects may likely fail in case effective knowledge transfer is absent (Dibbern, Winkler, & Heinzl, 2008). However, knowledge can't be effectively transferred unless it is intended so by the knowledge source, i.e. the client. Therefore, this research examines, among others, the effect of client support on knowledge transfer.

One significant risk may arise when clients' employees are reluctant to transfer knowledge. It specially happens when offshoring involves downsizing.

4.1.6 Client Expectations Management

Sometimes providers are confronted with implicit, undue or unrealistic expectation. Each client may demand customized approach of project development and delivery which may result in poor management of clients' expectations during the course of specific projects. Some IT projects may require significant integration of new system with multiple legacy systems. In such cases, poor management of such complex tasks leads to project failure.

For example, *the failure of TAURUS project (1989 to 1993) of London Stock Exchange*, was due to clients' unrealistic and conflicting expectations (Abdullah and Verner, 2012).

4.2 Relationship Specific risks

These risks arise from changes in client's corporate structure, client's lack of experience in offshore outsourcing, asset specificity, and cultural gap.

4.2.1 Changes in client's corporate structure

Constantly changing corporate structure and policies of clients pose challenges to the OITO providers. The service providers face uncertainty with respect to nature and continuation of outsourcing relationships with the clients. In order to explain the impact of client's changing corporate structure and policies, one senior manager of a OITO providing company of India states that

"*Our operations are influenced by the client's policies, especially if that client account for a major chunk of our revenue*" (Mehhta & Mehta, 2010).

Changes at higher management level of the client organization may affect the longevity and the dimension of the partnership with the OITO providers. With a new CEO of client organization who is skeptical about OITO, the partnership with vendor may be at risk of falling apart.

Another risk factor is associated with the situation when clients' organizational changes are inadequately addressed and communicated to providers. In such case, the outsourced produce/service, even if accomplished with full conformity, may be seen as misaligned by the client.

4.2.2 Clients experience in offshore outsourcing

Client's readiness to OITO is a significant risk factor. Inexperienced clients may not be equipped enough to effectively outsource business processes. They may lack processes for requirement gathering, service level agreement monitoring, etc. which poses risk to affect the relationship with the service provider. Required level of experience in managing client-vendor relationship is higher in cases where client-provider interdependence is higher and also where the IT services involved in the relationship is more complex (Lukacs, 1998). Therefore, the required level of experience of the client organization in OITO is higher for business process outsourcing (BPO) than that of information systems outsourcing (Beulen, 2003).

4.2.3 Asset specificity

Asset specificity means investing heavily in client-specific assets puts the provider at risk of getting stuck with a client. Acording to Aundhe (2009), it may happen when:

1. provider makes highly client-specific investments, and hence lose flexibility to cater needs of other clients with existing resources. To mitigate such risks and cover up costs, vendors require to workout a partnership where clients must share burden of the investments in acquiring client-specific assets;
2. although the investment is fairly generic, service providers fail to acquire contracts with other clients to utiilize assets they have invested for a client. In such situation, service provider needs to take strategic decisions to start a particular service line and work on developing business in that line.

Any one of the above investment initiative could be significantly risky for the service provider.

4.2.4 Clients' culture

Since the client and the service provider are located in different countries, the offshore outsourcing suffers from several language and culture boundaries (Levina and Vaast, 2008; Ramasubbu et al., 2008). As a result, the boundary issue becomes more salient and significantly inhibits collaboration, thus causing a healthy ITO relationship barely achievable (Levina and Vaast, 2008). The understanding of boundary spanning, therefore, becomes more valuable. Success of outsourcing deals is becoming increasingly dependent of cultural stereotypes and finesse. Outsourcing parties often face challenges from both country and corporate-specific cultural tangles, which they find difficult to address.

Several past research confirms that cultural differences impacts management of OITO for both client and vendor. As the great Hofstede (1980) states:

"The collective programming of the mind distinguishes the members of one group or society from those of another ……..Management within a society is very much constrained by its cultural context, because it is impossible to coordinate the action s of people without a deep understanding of their value, beliefs and expressions."

For example, most Asian countries are characterized by high power distance and collectivism, whereas Western European countries are example of countries with low power distance and individualism. This cultural difference may make it harder for the outsourcing partners to prosper in their business relationships.

Again, clients' corporate culture may widely differ from that of provider's culture. A provider may have collaborative mind set and in contrast, the client might be more transaction oriented, i. e. mindset of simply paying for a service and getting it hinders OITO providers' performance since IT industry as a knowledge industry requires more collaborative method for service delivery.

4.2.5 Client's moral hazard/ opportunistic behavior

ITO may give rise to opportunistic behavior by both clients and vendors. Both parties in contract try to maximize their gains in ways that may not be observable by the other party (Elitzur et al., 2012). Given the distance (e.g. physical and cultural) between offshore IT outsourcing parties, communication barriers, and lack of personal contact, the provider might be challenged with client's opportunistic behavior.

Figure 1 shows the proposed comprehensive framework of providers' risks and its mitigators.

Figure 1: A Proposed Risks and Risk Mitigation Framework

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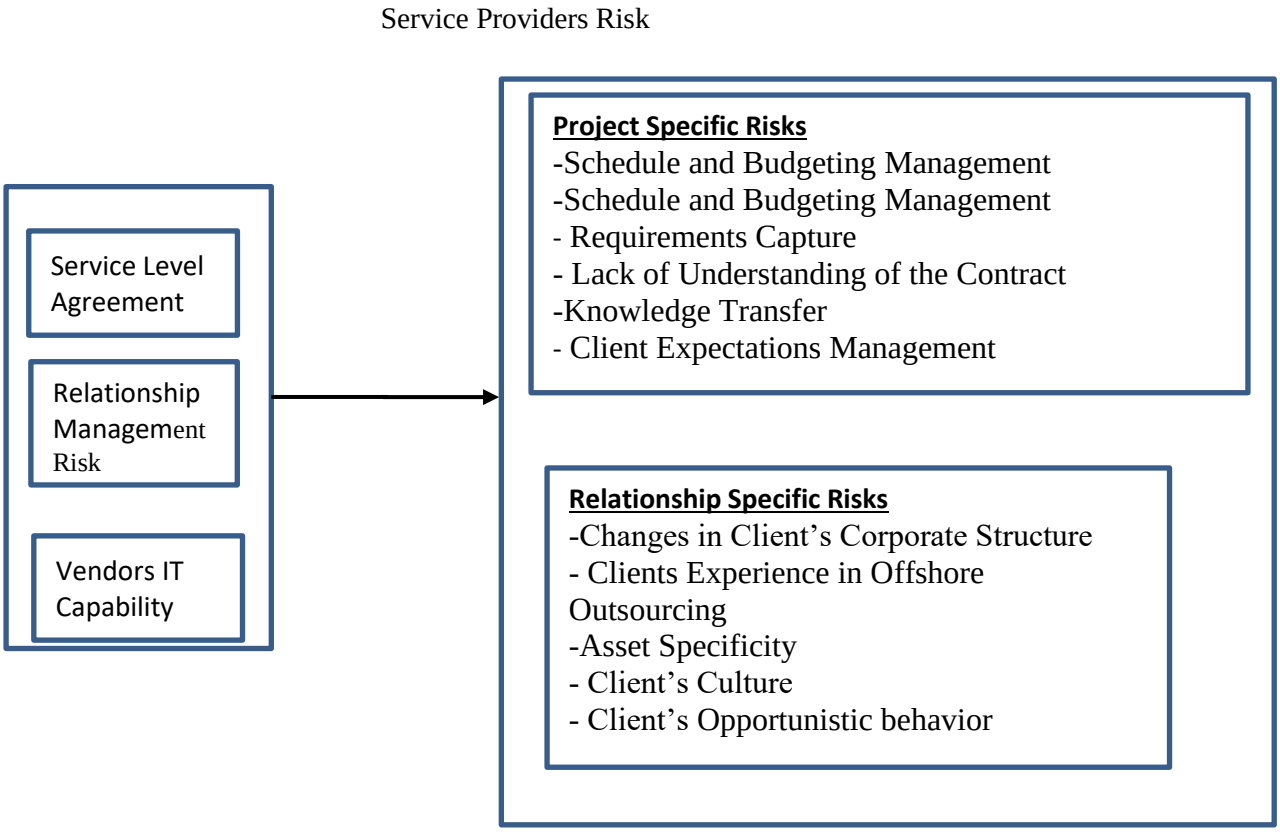

4.3 4.3 Moderating variables

Size of the client, size and type of the project, prevalence of competition, nature of contract, and relationship maturity are identified as moderating variable in this research. This research modifies the interaction variables as suggested by Aundhe (2009) and adds some new factors. While, in Aunhe's study, size of client was regarded as a risk factor for the vendor, this research regards it as a moderating variable. The degree of risks, whether project-specific or relationship-specific, can be influenced by these variables. For example: provider's risk is lower with larger client than the smaller client as larger client generally has more organized information sharing methods. Providers find it easy to understand the client, their project and can capture requirement effectively and can build trust worthy relationship (Shamim ,2022).

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4.4 4.4 Risks Mitigators in OITO relationship

To eliminate the sources of provider's risks identified earlier, this research proposes a set of risk management techniques namely, service level agreement, relationship management, and provider's IT capability.

4.4.1 Service level agreement

Controlling the risk of opportunistic behavior of client is important and the contract theory highlights this pressing need (Poppo and Zenger, 2002). A key determinant of outsourcing project success is a "well-designed contract, whose clauses should specify service levels that are sustained during unspecified periods" (Mao, 2008). Due to exposure to multiple legal systems, OTIO requires a sound legal framework to protect data and intellectual property rights (IPR), which can safeguard parties involved in offshore IT outsourcing.

Service-level agreement is a means of control to protect the weaker partner in any partnership relation. It ensures that their goals are reached (He et al, 2007). Continuous monitoring of client's behavior and performance is another informal way to mitigate opportunism.

Conformity of the outsourcing contracts with the local legislations is essential to avoid future legal complications. Contracting parties must ensure such conformity. The sensitization in this respect needs to start from the beginning of the negotiations process. All concerned managerial staffs/ executives from both parties need to remain engaged in the negotiation process and the terms and conditions of the contract need to be made clear to all decision makers.

4.4.2 4.4.2: Relationship Management

Contracts can never completely forecast every future task alone and are not sufficient to eliminate opportunistic behavior, and are often ineffective in unexpected situations. Therefore, relational governance is used to complement contract management (Poppo and Zenger , 2002); Goo et al., (2009).

Majority of the outsourcing literatures have been preoccupied with the relational governance and on the effects of relational governance with the relationship quality on IT outsourcing success. Here, relational governance includes, behaviors based on trust and commitment, information exchange and collaboration. (Lee et al., 2004; Raman, et al., 2013).

Trust based relationship is developed when both parties are intimately coupled by frequent interaction and exchange of relevant information. Mao (2012) empirically confirms that client's willingness to share information with the provider has a strong positive impact on provider's trust on client of an OITO project. Providers trust their clients more when clients are more open, and flexible to share domain knowledge and process information.

Proper study of the complexity of the process that is to be outsourced is basic to a successful relationship. Difference in cultures of the clients and vendors need close examination to assess the impact of outsourcing on people with different cultural background. Depending upon such assessments, multi-cultural sensitization programs may be undertaken for both client and provider to reduce cultural gap and improve harmonization and coherence. Having global mind set essentially improve manager's capability to adopt in diverse cultural context.

Initiatives such as -arranging symposium in regular basis to address and discuss real issues facing the managers of both parties. This practice increases the likely hood of mutual cooperation, collaboration and decreases partners opportunistic behavior. Finally it helps to maintain and develop quality partnership with the clients. One IT service delivery director mentioned that

"*These symposia illustrate our general pro-active mode. We actively offer value propositions that will improve their business*" (collected from the case study conducted by Beulen, 2003)

4.4.3 Provider's IT capability

For ITO success, vendors must have IT competence or capability. (Levina and Ross, 2003; Han et. al, 2011). The outsourcing success is significantly influenced by the complementarity between client and vendor IT capabilities. When the capability levels of both parties are similar, the complementarity is higher. The opposite is true for parties with different capability level. Han, et al. (2013). The probabilistic approach is generally used as an assessment of risk but it was found that individual knowledge, experience and intuitive judgment provide better assessment of risk (Samantra et al, 2014). As risk assessment is the pre-requisite for risk management, providers IT capability can help assess risks and can help take action plan.

Vendor's IT capability is essential to design and manage client's outsourced IT projects and is pivotal for vendor firm to raise its bargaining power and forge effective workable partnership with clients, thus minimizing the risks associated with outsourcing contracts.

IT capability includes both personnel capability and methodological capability (Han et al., 2013). Personnel of vendor firm should have core technical knowledge necessary to conduct the outsourced project, should know a methodology to conduct it, have competent technical skills and ability to apply appropriate technologies to the project. The vendor company should also have the capability to perform tasks with systematic methods, use methodologies that are widely acceptable, have standardized processes to generate project outputs, use area experts to solve project related problems, and have a well-developed systematic education and training system for project team members.

5 Conclusion and Implications

This paper is conceptual in nature and presents a risk and its mitigators framework for OITO providers. Using a qualitative approach, this research amalgamate insights from past literature, published cases and documents, in order to provide a broader view of the risks that service providers on OITO have often faced. Those risks have been categorized into two broad groups- project-specific risks, and relationship-specific risks. The analysis also reveals some moderating variables such as size of the client, size and type of the project, prevalence of competition, nature of contract, and relationship maturity because they influence the degree of risks- project specific or relationship specific. A range of control variable is also suggested. Finally, this study not only investigates the risk factors but also various risk mitigation strategies have suggested.

While this research has not developed any formal proposition or mathematical model, future research could benefit from the formalization of provider's risk framework and risk management techniques to formulate proposition and to build a broader theoretical model. Drawing on these factors, it would be fruitful to look at the literature on OITO as well as client-vendor partnership in supply chain management. The insights that are generated through this qualitative synthesis of the literature will be valuable to the managers in the field of

offshore IT outsourcing. Understanding the probable risks will help provider firm's managers develop risk mitigation plan. The risk mitigators suggested in the study will guide them setting effective strategy while developing service level agreement. Several risk management technique discussed here will give managers an insight to how to successfully deal with OITO clients. Finally, as research pertaining to OITO continues to increase, it is expected this research sets the groundwork for further theoretical and empirical research.

6 Limitations and Suggestions for Future research

As with any quantitative synthesis, this study is constrained by the nature and scope of the source studies on which it is based (Hedges and Olkin 1985; Hunter and Schmidt 1990). Due to the adequacy and unavailability of the correrelational data in the source studies, this study could not report any validated correlation among variables. Again, it is observed that the original studies are cross-sectional in nature and thus it limits ability to make causal inferences.

The proposed framework opens an avenue for future researchers to empirically validate this work. It will be interesting to conduct more case studies and cross cultural studies to investigate the gap in clients and vendors perspective on OITO risk. A longitudinal research can be conducted to understand the causal relationship among the variables identified in this study.

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