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Abstract

Offshore outsourcing across the world has triggered a new social structure in the way global businesses operate, resulting in emerging virtual social spaces between clients and vendors. These social structures involve understanding of cultural connections over space and time through telecommunication networks, as knowledge intensive tasks are being realized across national boundaries. Clients and vendors belonging to diverse cultures are required to take measures to build trust in relationships for sustained professional success. This paper looks at the trust building practice and experience of four small and medium sized software vendor organizations based in New Zealand and India. The case study data reveals how vendors are sensitized to client apprehensions in sharing knowledge across virtual social spaces. Some practices identified are face-to-face communication to bring visibility of social cue codes, documentation as a common thread of control, international accreditations to build reputations, and use of integrated groupware solutions with privileges for both clients and vendors. A 'trust curve' model is proposed to show the trust building process taking visibility factors as determinants of trust.

Keywords

Virtual social spaces, offshore outsourcing, relationship building, trust, visibility attributes

Introduction

The maturity of information and communications technology has reduced the cost of global communication drastically, allowing relatively small companies to establish business relationships across diverse spatial, temporal and cultural domains. The exchange of knowledge is spread across large and small businesses, and rich and poor economic geographies, as different cultures collaborate in the growing international knowledge economy. In these virtual social spaces (VSS) different cultural groups of knowledge workers or specialists collaborate over the telecommunications network to achieve a common goal. Knowledge is transferred across the Internet where multi-social cue-codes are being interwoven within the virtual environment.

In this paper we explore the software vendors' perspectives on maintaining a social connection with the client's cultural space to build trust and confidence in the shared virtual space. We ask how offshore vendors belonging to different cultures (in our study, New Zealand and India) build trust in relationships in the virtual environment across organizations and nations. In this context we describe through four case studies how offshore vendors build inter-organizational trust with their overseas clients.

Hurley (2006) states that individuals are basically tribal and self-centred, and so find it easier to trust those who appear similar to themselves, as they can be counted on to act similarly in a given situation. People tend to tally up similarities and differences such as working style, cultural groups, accents, dress code, or even gender within their local visible spaces, before they begin to trust the other party. How then can trust be built in the virtual environment between client and vendor organizations when they are separated by most of these factors?

Recent offshore outsourcing of knowledge work has resulted in new social structures and hybrid working patterns across multiple sites and nationalities creating further new patterns across the VSS. The diversity is expected to increase, with various predictions on the offshore software market presenting a healthy picture of growth, attracting new software vendors. As these new economic spaces dynamically emerge, more theoretical and empirical studies are required to understand clearly the process and to suggest appropriate policy directions for required growth and development (Le Heron & Harrington 2005). "Offshore can provide an invaluable learning opportunity to underscore the value and importance of acceptance of other cultures within the organization" (Gold 2005 p. 13). How are software vendors, sensitized to client apprehensions in accepting diversity and heterogeneity with confidence across the emerging economic spaces to build trust across dissimilarities?

The literature of information systems outsourcing and offshore application development mainly considers a customer or global perspective rather than the offshore software supplier or vendor perspective (RajKumar & Mani 2001). An empirical study across four vendor firms doing major software development work for overseas clients was conducted to understand how software vendors gain the trust and confidence of clients belonging to different national spaces. We aim to address the concern of building trust from the vendor's perspective. The logic here is that in outsourcing operations, a client is more likely to continue with the vendor whom the client trusts; hence it is in the interests of vendors to make every effort to build trust across VSS.

Relationship Management to Build Trust Across Virtual Spaces

Vendors need to build stable and long term relationships within the VSS. Relationships are necessarily bi-directional, affecting both client and vendor at organizational and individual levels, and are associated with business, legal, political, infrastructure, workforce, social, and logistical risks. Minimizing such risks is crucial to both the client (buyer) and the vendor (seller), since both are partners in this exchange, and need to obtain value. Both the client and the vendor contribute through practices adopted for relationship building (Dibbern et al. 2004). The relationship between vendor and client in the organization is a social and political process (Urquhart 1999), but IT professionals have previously been seen as lacking credibility, not in expertise but in relationship building (Bashein & Markus 1997). Vendors are now adding relationship management, organizational change management, and customer advocacy to their portfolio of skills as they deliver customer-intimate enterprise solutions for clients across geographies (Moore & Martorelli 2004). These initiatives refer to the various socio-cultural processes inherent in the process of knowledge transfer, including the manner in which clients and vendors draw upon and apply different forms of explicit-implicit, formal-informal knowledge (Sahay, Nicholson & Krishna 2003) across economic spaces.

Another perspective on building trust is the reputation of the parties involved. Reputation promotes cooperation, by enhancing the probability of carrying out promises, though reputation, being a publicly held opinion, is more ambiguous than trust and is open to manipulation and stereotyping (Misztal 1996). Heeks et al. (2001) identify regular travel and direct meetings as a crucial element in building outsourcing relationships, to help synchronize working patterns between teams. From the client perspective, Rottman and Lacity (2004) emphasize open communication and face-to-face meetings with supplier's employees to build trust and confidence in the relationship. Once the initial relationship has stabilized, it may be extended to include vendor's employees at the client's site to promote understanding of the work under development. They also emphasize other practices, such as: a centralized project management office; hiring of an intermediary consulting firm to serve as a broker, guide and legal expert; choice of country sourcing locations; use of pilot projects to mitigate risks; secure information links; understanding one's own organizational processes with respect to the supplier's processes and negotiating accordingly.

The above mentioned practices affect the vendor too, and they should be aware of the client's perspective on mitigating risk. Successful relationships are termed *synching* involving a high degree of congruence between vendor and client; and unsuccessful relationships are termed *sinking*, when there is a low degree of congruence between the vendor and client (Heeks et al. 2001). Congruence fosters trust between client and vendor, and this trust can progress the relationship to larger, more demanding projects with more offshore components. For the vendor, sustaining *synching* relationships will help in building up their reputation, further increasing their business resilience, and eventually enhancing their market position in the VSS.

Our research proposes a new dimension to the concept of synching, involving a shared frame of reference where both the client and vendor have complete understanding of each other's work habits through shared practices in spite of the virtual relationship.

Research Design

The objective of this research is to understand the importance of socio-cultural aspects of relationships within

the offshore software development processes from a vendor's perspective. The basic research proposition here is that trust building between client and vendor is a necessary condition for sustained professional relationships across virtual social spaces. A qualitative research methodology has been used here for the purposes of analysis and interpretation using a case study approach. This study is concerned with exploration of both social and human problems in the dynamic virtual environment across nations for successful offshore software development, so that a holistic picture may be analysed and reported (Creswell 2002).

We propose a model to provide insight into the development of trust between clients and vendors belonging to different national-cultural domains. Trust is taken as a function of visibility factors over time. An exploratory study was initiated through four case studies to understand, from the vendor's perspective, how client-vendor relationships can be effectively conducted in VSS. Observations and semi-structured interviews were used because they allowed participants to speak with their own voices and control their responses and yet have the space to introduce and reflect on issues that they perceived as relevant (Mishler 1986). Senior managers and developers belonging to these organizations were interviewed to provide insight into their relationship management processes. The participants' stories were analysed across multiple frames of reference, such as vendors' perspectives on relationship strategies across different economic spaces, software practices considered important to creating trust, and the effect of visibility factors or attributes on inter-organizational trust levels. Contextualization of various elements of field interview data helped in categorizing some of the visibility attributes across VSS as determinants of trust (to identify vendor's strategies to build trust). Empirical data is analysed to understand the impact of visibility attributes to build mutual trust across the VSS and is supported by direct quotations from notes and interviews.

Trust Levels

"Trust is related to absence in time and space. There would be no need to trust anyone, neither individuals nor abstract systems, if their activities were visible and easy to understand. So the prime condition for trust is lack of full information" (Giddens 1990 p. 33). Though some lack of visibility across geographical boundaries cannot be avoided, some transparency in information can be brought about by engagement and relationship philosophy and good relationship management skills (Moore & Martorelli 2004). Previous literature has identified practices such as direct ongoing interaction with stakeholders, formal and planned communication, project reviews, synchronized work processes by dispersed teams, integration of new tools and technologies, activation of change management agents, and use of mature software processes through international certifications in building trusting relationships between offshore vendors and clients (Gopal, Mukhopadhyay & Krishnan 2002; Gustavo & Wilson 2005; Jennex & Adelakun 2003; Ptak 2005; RajKumar & Mani 2001; Rottman & Lacity 2006; Sahay, Nicholson & Krishna 2003; Tiwana 2003).

We define trust in business relationships *as the process of accommodating a shared understanding of socio-cultural differences across client-vendor relationships for a larger professional cause.* This definition is drawn from the work of Gidden (1990), and Moore and Martorelli (2004).

Drawing inferences from previous research and empirical data obtained from interviews, a model is proposed here (Figure 1) which shows different levels of trust building process. The horizontal axis shows physical visibility attributes such as reputation, web sites, international certifications and documentation, vendor's portals, direct meetings, documentation and prototypes, integration of tools and technologies, deployment of vendors' employees at client destinations, and a centralized project management office (amongst many other such practices) and their deployment over a period of time. The vertical axis shows four levels of trust. The trust curve (or T-curve) shows the relationship between the visibility attributes and trust level. Time is divided in two broad stages, T_1 and T_2, to indicate distinct phases in the increase in visibility over time, which relate to a change in slope of the T-curve; however this should be considered as a simplification of the time factor.

Two basic assumptions are made; (1) trust can be increased by addressing visibility attributes; (2) business relations do not have a condition of distrust. As long as there is an attempt to build and maintain a relationship, some level of trust is bound to exist at the inception of engagement. However if distrust occurs business relations will be terminated.

We propose four levels of trust as an outcome of various efforts made by vendors to improve visibility and transparency in their relationships with the clients. Some researchers may question the logic behind specifying four levels rather that more or fewer. In practice, in different contexts, two levels may merge together or the T-curve may enter a fifth level, declining when breach of trust occurs. However we propose a generic model with the four levels on the basis of our observations of vendor-client relations and the outcome of informal discussions during the empirical study. The slope of the curve is only indicative of the rate of the trust building process; it is not intended to quantify the trust levels. The T-curve does not have a constant slope; it is steeper in the initial stage (up to T_1) and the slope flattens gradually to eventually become almost horizontal after T_2. The reason for this is that initial efforts to increase visibility have major impacts on trust levels, while the growth rate

slows down gradually with enhanced visibility. Beyond a certain level, where maximum possible information is available, trust does not show any significant impact from further efforts. This relationship is not explained by using mathematical derivation since trust is subjective in nature, hence introducing objectivity does not have much impact on the quality of the proposition. The four trust levels are explained in following sections.

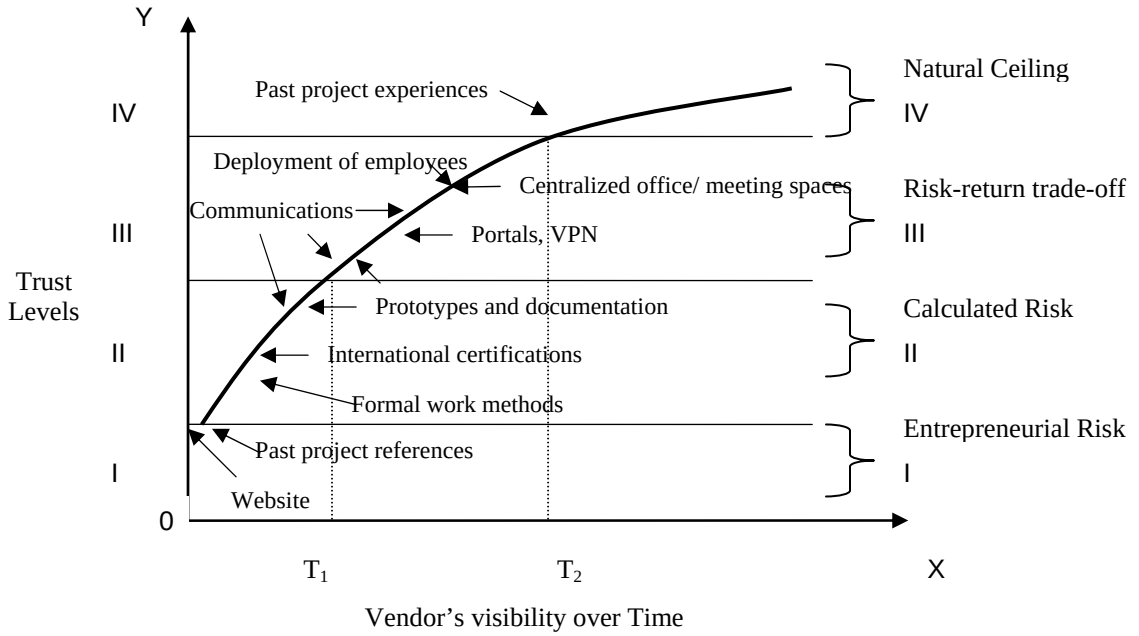

Figure 1: Trust as a Function of Physical Visibility Attributes

Entrepreneurial Risk

Minimal/zero visibility does not imply zero trust. Firstly, some trust exists when people meet each other even for the first time and secondly, as the vendor approaches the client with an offer of service, some visibility is created through background research from corporate websites, references from partners or other clients on earlier projects undertaken. We call this *entrepreneurial risk* on part of both parties because while there is no reason to distrust, there is also little reason to trust. That entrepreneurial risk is taken by offshore outsourcing firms which foresee the opportunity of utilizing information technology to outsource some of their activities. This is trust level I.

Calculated Risk

Ongoing interaction with stakeholders increases physical visibility across VSS, as team members share a meeting place. Exposure of international certifications, prototypes, documentations and formal work methods improve visibility across organizational boundaries. Formal work methods and documentation ensure that both clients and vendors share the same thread of knowledge on the same platform. Such practices, complemented by a degree of senior management involvement, help clients take *calculated risk* on the basis of the face value of the offshore vendors. This in turn will significantly enhance mutual trust (to level II) and the level of risk reduces. The rate of growth is highest during this period because visibility is compared with the limited visibility of the level 1 starting point.

Risk-return Trade-off

Interactions based on common access to collaboration tools, allied with personal contact, bring trust levels to the *risk-return trade-off* stage (trust level III). Both sides exploit different technical, social and cultural situations to build trust in their relationship. Common technological spaces help in reducing clients' apprehensions in sharing their knowledge portfolio with vendors of other nationalities. Here, group software solutions like portals further increase the visibility of offshore components. The interactive nature of blogging over portals moves it from a "broadcast publishing mode to something closer to a conversation or a community-building and coordinating tool" (Herman 2003 p. 20). Thus team members are now immediately aware of any changes made at distributed sites and this further raises the trust level. Deployment of vendor's employees at the clients' site also impacts on trust levels (Rottman & Lacity 2004).

Natural Ceiling

There is an upper limit (level IV) to how far the level of trust between a vendor and client can increase. Beyond this level, any amount of visibility will not bring any significant improvement in trust level. We call this stage the *natural ceiling of trust.* At this stage, each side is aware of other's work practices and each empathizes with the other. Now in spite of the virtual relationship; both the client and vendor are comfortable with each other's work habits in the VSS. At this stage the project too may have expanded to include more offshore components.

Brief Case Descriptions

A field study was undertaken to understand relationship management practices adopted by New Zealand and Indian vendors to compete as destinations for global outsourcing. The study has been conducted on four organizations operating as third party off-shore providers. Care has been taken to disguise the identities of these organizations, with use of pseudonyms to protect the privacy of informants. These organizations will be hereby referred to as NZ1, NZ2, IN1 and IN2.

NZ1 is one of the leading IT services providers in New Zealand having approximately 230 employees. Their main software development centre is in Wellington but they also have another centre in Auckland and an offshore development centre in the United Kingdom. The main offshore client destination market for NZ1 is the United Kingdom, though they have completed many projects in other countries. They have a wide ethnic cultural mix of employees in their organization and feel this has a positive impact on their relationships within the VSS.

NZ2 is a medium sized IT service provider in Auckland with about 20 employees in New Zealand. They have completed many projects for international clients in the United States, Australia, Belgium, Singapore, and the United Kingdom. Their employee cultural make up consists mainly of New Zealanders. Being small, agile and culturally united they share a very close informal relationship, which helps them to quickly resolve issues across the VSS.

IN1 is a medium sized Indian IT service provider with approximately 170 employees. Their main development centre is in Vizag, India, and has only Indian employees. IN1 have offshore satellite development centres located at client destinations in Auckland, Melbourne and Dallas. These offshore centres helped in implementing a client interface to bring physical visibility across the VSS. IN1 also has developers working at some client sites, which helps in building trust and removing the exclusiveness of cultures in the VSS.

IN2 is a medium sized organization with 80 employees in Pune, India but with its headquarters in Minneapolis, Minnesota. Their main software development centre is based in Pune, India, which houses 50 software developers and remaining 30 are service staff. They also have a smaller development centre in Minneapolis. Their employee mix comprises Indians in Pune, and American citizens of multiple nationalities in Minneapolis. The employees located in Minneapolis interact with their offshore clients, as they can closely relate to the client's cultural mindset within the VSS.

Visibility Factors

For the purpose of analysis, we have identified six major visibility factors, i.e. reputation, international certification, prototypes and documentation, face to face meetings, organisational portals and deployment of vendor's employees at client destination.

Some of the visibility factors identified by vendors appear early in the relationship building exercise, while others are built as client habits are formed with the progression of projects. The reputation of vendor parties and international certification were emphasized at the start of the relationship. Gold (2005, p. 10) also agrees that emphasis on certifications such as CMM occurs "just once", as later during contract renewal time the focus has moved with the price trends. Communication patterns between clients and vendors, prototypes and documentation standards, help in improving understanding of tasks between interested parties, as projects progress. Distributed software development environments require continuous updates and revisions of documents to reflect the currency of processes within the development work, since poor documentation can cause ineffective collaborative development (Herbsleb & Moitra 2001). Groupware solutions like organizational portals over virtual private networks give immediate visibility to work processes across different locations. Discussion and team interactions in virtual environments can be lengthy and confusing, leading to poorer comprehension and understanding when compared to traditional physical meetings (Heeks et al. 2001). As a consequence, periodic face-to-face meetings amongst team members located at different geographical zones are necessary for successful project development (Saunders 2000). Karolak (1998 p. 23) emphasises that "documentation is the glue that holds a virtual project together, because it defines responsibilities and sets expectations". A certain degree of senior management involvement across organizations also helps in bringing accountability and responsibility amongst team members. Practices such as deployment of vendor employees at

client sites help to align vendor working styles with client organizations. Such practices enable team members to slip in and out of different technical, social, and cultural experiences (Sahay et al. 2003).

Cross Case Comparisons and Discussion

Empirical data from research interviews is compared across the four cases to highlight the relationship management practices associated within VSS. The composite of stories gathered from the research study participants have been used to illustrate important interpretations, experiences and methods of trust building in VSS. Analytical descriptions have been used (Yin 1994) to explain the lessons learned that may be applied in a broader context (Stake 1995). Each case has been analysed using a detailed thick description of context, and categorised to form visibility factors identified in the T-curve. The strategies adopted to build trust are supported by direct quotations of interview participants based on their experiences. These categories are then mapped with the visibility factors identified in the T-curve.

Reputation

All these organizations agreed that highlighting their past successes added to their reputation, and made clients more aware of them. However, with the exception of NZ2, all other organizations have their own websites, which list the names of their local and offshore customers. NZ1's website states "the first thing you build in a project is trust", and displays a long list of past projects with major clients. IN1's website lists export awards won from the Indian government in 2001 and 2002. They are also CMM level 3 certified, ISO 9001 certified and are affiliated to NASSCOM, which are all listed in their corporate entity section. IN2 was founded by a group of scientists who hold many patents in pattern recognition algorithms. Their website proudly states their patents and they proclaim "99% client retention rates".

NZ2 however did not feel that a company website has too much impact on client's trust levels. NZ2 are the only partner to a major customer relationship management software provider within NZ. NZ2 benefits from their partner's many sales channels across Europe, and have done many customizations for their partner's clients in Australia, United Kingdom, Belgium, Singapore, United States and New Zealand. They were very proud of their technical knowledge work, which has earned them a good reputation internationally. However they have plans to start a company website to expose their expertise and past successes to a wider public domain.

International Certifications

International certifications were considered important by only one of the four firms. Both New Zealand vendors NZ1 and NZ2 were formerly ISO 9001 certified but they had let these certifications lapse. NZ1 reported that certifications required intense documentation and reduced their flexibility to respond quickly to industry demands. The general manager of NZ1 however agreed that certifications sometimes did help in getting a contract, as is evident from his remark that "nobody here asks for CMM at the start, but when they get down to a short-list of say three providers, then certifications are used as a differentiator".

NZ2 felt that they had learnt the rigorous practices that went with these certifications which they review internally. The managing director remarked "We did it for the right reasons – that is to improve the process and to start with a baseline of how we do things. Now then this is a baseline for improvement. So we had it and left it for the right reasons as we now had templates and checklists as a baseline for improvement, rather than people ticking a box to say they were ISO certified. Also earlier there was a culture which said that ISO was a good thing. That culture I think has changed now".

IN1 is the only vendor who presently is both ISO 9001 and CMM level 3 certified. They take great pride in these international certifications, and consider them necessary for entering the offshore market, especially for the United States market. The vice president of IN1 commented that "international certifications are necessary vaccines to enter the international market, in view of the existing competition".

IN2 do not currently have any international certifications, but were earlier a member of Safe Harbor, which sets forth the privacy policy with respect to personal information transferred between the European Union and United States. However, they have recently opted out of membership and now prefer encryption techniques and internal controls rather than external agency controls. IN2 was very proud of their many patents, which had labelled them as an expertise firm, as is evident by their chief executive's remark "We sell expertise and not TVs…. We have found the extraordinary in the ordinary and have been granted a dozen patents. We don't need these other certifications."

Prototypes and Documentation

Three vendor organizations NZ2, IN1 and IN2, considered documentation as a formal way of transferring knowledge across the virtual social spaces. NZ1 considers documentation to be a means of communicating build

updates amongst developer team members rather than a formal communicating practice. This is evident by the comment made by one of the team members at NZ1: "The more you document, the slower you become at changing as it is extremely hard to change the documentation – and so you don't change". They preferred instead using prototypes and "one-to-one communication" with the client teams.

In contrast, NZ2 considered documentation as a core activity to bring about a shared understanding of the project. They used a combination approach, i.e. documentation followed by prototype to reach a shared understanding. They remarked "In all honesty, the requirements of documents can be quite lengthy and daunting for our clients and so the prototype approach which follows is a better way because it more tangible. Clients login into the prototype environment with their username and password and we quite often supplement the prototype interaction with a phone call so that we can talk them through. Documentation is also very important to bring project manager and business analyst to an understanding".

IN1 also agreed that documentation was an integral part of their project development. Up-to-date documentation is rigorously maintained through use of standardized templates to define, guide, and evaluate all changing definitions in the development effort. IN1 staff showed many templates of past projects and current live projects to the authors. Builds were set up on servers at offshore locations which were tested by both client and vendor team members sitting side by side.

IN2 believed in a certain amount of documentation, though not too intense. However, they did not deal directly with clients as a regular practice. Their project manager said "the American team provide us with the clients so they are our internal clients. They talk to the client – but they are not technical people so they come back to the team here for a technical solution. So sometimes our team also gets involved with the relationship management dealings with the client but not as a regular practice". Thus documentation was an internal process for them, and daily builds of prototypes were passed to the development team in Minnesota through a virtual private network. They took advantage of the time difference between the two countries, as prototypes were built and tested within 24 hours across teams.

Face-to-Face Communication

NZ1 perceive their culture to be compatible with that of the UK, but still realize the need to build trust across national boundaries. Face-to-face (F2F) meetings as well as use of electronic media for online synchronous communication were emphasized to build trust in relationships. Besides, NZ1 also have one third of their team located at the client's site. This onsite team headed by the delivery manager handles all the communication with the client, and makes sure "that the interaction between project manager and client's project team is strong".

Direct F2F meetings with clients were considered essential by NZ2 only at the top management level. One of the top management staff had taken the role of relationship manager, and he alone visited the client destination once a month. All other team members at the vendor destination communicated by email and with other formal project management tools.

IN1 has developers working at client sites, on six monthly work permits from India, as against a strategy of hiring local technical staff from the client location. These developers are replaced by other Indian programmers as and when their work permits expire. The developers also agreed that F2F meetings with the clients made them more aware of the clients' concerns, and at the same time also helped clients appreciate their work.

IN2 also consider direct meetings with clients important in overcoming the client's apprehensions in sharing sensitive data with an offshore vendor. Accordingly, they have team members of a similar culture interacting with their offshore clients. These team members can closely relate to the client's cultural mindset, and interact directly through F2F meetings with the clients. This was evident by the project manager's remark: "Our clients need a local face to relate to – though it is here where all their work is done."

Organizational Portals

Groupware solutions like portals which give clients access to vendors' processes were considered relevant to building trust by all the organizations. However, NZ1 also supplemented it by having co-located team members explaining project details at client sites. This onsite team handles all the communication with the client on grounds that "nothing can beat voice". Now, any communication with the team located in the parent country (New Zealand) is an internal communication within the NZ1 organization over an internally developed communication tool ("Clux") and other open source tools.

NZ2 management felt that if client requirements were understood, jointly documented and placed in a centralised repository where the client could also access the documents, there was no reason for the client to not trust them. Accordingly, NZ2 placed a lot of emphasis on documentation which was made available to clients over a customized portal (through Microsoft Sharepoint). Client logins with read only privileges were provided to keep them in the loop, as any changes in documentation were immediately visible to all the stakeholders. NZ2

told of earlier situations where client requirements were not met, because of lack of documentation control. Now, they have a centralized formal control over the portal, and document upgrades were managed with strict discipline. NZ2 management and staff were very appreciative of this groupware portal, as they knew what was required of them. The managing director often referred to the portal as "one version of the truth" during the interview process.

IN1 has provided dedicated phone lines between client sites and its parent company located in India, as well as providing other sophisticated project management tools (such as Bynet) to integrate client requirements and standardizations within their development environment. These standardizations ensured that detailed and explicit client requirements were communicated to the application developers in India, so that all team members referenced the same documents.

IN2 has used a communication tool (PVCH) since its inception to communicate across the VSS. The researcher came across the phrase "we just pvch it" amongst developer team members. One developer showed how on querying the PVCH tool, the reasons for changes and the files and the segments which had been changed were displayed. Developers were very appreciative of using a data-communication tool across sites, as it brought all team members together on a common platform.

Deployment at the Client Destination

Both the New Zealand organizations agreed that similarities in their cultures with client organizations worked to their advantage within VSS, although NZ1 also had some staff located at the client's site. The Indian teams too had defined similar practices such as deployment of some vendor's development team members at the client site (in case of IN1); and hiring staff from similar cultures to regularly interact with the client (as in case of IN2). Thus different technical, social and cultural spaces were combined in the VSS. Such common social spaces helped in reducing clients' apprehensions in sharing their knowledge portfolio with the vendors of other nationalities.

NZ1 felt that variations in the organizational culture of the client team could hinder their working styles. This is overcome by having a strong technical and managerial mix of staff located in the client's country. The onsite team understands the client's working styles and preferences and provides some central authorial control, which further helps to build trust in relationships. Besides, it also helps to boost the morale of the vendor's employees, as each offshore outsourced project gives the employees a chance to experience another culture.

Deployment of a development team at client sites is not, however, the preferred option for NZ2. As previously described, a single member of the management team has taken the role of relationship manager, and he alone visited the client destination once a month.

IN1 refers to their strategy of deployment of employees at client destinations as TLM or Technology Laboratory Model, in which the client provided the resources, while IN1 established the environment by providing on-site project management and analysis. TLM was preferred for both cost reasons and also for bridging cultural differences. The vice president remarked: "We provide a dedicated resource and he works as an extended arm of the client and so he gets well trained in the customer process and domain knowledge of the customer requirements..... this is both a knowledge strategy as well as a marketing strategy…… and helps to build trust in our relations**".**

The senior management of IN2 comprises scientists, academics, and other technically qualified people who study the "micro nitty-gritties and customizations" of client specifications. The chief technology officer at the Indian development centre frequently visits the management team at the head office to understand client requirements. Meetings are held with the clients if there is a need for further clarification in the documentation prepared by the technical team located at client site.

Cross Case Trust Levels

Our research indicates that measures such as certifications, documentation, face-to-face meetings, and managerial involvement by all these vendor teams raised the level of mutual trust from I to level II in VSS (refer Figure 1). However, NZ1 placed more emphasis on F2F meetings for building trust in relationships rather than documentation, as their experience showed documentation reduced flexibility in managing the iterative nature of software development work across teams. International associations, certifications and memberships were considered as assets to build reputation and thereby marketability across economic spaces by Indian vendors only.

All the four vendors agreed that deployment of their employees at client destinations is important in trust building. Such common social spaces helped in reducing client's apprehensions in sharing their knowledge portfolio with the vendors of other nationalities. These practices raised the trust level from II to level III as

physical presence of teams provided better understanding of each others work processes, and brought more accountability in working patterns across distributed sites.

As to the question of where these organizations may lie on the T-Curve, it may be difficult to ascertain their exact position. However all of the four vendor firms appear to currently lie somewhere on level III. The New Zealand vendor firms used less rigorous processes to reach the same trust levels as Indian vendor firms. Thus, New Zealand firms may be closer to level IV than the Indian vendor firms for the same established work processes. However, the Indian firms too are defining new social structures built upon understanding of diverse socio-cultural, managerial and technology-supported processes in the VSS.

Conclusion

Expanded world markets are resulting in growing virtual social spaces, as organizations are adapting to changing social structures. Our study shows how clients and vendors belonging to diverse nationalities collaborate over virtual networks to improve their understanding of each other's economic spaces. Vendors agree that virtual social spaces require new social structures as global businesses are trying to improve their understanding of knowledge flow across the silos.

All four vendors were sensitized to client's apprehensions about transferring knowledge in the VSS. Lack of visibility of vendor's physical attributes were recognized as barriers to knowledge transfer. Accordingly, all the organizations studied have incorporated practices to establish positive relationships by frequently visiting client destinations. F2F communication with middle management was pursued more in the larger organizations (NZ1, IN1 and IN2), whereas the smaller organization (NZ2) relied on senior management for F2F interaction with the client.

Both the New Zealand organizations initially had ISO accreditations which had now lapsed. These organizations did not consider such international accreditations important to build trust in relationships with offshore clients. On the other hand, one of the Indian vendors was using these accreditations as proof of using disciplined processes to build their reputation in the international market. The second Indian vendor also had many patents, which were used as proof of their technical know-how to build their reputation in other spaces.

It is interesting to note that certain practices were similar in New Zealand and Indian software vendors such as relationship management strategies, including face-to-face communication, planned formal meetings, and use of integrated groupware solutions with privileges for both clients and vendors.

The vendors of the two countries differed on certification and documentation. Indian organizations emphasized some form of external measures to enhance trust levels whereas the New Zealand organizations earlier relied on these external measures, but now considered them unnecessary. Also, one New Zealand organization had initially considered documentation a core activity, but later dropped this practise. However, the other three vendor organizations relied on documentation as a common thread of control. Either way, the practices show an awareness of changes in organizational working patterns in view of the emerging virtual social spaces. Groupware solutions like portals which gave client accessibility to vendor's processes were considered relevant to building trust by all the organizations.

We have shown from our study that vendors are sensitized to client apprehensions across VSS, as they try to move up in their trust levels. However the trust model needs more rigorous testing on a larger number of firms engaged in offshore activities through virtual communication systems. We therefore encourage other researchers to comment on our proposed trust building model.

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