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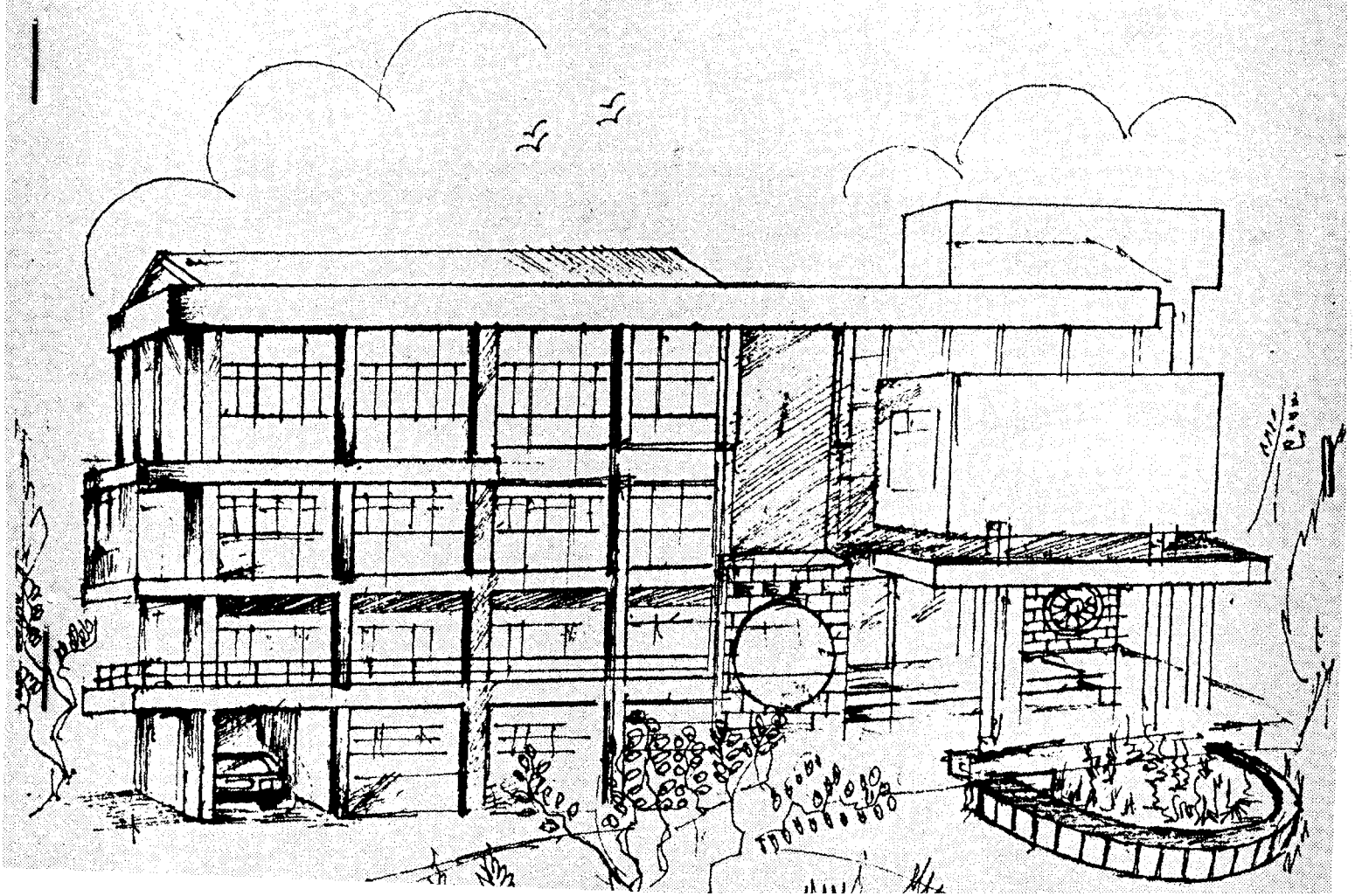
Countering Behavioural Risks in Offshore Software Development through Relationship



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Countering Behavioural Risks in Offshore Software Development through Relationship

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Firm level risks in offshore software development could be broadly classified into *ex ante* and *ex post* risks though the former would influence the latter as delayed negative outcomes. Our research focuses on the *ex post* risks of firms in offshoring of software development. The risks and their drivers have been identified based on established economic and social theories. We identify shirking, service provider lock-in, and loss of control over information assets as the categories of risks *ex post*. The drivers of shirking risk comprise of perceived effort incentive gap, limited observability and contract inadequacy. Service provider lock-in risk has two major causes: client's relationship specific investments and scarcity of service providers. In addition to limited observability and contract inadequacy, we identify IP vulnerability and competitors in service provider's clientele as the sources of risk for loss of control over information assets. Further, we posit that relationship serves as a mitigating dimension for *ex post* risks. The relationship constructs risks and benefit sharing and client's experience mitigates the shirking risk, service provider's dependence mitigates the risk of service provider lock-in, and service provider's credibility and service provider's benevolence mitigates loss of control over information assets.

Key Words: offshore software development, risk, mitigation, relationship, outsourcing

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Introduction

The global marketplace of Offshore Software Development (OSD) is growing. Offshore application development and maintenance had a double digit growth globally during 2002-2007 and wage advantage is estimated to continue for another 20 years [18]. Despite the steady growth and compelling business cases, OSD apparently entails significant risks. From the close proximities of the organization where line managers once enjoyed 'management by walking around', the development activity now shifts to a distant country with distinct culture, polity, salary levels, and time zones. Many challenges stem from these differences, often in unexpected ways. The differences in work styles, interests and expectations of stakeholders at offshore and onshore sites of OSD complicate the task and trigger risks [17].

The growth in offshore outsourcing of software and services necessitates understanding of risks and their effective mitigation critically important. The global delivery model of software development follows a geographically distributed project management structure. This paradigm shift in OSD, while promising significant productivity advantages such as access to global resources, speeding up development by leveraging time zone differences, etc, simultaneously spawns a different set of risks to clients and service providers.
Practicing managers often conduct due diligence during contracting to safeguard organizational interests. However the best efforts in contract design and monitoring are not sufficient to ensure control over OSD projects. Some studies have demonstrated how psychological contract supported by trust could effectively complement written contracts in outsourcing [23]. Here relationship between the client and the service provider act as a defining dimension to influence vendor behaviour to mitigate risks.

Previous research in outsourcing risks focuses on either risks in business process outsourcing [1] or IT outsourcing in particular [2]. However, risks have different antecedents in different outsourced services and thus they entail more service specific treatment. For example, an outsourced service like customized software development is a project based activity and the contract is based on a requirements document whereas remote infrastructure management involves continuous monitoring based on agreed upon

service levels [4]. These two contexts would involve different sources of risks to the client. This necessitates separate treatment of risks in outsourcing based on type of service.

This paper provides a comprehensive understanding of offshore software development risks and subsequently builds a relationship based mitigation strategy for behavioural risks. We conducted 24 interviews during 2006 to 2008, involving senior executives of five US clients who engage third party vendors or captive centers in India for OSD, and six Indian IT vendors who engage in OSD with US and European clients. Based on the interview data we classified OSD risks, studied the antecedents of behavioral risks and how relationship could mitigate behavioural risks in OSD landscape. Following an exploratory-descriptive method based on cases we also compared our findings with relevant formal theories.

Data and Methods

We conducted interviews with senior executives of US clients and Indian vendors. We used a combination of structured and open ended questions during our interviews with vendor executives. All vendor executives allowed us to audio tape the interviews which were transcribed later.

ENGAGEMENT TYPE	NO OF EMPLOYEES	COUNTRY
ISV with *ODC in India	120	USA
Electrical product company with offshore partner in India	---	USA
**ISV with *ODC in India	1450	USA
**ISV with *ODC in India	100	USA
Financial services firm having OSD with Indian IT vendor	4000	USA
IT Vendor with US clients	1500	India
IT Vendor with US and European clients	3400	India
IT Vendor with US and European clients	2400	India
IT Vendor with US clients	400	India
IT Vendor with US clients	500	India
IT Vendor with global clientele	55000	India

During the course of interviews we discussed different emerging themes (risks) and subsequently re-framed our questions to draw more insights on the themes. Table 1 describes the details of the organizations we conducted our interviews and Table 2 provides information about the respondents.

We drew concepts from Transaction Cost Economics (TCE) and Agency Theory to develop our questions to client executives.

Table 1: Characteristics of participating organizations
* ODC: Offshore Development Center
** ISV: Independent Software Vendor

As we were not allowed to audio tape client interviews, we took notes during the interview process. In addition to structured questions, we employed follow up questions telephonically seeking clarifications and sometimes examples.

Based on the themes emerged by analysing interview data gathered from vendors and clients, we applied TCE and Agency Theory to categorize the different risks (Table 3). Formal theories were also used in eliciting the relationships among risk categories, their antecedents and the relationship dimension. Prior researchers have also followed similar discovery oriented approach followed by formal theories [21] and comparison with extant literature [25].

POSITION	INTERVIEWS
Chief Executive Officer/ Executive Director	5
Senior Vice President/Executive Vice President	4
IT Director, Vice President, General Manager	6
Asst. Vice President	2
Program Manager, Senior Manager	3
Project Manager, Operations Manager	3
Manager (Contracts)	1

Table 2: Positions of interview participants

Taxonomy of Risks in OSD

Definition of risk varies with disciplines. A general understanding of risk exposure in IS literature encapsulates a negative outcome or loss, and the probability of occurrence of that negative outcome [3, 5]. In our study we define risk as any threat that could lead to a negative or unsatisfactory outcome. The scope of this research excludes an objective assessment of any risk, but seeks to identify and classify risks and examine how relationship constructs could impact root causes of some risks. Instead of taking project failure or relationship failure as one complex risk category inclusive of all negative outcomes [3, 5] we classify OSD risks into distinct categories. This approach simplifies understanding and provides more insights for developing mitigation strategy.

Transaction Cost Economics (TCE) and Agency Theory provide the concepts of bounded rationality, information asymmetry and opportunism [10, 26] which enable us to categorize OSD risks as emerging from the client's bounded rationality, from the vendor's opportunistic behaviour, or from the information asymmetry in the exchange relationship. TCE also classifies transaction costs into two time frames of *ex ante* and *ex post* [26].

Thinking through these time frames, client-side risks- i.e. client risks originating from client-side, mainly consist of decision outcomes of the client due to limited cognitive competence of decision makers *ex ante*. Vendor-side risks- i.e. client risks originating from vendor-side, involve adverse selection *ex ante* and moral hazard *ex post* [10, 26]. We also found that some risks arise out of client-vendor interactions where information asymmetry, clients' bounded rationality and vendor opportunism jointly play a role.

Risk category	**Time frame**	**Major risks**	**Description**
Risks originating from client decisions	*Ex ante*	▪ country risk ▪ adverse government policy ▪ poor IT infrastructure, ▪ poor quality and availability of human capital	These risks arise from deficient offshoring decision process *ex ante* and environmental uncertainty

Risks originating from client-vendor interactions	*Ex ante*	▪ vendor selection risk	This risk could be due to either or both vendor's misrepresentation of their capability and client's incompetence to assess vendor credibility
Risks originating from client's poor offshoring governance	*Ex post*	▪ loss of competence ▪ transition delays	These risks are caused by poor oversight and governance structures to monitor and control organizational interests while offshoring
Risks originating from vendor firm's instability	*Ex post*	▪ attrition	This risk arise from vendor's instability due to loss of key personnel or other resources
Risks originating from vendor behaviour	*Ex post*	▪ shirking ▪ misappropriation of information assets ▪ service provider lock-in	These are risks arising from vendor behaviour characterized by opportunism

Table 3: Client risks classification in OSD

Ex ante risks could be understood by analyzing the hierarchical structure of decisions on offshoring of development task, country, service provider, location and performance management [14, 22]. Since each decision prior to contract is made under limited information about future, judgmental errors could trigger some risks. Risks which are outcomes of such strategic decisions involve various aspects of risks pertaining to

country, government policy, and quality and availability of infrastructure and human capital [14]. In addition, vendor selection risk due to poor choice made under limited knowledge about the vendor's capability could also surface. This risk could also be due to vendor opportunism by misrepresenting information to win a deal [10]. Hence vendor selection risk has been classified under *ex ante* client-vendor interactional category of risks (Table 3).

The post contract time frame has a higher potential for goal conflict and vendor opportunism. During this period the client has already incurred a switching cost. Further, close monitoring of the behaviour of a distant vendor is often prohibitively impractical. Such vendor-side risks involve delivering less than acceptable product while claiming same payment (shirking), negotiation for more money and wallet share due to client's dependence (lock-in), deliberate actions to increase client's switching costs and misappropriation of client's information assets. The IT department of the client might also not attain expertise on the application developed, leading to external dependence and loss of IT competence long term. Other OSD risks *ex post* include vendor-side attrition and high transition cost.

Further in this paper we focus intently on risks arising out of vendor behaviour. The choice of behavioural risks alone for further analysis is because (1) each category of risk identified would require separate treatment for understanding antecedents and developing mitigation strategy (2) distinct from the dominant focus of outsourcing research on comprehensive contracts to mitigate risks, behavioural risks in offshoring calls for a different approach (3) based on the principles of social exchange, an outsourcing firm could alter the behaviour of its partner by controlling its own behaviour [19].

Nurturing relationship- building firewall for OSD

Much attention in the outsourcing literature has focused on the importance of comprehensive contracts. Contractual due diligence is indeed a critical precursor to successful OSD. For example, a prudent selection of fixed price and time and materials contract based on requirements uncertainty could mitigate project level risks to some

extent [7, 13]. However legal contracts alone are often an insufficient mechanism to ensure OSD success as several recent high profile failures of OSD have shown [9, 11]

Inter-organizational studies show that relationship plays an important role in mitigating firm level risks. The political economy of buyer supplier relationship in IT outsourcing consists of an economic system (economy) and a sociopolitical system (polity) which jointly influence the behaviour of the joint entity [24]. Studies on marketing channels show that potential risks due to supplier opportunism could be controlled through a relationship strategy [12].

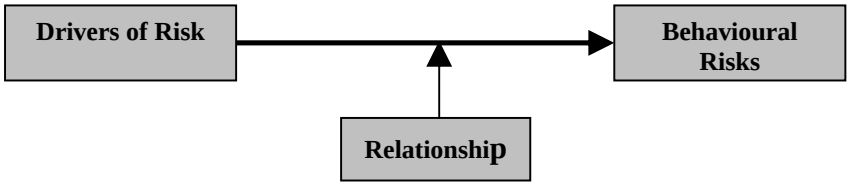

Figure 1: Mitigation of behavioural risks through relationship

Developing strong vendor relationships is particularly crucial in software development where requirements of the final product cannot be correctly and completely documented in advance. Relationship embeds the spirit of the contract in unwritten and unspecified form, similar to how individuals relate in social exchanges with unspecified obligations. In OSD, relationship is critically important to keep the outsourcing arrangement on track and the participating groups to effectively exchange information. Some OSD projects have proven to be successful by solely relying on relationship while ignoring a written contract [23]. Though such cases may not guide an offshoring strategy, it motivates us to further examine how relationship moderates risks in OSD, with particular attention to risks caused by vendor's opportunistic behaviour.

As depicted in Figure 1, each risk is driven by certain basic contextual factors. In the following discussion, we analyze our interview data based on the aforementioned theories to trace the drivers of behavioural risks and the moderating effects of client-vendor relationship.

Behavioural risks, drivers and relationship

A general conception of risk exposure in information systems embodies a negative outcome or loss, and the probability of occurrence of that negative outcome [3, 5]. In this paper we define risk as any threat that could lead to a negative or unsatisfactory outcome for the client firm. This definition of risk aligns with the understanding of *uncertainty factor* in some IS literature [3, 5].

Shirking

Obviously every year we ask for renewal of rates; it might or might not work out. One way we have learnt to manage it is that we kind of solve it on our own…… The fresher builds up the gap and the customer does not perceive the difference because he was already there in the team for one or two years .So my cost here is balanced out because I have replaced the experienced guy with a lower cost resource, and even if I don't get a rise [in billing rate] I manage the cost. Second I have taken that [experienced] person who has been on the team into a new customer where I am negotiating contract today and getting current market price for them.

(An Indian IT vendor's senior executive, words in brackets added)

The above reflection represents shirking behaviour in OSD where a vendor deliberately delivers a product, service or resource inferior than promised, but claims the reward for what was promised in contract [1]. This 'self interest with guile' behaviour is an obvious case of a moral hazard problem in Agency Theory [10].

Shirking is a behavioural problem exhibited by third party vendors when they know that the client can't afford to monitor their actions. In offshore projects shirking behaviour could become more visible after the service provider builds some confidence in the client. Analysis of our interview data based on agency theory and transaction cost economics point to three drivers for this risk: perceived effort incentive gap, limited observability, and contract inadequacy. Therefore, a relationship strategy to mitigate the risk of shirking must be focused to counter these causes.

Countering shirking through relationship strategy

As noted in the comment cited above, it is not uncommon for service providers to attempt to withdraw key personnel from an engagement when they perceive that the project is heading toward a loss. The *perceived effort incentive gap* which involves a sense of loss or less than expected profit in an ongoing engagement is a potential driver of shirking risk. Here there is a conflict in goals between the client and the vendor, which forms the fundamental cause of shirking behaviour. In OSD, pricing structure of contract could transfer risk to the service provider leading to their economic disadvantage, especially in fixed price contracts involving requirements uncertainty [13] which could also exacerbate shirking behaviour.

Further, in OSD involving third party vendors located thousands of miles away, physical monitoring of vendor actions is prohibitively expensive and often impractical. The ability of the client to monitor the alignment of vendor actions to their interests is limited. This *limited observability* resulting in information asymmetry is another cause of shirking risk. Though leading service providers offer web based monitoring tools to build client confidence by facilitating online project performance monitoring [16], it is difficult to monitor vendor actions especially when their motivation is to reduce perceived loss.

Contracts are written based on past experience and the future is seldom an exact replica of the past. Contractual terms are also subject to variations in interpretations. In real life, uncertainties creep in, especially when software code is written for applications, whose business domain is subject to market forces. C*ontract inadequacy* or the limitation of contracts to completely and correctly specify all possible terms and conditions with respect to scope, cost and time of software projects, enables a service provider to opportunistically interpret the service terms and performance aspects in their favour.

Risks and benefits sharing characterize partnerships with matured relationships [20]. Such relationships recognize the mutuality of obligations and unwritten promises. Since shirking risk is driven by perceived effort-incentive gap, the extent of risks and benefit sharing could serve to mitigate this risk.. For example the client in a risk and benefit sharing relationship would ensure that a given deal would give a reasonable profit to the vendor. Here the client is adjusting its behaviour to safeguard against the likely

opportunistic behaviour of the vendor [19]. Further, the span of experience of the client in offshore relationship with the vendor is an important factor in managing outsourcing relationship. Since a more experienced client would know how to conduct good contractual due diligence and build sound monitoring mechanisms, client's experience in the relationship would also have a mitigating effect on the risk of shirking.

Misappropriation of information assets

Software development is not about operating a machine to produce a mechanical part with separate, clear and complete specifications- on the other hand, it involves intense information exchange from beginning to end. A service provider involved in a turn key software development project could understand the functional requirements of the software only by a detailed study of the client's business processes. However this business knowledge which tacitly registers into an offshore providers' knowledge base also increases the vulnerability of such information assets [8]. This risk involves the inability of the client to be in charge of its business critical information assets which the vendor is admitted to access.

"We retain thought leadership of the product under development. The offshore vendor would not know about the whole product. They get access only to some low hanging fruits." (The IT Director of a US based Independent Software Vendor)

The above diligence speaks of the significant threat of loss of control over information assets perceived by a diligent IT Director. Smart managers conduct contractual due diligence to set apart providers key personnel for exclusive service for two years or more. Client's loss of control over outflow of information assets stems from its inability to observe all external communications of the service provider (*limited observability*) and control every IP infringement behaviour of the service provider through contractual provisions (*contract inadequacy*). Further drivers of this risk involve *IP vulnerability* and *competitors in service provider's clientele*.

Protecting information assets- the trust factor

In the quest for offshore advantage, a client goes out of its country's geographical boundaries to a service provider governed by another country's political and legal environment. Often times the offshore nation might have outdated IP laws and lack of cultural and political will to enforce IP protection laws. This situation of IP vulnerability could lead to vendor behaviour involving poaching of information assets. The loss of software source code through employees in offshore nations in the case of Jolly Technologies in India and Alibre Inc. in Russia serve as supporting cases for IP vulnerability leading to loss of information assets [11]. In the case involving Jolly Technologies, the law enforcement agencies refused to investigate the case, citing lack of evidence. IP vulnerability of this kind arises as laws against trade secret misappropriation are not strictly enforced and often not treated with due severity in many countries outside of US.

The presence of potential rivals in the client base of the vendor is another cause for loss of control over information assets. Firms often select a service provider based on its prior experience in working with similar clients. Despite having contractual provisions, the service provider could oblige the client's competitor by sharing information assets of the client, especially when the competitor has complementary information to develop competing products [8].

Trust is an important constituent of relational exchange. Since social exchanges, unlike economic exchanges, involve unspecified obligations, trust is fundamental to its nourishment. Trust, constituted by credibility and benevolence [12] serves to mitigate the risk of opportunism due to uncertainty and dependence asymmetry. Vendor credibility involves the trajectory of satisfaction, reputation and the specific vendor investments made in the relationship. In offshore outsourcing relationships involving exchange of information assets, the credibility of the service provider would enable the client to confide on the service provider.

A client could also develop trust based on the perceived motives and intentions of the service provider even when perfect antecedents of credibility do not exist [12]. Such benevolence of the vendor based on past outcomes, experience and investments of the service provider enable the client to trust that the partner would act in the best interest of the client, and not just on their own. Today service providers are competing to win the confidence of clients to engage in long term partnerships. As already discussed, their senior executives conceive striking repeat projects, not just one project's profit, as their success in outsourcing. As such, benevolence of the service provider could serve to mitigate the risk of loss of control over information assets. While this must be collectively true about the vendor, individual employees could behave against the organizational interests -such possibilities exist with client's employees as well.

Service provider lock-in

They [customer] wanted to retain their key people [such as systems architects]. Bu we refused to allow that and insisted that it [key IT staff of the customer] comes as a package [to the vendor through outsourcing arrangement]. If they break this contract [by not transferring key people to vendor] they need to pay us so much cost. This was put in the contract. We talked about it and they [customer] allowed the architect also to go with us. (Indian IT vendor's senior executive, words in brackets added)

The above scenario was recalled by an IT vendor's senior executive while reflecting on the tensions during contract negotiation and the service provider's insistence to carry the client's key IT staff. Experienced service providers try to get the key personnel of the client on their side to effectively work with client in a long term relationship. However, movement of key personnel comes at a cost for the client. It results in dependence imbalance and increases the future bargaining power of the service provider. General Motor's multi-vendor IT outsourcing decision in June 2006 broke the 10 year old single vendor contract it had with EDS. The background information on GM-EDS relationship alludes to a higher cost EDS charged on GM [9]. However EDS still won the major part of the multi-vendor IT outsourcing arrangement. This brought to light GM's prohibitively high switching costs due to its dependence on EDS during the 10 year's of strategic IT

partnership. Such cases have made many clients wise enough to engage multiple partners in outsourcing.

Service provider lock-in is a condition in inter-organizational relations when power shifts asymmetrically to one party involved in the exchange. In IT outsourcing, lock-in sometimes manifests in the form of hidden costs which the service provider discloses and negotiates *ex post*. Offshore service providers consider long term engagement with US clients as very important to their firms' future business. All service provider representatives interviewed in our study deem repeat order from the client, rather than financial success of the ongoing project, as the success factor of their individual performance. This alludes to the incentive of the IT vendor's offshore staff for engaging in bonding behaviour to create switching costs for the clients. TCE and social exchange theories enable us to trace the drivers of this risk to client's relationship specific investments and scarcity of service providers.

Dependence balancing to offset lock-in

Relationship specific investments, also known as 'asset specificity' in TCE, increase supplier power through asymmetric dependence. *Client's relationship specific investments* in the form of software, networks, specialized personnel etc. in offshore relationships could lead to the risk of service provider lock-in. For example, an expensive network infrastructure installed at the client's expense to exclusively connect to an offshore vendor entails switching cost for the client.

Lack of availability of service providers is another reason for service provider lock-in. A vendor could turn opportunistic from knowing client's helplessness to bring in similar alternate vendors. Such situations could arise when the type of service provided by the vendor is highly specialized and the vendor enjoys rare resources specific to that service. Thus vendor attractiveness due to vertical specialization could carry this hidden risk as well.

In OSD, clients who make relationship specific investments often insist that service providers share the cost or make similar investments in the form personnel, networks etc. specific to the relationship. Such prudence in relationship management is supported by research findings from other business functions. For example, marketing channel research has shown that while asymmetry in power and dependence in channels negatively affects trust, investments on dependence balancing through offsetting investments guards against opportunism [15].

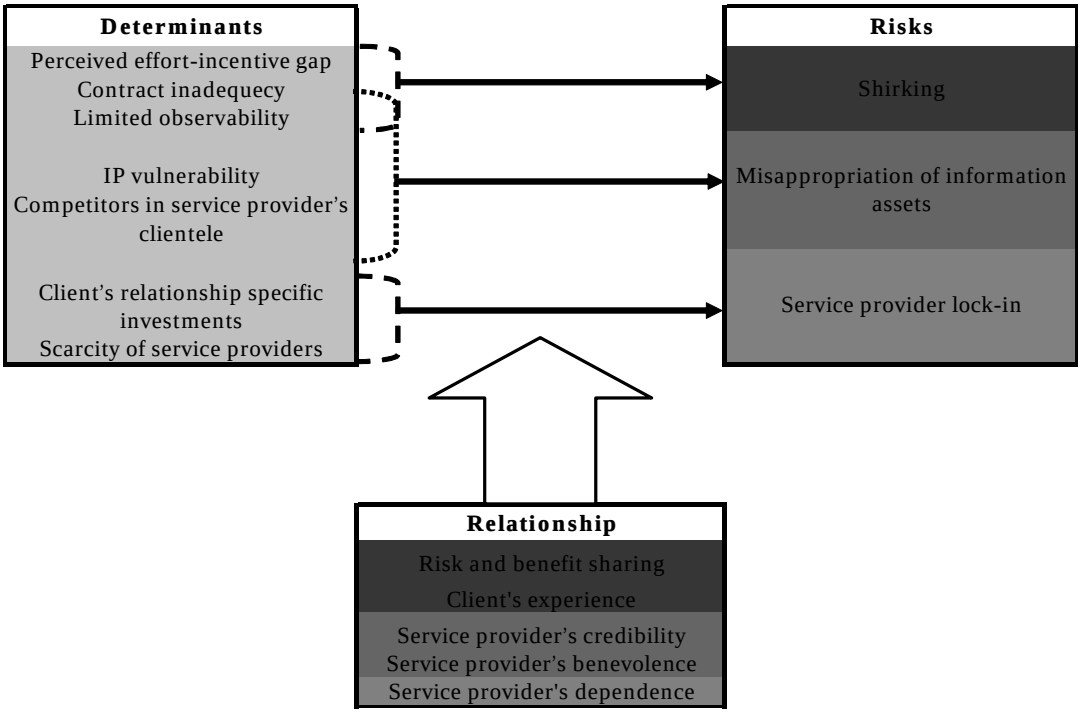

Figure 2: Relationship effect on behavioural risks

Conclusion

The discussion and contributions of this paper have been centered around two important themes: (1) identification and categorization of risks in OSD. (2) Development of a mitigation strategy for risks emerging from vendor behavior. Since offshore development involves working from different time zones, cultures, legal environments etc., OSD risk management is much more complex than traditional project level risk management in software development. Taking a firm level view, we identified and categorized OSD risks

based on personal interviews conducted at senior executive level in client and vendor countries. The risk categories would provide valuable insights for clients in understanding, evaluating and developing mitigation strategies for risks *ex ante* and *ex post*. These findings would also help service providers to be sensitized about client concerns and move towards more mutually beneficial contractual arrangements and behavioural approaches.

Our analysis show that risks emerging from vendor's opportunistic behaviour could be effectively managed through a relationship strategy aimed to persuade the partner firm to behave in the best interest of the relationship. Constructs of relationship could thus serve to complement other methods of risk mitigation such as project modularization and distribution to multiple partners, monitoring performance through web based tools, and provision of penalty clauses in the contract.

References

1. ARON R, CLEMONS E K and REDDI S (2005) Just right outsourcing: understanding and managing risk. *Journal of Management Information Systems* 22 (2), 37-55.

2. AUBERT B A, PARTY M and RIVARD S (2005) A framework for information technology outsourcing risk management, *The Data Base for Advances in Information Systems* 36(4), 9-28

3. BARKI H, RIVARD S and TALBOT J (1993) Toward an assessment of software project risk. *Journal of Management Information Systems* 10(2), 203-225

4. BEULEN E FENEMA P V and CURRIE W (2005) From application outsourcing to infrastructure management: extending the offshore outsourcing service portfolio. *European Management Journal*, 23(2), 133-134

5. BOEHM B W and ROSS R (1989) **Theory-W software project management principles and examples, *IEEE Transactions on Software Engineering,*** 15(7)

6. CARMEL E and TJIA A (2005) *Offshoring information technology, sourcing and outsourcing to a global workforce*. Cambridge University Press, Cambridge, UK

7. CHEN Y and BHARADWAJ A (forthcoming) An Empirical Analysis of IT Outsourcing Contract Structures. *Information Systems Research*

8. CLEMONS E K and HITT L M (2007) Poaching and the misappropriation of information: transaction risks of information exchange, *Journal of Management Information Systems*. 21(2), 87-107

9. DIGNAN L (2005) GM's Bitter Pill, *Baseline*, 19-20

10. EISENHARDT K M (1989) Agency theory: an assessment and review**,** *The Academy of Management Review* 14(1), 57-74.

11. FRANK S J (2005) Source out, risk in. *IEEE Spectrum*.

12. GANESAN S (1994) Determinants of long-term orientation in buyer-seller relationships. *Journal of Marketing*. 58(2), 1-19

13. GOPAL A, SIVARAMAKRISHNAN K, KRISHNAN M S and MUKOPADHYAYA T (2003) Contracts in offshore software development: an empirical study. *Management Science* 49(12), 1671-1683

14. GRAF M and MUDAMBI S M (2005) The outsourcing of IT enabled business processes: a conceptual model of the location decision. *Journal of International Management*, 11(2), 253-268

15. HEIDE J B and JOHN G (1998) The role of dependence balancing in safeguarding transaction-specific assets in conventional channels. *Journal of Marketing*. 52(1), 20-35.

16. K@W 92005), Reining in outsourcing risk. *Knowledge@Wharton*

17. KAISER K M and HAWK S (2004) Evolution of offshore software development: from outsourcing to cosourcing. *MIS Quarterly Executive* 3(2), 69-81.

18. KEARNEY A. T (2008) Offshoring for long tern advantage, www.atkearney.com/res/shared/pdf/GSLI_2007.pdf (accessed February 18, 2008)

19. KERN T and WILLCOCKS L P (2001) *The Relationship Advantage.* Oxford University Press Inc.,New York

20. LEE J and KIM Y (1999) Effect of partnership quality in IS outsourcing success: conceptual framework and empirical investigation. *Journal of Management Information Systems* 15(4), 29-61

21. Levina N and Ross J (2003) From the vendor's perspective, exploring the value proposition in information technology outsourcing. *MIS Quarterly*, 27 **(**3), 331-364

22. MATHEW S K (2006) Understanding risk in IT outsourcing, a fuzzy framework. *Journal of Information Technology Cases and Application Research (JITCA)*, 8 (3)

23. SABHERWAL R (1999) The role of trust in outsourced IS development projects. *Communications of the ACM*. 42 (2), 80-86

24. STERN L W and REVE T (1980) Distribution channels as political economies. *Journal of Marketing*. 44 (3), 52-64.

25. TULI K R KOHLI A K. and BHARADWAJ S (2007), S. Rethinking customer solutions: from product bundles to relational processes Journal of Marketing, 71 (3), 1-17

26. WILLIAMSON O E (1985) *The economic institutions of capitalism*. Free Press, New York