Managing the Cultural Challenges for Successful Software Outsourcing

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ABSTRACT
For successful outsourcing, stakeholders need to address the common challenges arising from diverse cultural, social, global and cognitive factors. Most research papers concentrate on the causes and effects of these challenges while focus on practices to overcome them is missing. This paper discusses ways and means to overcome the challenges with special emphasis on requirements management.

Keywords
Software Outsourcing, Culture, Intercultural Communication, Tacit Knowledge, Structural differences, Requirement Collection, Communication via electronic media, Best Practices.

INTRODUCTION
The decision to outsource is often based on reasons such as lower cost, creating more leverage for the business, to focus on core competencies by outsourcing non-core work to sub contractors. Outsourcing to a third party however demands solid preparation and coordination between the outsourcing partners in order to achieve the expected results. Lack of these can lead to situations wherein the vendor cannot add any significant business value to their client's business. Hence this may result in failure of the outsourced project, litigation and loss for both the parties. The preparation phase should address multiple aspects encompassing factors such as cultural differences, social scenario, global and economic factors, etc. We will discuss the hurdles in outsourcing due to these factors and ways and means to overcome these hurdles and given examples from our own experience (or others).

The experiences and examples discussed in this paper, unless specifically mentioned, are mostly based on personal experience of outsourcing projects conducted in India for Swedish, Norwegian, British and American customers. To stress our points we have stereotyped some of the scenarios and the reader must understand that the examples are mentioned to illustrate the point rather than as a generalisation of the behaviour of Indians, Swedes or any other nationality mentioned. It should be understood that no general practise will solve all problems and that every project and customer relationship is unique.

Some earlier work [4] shows that choice of the work to be outsourced is vital. According to them, it is ideal to outsource those pieces which demand minimum interaction during the course of the project. Having this theory as a base, this paper will provide remedies for the hurdles that outsourcing partners may face while executing such well chosen projects. .

CULTURAL CHALLENGES
One of the key issues for managers in global organizations is integration across geographic distance and cultural diversity [14]. Culture is difficult to assess, as it embraces facets like language, tradition, values, core beliefs, humour and many more [1]. Geert Hofstede defines five cultural dimensions such as Power distance, Collectivism/Individualism, Femininity/Masculinity, Uncertainty avoidance and Long-term/ Short-term orientation [7, 8, 9].

Awareness of cultural differences (in these dimensions) between the outsourcing partners is often very helpful in reducing communication gaps and to understand the reasons for misunderstandings.

Hofstede conducted the largest surveys ever done in the area of cultural differences, and the result is presented as indices for each country [6]. These indices as well as some other aspects of Hofstede's research have been a subject of debate [2, 11] [1]

We do use Hofstede's dimensions in order to understand the cultural differences but our main focus is on some specific aspects of cultural differences identified by us

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[1] We question the existence of a common national culture in multi-cultural countries like India. Taking Hofstede's conclusions too literally easily creates stereotypes which may complicate dealing with actual situations. However we do believe that when carefully used, the cultural dimensions can be helpful trying to understand other cultures. Criticizing Hofstede is outside the scope of this document.

based on our personal experiences as a software outsourcing vendor. Our experience is mostly with Scandinavian and British customers, but we do believe that the challenges and remedies we discuss would have validity beyond the cultural context we discuss.

There is a link between three of Hofstede's dimensions; Power-distance, Collectivism/ Individualsm and Uncertainty avoidance to different mechanisms to how to control formal outcome and formal behaviour one one side and informal control modes such as individual or clan on the other. We can see correlation between our personal experience and the suggestions and some of our suggestions later in this paper are well aligned with the suggestions in this paper [12].

Even though there are differences between cultures, we often find common aspects. For example according to Hofstede's indices, Sweden and India are quite similar on both uncertainty avoidance and individualism [6][2]. While differences in cultures can be instrumental to the failure of the outsourcing operation, the similarities can be used to strengthen the outsourcing partnership as well. The differences have to be analysed and understood so that appropriate measures can be taken to overcome them. The differences need not be very glaring and clear. It could be subtle day to day things.

Following are some examples of differences, identified by us, which can become potential hurdles during the execution of software outsourcing projects:

● *'The Yes syndrome':* Based on our experience Indian staff often say 'Yes' when Westerners would say 'Not sure' or 'No'. For example, we found that an Indian software developers say 'Yes' to a query on the delivery date even when s/he is not sure of the possibility to meet the commitment. Asians in general are culturally more hesitant to give negative answers than Americans or Europeans. Due to the same reason an Indian developer may not understand a customer, but would hesitate to communicate the same.

● *Management Style:* Western[3] managers would, in general, not ask frequent progress reports, since that would be considered as lack of trust on the employee. However in India, if the managers don't follow up frequently then the task itself would be perceived as an unimportant task. Closely related to this we have found that Western managers often focus mostly on managing outcome rather than behaviour. We have

found that Indian Managers focus more on behavioural control.

● *'Risk taking':* (This is one of Hofstede's dimensions) Westerners, in general, take more risks and make reasonable assumptions before going ahead as it is considered better to deliver on time with some errors than not meeting a deadline [10], while Indians often wait till they perceive that everything is crystal clear before going ahead with a task. Late delivery is assumed to be acceptable if there are unanswered queries sent to the customer.

● *'Conflicts':* Swedish people are often scared of conflicts [10] and may therefore not communicate dissatisfaction to their Indian counterparts. Indian employees may therefore take lack of negative feedback as a sign of satisfaction. Further, Indian IT companies have extensive experience working with American clients, who generally communicate their dissatisfaction much more directly.

● *Appreciation:* Based on our experience working with clients from different countries, we would generalise and say that Americans as well as Indians may say "great" for average but acceptable performance, while Swedes would generally not give any positive feedback unless the performance is well above expectation, thus sometimes creating dissatisfaction for the Indian staff.

● *'Private life':* Some cultures keep private and official life apart while in some cultures, work environment and workmates are part of private life. In the former scenario, work time is more or less dedicated to work while in the latter, non work aspects have space during the work hours as well. However, this should not be misunderstood for lower productivity or efficiency.

Remedies

Often these cultural hurdles can be overcome, when approached with a non judgemental, open mind. Stakeholders of both the companies have to be aware of these differences. We recommend going a few extra miles to create this awareness among all stake-holders involved in operation and try to go half way each. There is learning for both the partners for successful execution of the outsourced project. Making the most of both the cultures can add value much beyond cost reduction..

The cost of investing in cultural awareness training to the concerned people (at both ends) would be less than the cost of patching up the damage after it has been done. Cultural training courses and reading books and articles covering these topics would be some of the ways to educate people on cultural aspects. It is better to be more careful and sensitive to these cultural differences initially and to coach and train all members to be observant.

Meeting in person and getting to know all involved people well will provide some extra leverage to overcome the

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[2] As per our view Tamil and Swedish culture are actually more similar than what Hofstede's indices indicate. Regional differences plays significant role [6]

[3] "Westerners" is a generalisation and we relate to our experience of working with US, UK and Scandinavian customers.

cultural hurdles. Our experiences show that getting to know the other party beyond the professional arena (without compromising on the professionalism) often takes the relationship a few extra miles. We have also found that it is fruitful to discuss cultural differences and bring them down to a level where both parties try to walk in each other's shoes.

Some of our clients work directly with our developers. We often recommend to our clients that they ask open ended questions to the developers to overcome the 'yes' syndrome. This puts the developers in a situation where they have to provide explanation to their 'yes'. In addition we train our Indian staff to avoid saying just 'Yes', but adding concerns or risks to a Yes, to reduce the risk of saying yes without thinking.

Frequent follow up of status during weekly or bi-weekly telephone conferences and weekly report by the Project Leader concluding status helps the customer track the projects better and avoids any unpleasant surprises. It is also important that these reports are read by the receiving party and any unclarity in the report is followed up.

CONCEPT OF TIME

In a case study [13] of software development it was found that the concept of time differed. The Indian software company had to learn that 8 hours meant 8 hours and that commitments on delivery time meant exactly what was committed. The Indian society is more relaxed in terms of time commitments. This reflects in the professional environment too. This problem of course is not unique to Indian software industry. The concept of timeliness may differ between any two societies. These differences manifest themselves in everyday work. Delays in delivering the product, delays in status reports, delays in making oneself available for a teleconference etc. are some examples.

Remedies

This hurdle can be overcome by clearly communicating the demands on timeliness upfront and establishing protocols for communication. We try to overcome this problem by demanding timeliness in our day to day activities like internal meetings, internal communication etc so that timeliness and honouring commitments are brought into the Organisation's culture. It's important to stress to staff that though the Indian market is more tolerant to delays, the customer's culture is not. Customers on the other hand, may need to be aware of the different concept of time, so that they do not overreact.

Training all the people involved on time management would also yield reasonable results. Sometimes commitments given during a telephone conference or face to face meetings are forgotten, which may not be lack of professionalism in itself, but rather connected to Indian's tendency to say yes (cp. Culture section above). We insist that our staff document the minutes of the meeting listing

all the commitments and send it over to the customer for review. This practice goes beyond normal professionalism, since it also reduces the risk of misunderstandings due to cultural differences.

TACIT KNOWLEDGE

Though cultural differences is one of the major reason for problems related to software outsourcing, some of the problems are more related to what is commonly called Tacit Knowledge, which is often a problem even when outsourcing to people within the same country or culture.

Tacit Knowledge in the Software Scenario can be defined in the following way - The requirements may mean very different things to the sender and the receiver (Figure 1). That is, the person writing the requirement specification can interpret a requirement in one way while the person reading can interpret the same in another way. The interpretation often depends on knowledge, perspectives, experiences and cultural setting. Behind such interpretations are so called tacit knowledge which can be defined as "knowledge that people carry in their mind which is, therefore, difficult to access.
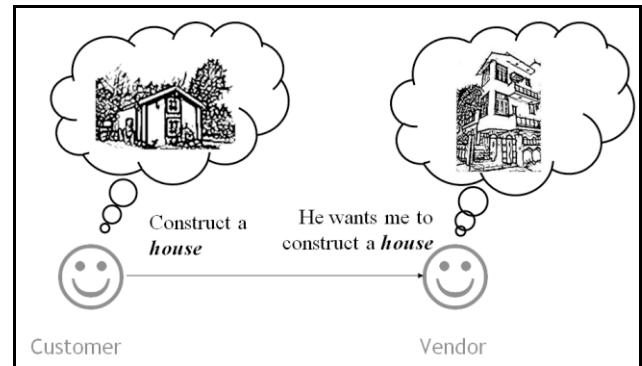

*Figure 1 - **The Customer wants a 'house', which** because of tacit knowledge means different things for the customer and the vendor.*

Often, people are not aware of the knowledge they possess or how it can be valuable to others. Tacit knowledge is considered more valuable because it provides context for people, places, ideas, and experiences. Effective transfer of tacit knowledge generally requires extensive personal contact and trust". [15]. Tacit knowledge is not transferred, but acquired; the process for acquiring tacit knowledge requires personal experience. There are no short cuts [5].

Tacit Knowledge is a generic problem (See figure 1) and is not specific to outsourcing or cross cultural communication. However the problem for Software Outsourcing is further aggravated because teams are located in geographically different locations are communicating via electronic media. It is important that stakeholders resist making assumptions about the situation and constraints of the other stakeholders. It is essential

that they instead ask for clarifications, give prompt feedback at all time to clear out any misunderstandings based on wrong assumptions [3].

Remedies

Acquiring and documenting the tacit knowledge is essential for a successful software projects. There are no standard methodologies to acquire tacit knowledge; creative ways have to be adopted to acquire this on a case to case basis.

Here is an example of tacit knowledge and how we acquired it: We worked with a client in Scandinavia on a large public transportation project. The requirements were well defined and documented. However we realised that our designers and developers in India would lack the knowledge on how smart travel cards work, how GPS is used etc as these technologies were not used in public transportation in India at that time. We further identified that it would be risky if such background information was not provided to them as they could make their own assumptions which could be incorrect. So we prepared an additional document which was to be read along with the requirement specification. This document contained information on various categories of billing models, usage of smart cards, ticket vending machines, GPS etc. We took digital photographs of vending machines, smart cards, ticketing hardware that were to be fixed in buses etc so that developers and designers could visualise these as they read through the requirement specification.

In some other cases we have used initial screen (throw away) prototyping during requirement collection and documentation process. We used this to verify our understanding of the requirements in complex scenario. This also brings out tacit knowledge. For example, when we prepared a throw away prototype for a touch screen based application for one our Customers; we had used colours which were difficult to distinguish for a colour blind person. Since colour blindness is not as common in India as in Europe this would have been easy for our staff to oversee. There was no written requirement stating that the touch screen GUI should be design with colour blind people in mind. The prototype helped us to gather this information very early (during the requirement collection process itself). Another methodology is to request the receiver to with his or her own words rephrase her or his understanding of the requirements.

Requirement Collection

We want to stress the importance of cultural understanding in the area of Requirement Engineering. Many offshore software development companies, we are in touch with are not actively involved in the requirement collection process. They are often provided with the specification or they have onsite teams made up by locals or people settled in the country of the customer who prepares the specification for them.

The disadvantage with this model is that the perceived meaning of a requirement can be different for persons from different background. A wrongly understood requirement can lead to rework and delays. We recommend as one of the remedies to use Joint Requirements Collection where in the outsourcing partners collaborate, brain storm, discuss and arrive at the requirements. We have worked with this model of joint requirements collection with some of our clients with very good result. We often conduct or take part in workshops with the client where in we jointly work with requirements. This also helps us to reduce the cycle time as we ensure that the requirements are clear and complete using prototypes, power point presentations etc. Even when the customer provides requirements, we stress the need for the stakeholders to jointly going through requirements to ensure full understanding and full "ownership" of the requirements from the outsourcing party's side.

Some companies who have outsourced projects have raised issues such as the outsourcing party did not correct errors in requirements which were obvious. But we think that with the hurdles mentioned in this paper it is understandable why the outsourcing party's employees would not bring up such issues.

STRUCTURAL DIFFERENCES

There are structural differences like economic differences, political differences, organisational differences, and infrastructural differences etc between countries. These differences affect work ethics and values, attitudes and preferences of both employees and consumers. Being aware of these differences helps avoiding expecting unrealistic results from the other party. Here are some examples of such differences:

- *Organisational differences:* Western IT companies are generally flat, and employees would have easy access to higher levels in the organisation [13] while the same would generally not be true in India (especially in bigger companies). Due to this employees may not suggest ways to improve the product unless asked for explicitly. Since in some cultures these kinds of suggestions are expected from management, it can create frustration and misunderstandings when Indian consultants are not doing it based on their cultural experience that a subordinate should not criticise the manager.

- *Educational Differences:* Indian education system stresses learning by heart without questioning and there is very less focus on application of knowledge while the European education system (for example) focuses on application of knowledge using more creativity. This is one of the reasons why Indian developers may avoid questioning the validity of obvious erroneous requirements.

- *Infrastructure Differences:* Infrastructure limitations have to be analysed and discussed before outsourcing a project. In this context we should also include that with lower fee per hour, it is essential to keep in mind that the Indian party may have financial difficulties to acquire expensive hardware or software.

Remedies

To overcome organisational differences, it is important to constantly encourage Indian staff to give suggestions and when they do give proper recognition when they do.

To overcome educational differences, we identify people who are good at knowledge application (and are creative) to interact and elicit the requirements and design specifications from our clients. They interact with the rest of the team on behalf of the customer. So when solutions don't fit into the framework, they often capture it early enough (before it reaches the customers) and get the team to rework the solution.

The Indian infrastructure is constantly improving but still power and communication failure is part of reality. UPS's and generators can be used to provide power, and multiple internet suppliers can be used to ensure continuous communication. It is important to have proper contingency plans in place. Further, availability of software tools, hardware devices etc need to be analysed. For example, if the product deployment has to be done remotely then the project plan should contain buffer days in case the speed of the internet connection available at your outsourcing partner's site is not as good as what you have. Adding a buffer in the plan for such dependent activities is also helpful. Regarding the access to hardware/software is expected this may need to be discussed before starting the project. It should in this context be mentioned that since man-power is sometimes less expensive than investments in hardware/software and solutions may hence differ compared to western conditions where man-power is often the most expensive factor. This is of course changing in India too as salaries are increasing.

Communication Channels

We use Instant Messaging, Teleconferences and Video-Conferences, especially when we cannot meet our clients in person. Discussions over any of the above mentioned media, with notes sent across to all parties and checked for correct understanding, can to a large extent replace the face to face meeting (though not totally). Scheduling and conducting regular conferences over web or telephone would provide additional control on the progress of the project. Video conferencing has not always delivered the expected result due to technical issues[4], which has

sometimes created more frustration than benefit. We have however very successfully used Software such as Webex, which has makes it possible for one of the participant to show his or her screen for other participants during a teleconference, making it possible to demonstrate a software or a prototype while being on a voice conference.

As internet quality improves we assume that Video conferencing will become more and more viable[5], while we have found that text messaging is better for quick questions and answer and since the discussion is also documented which is not done automatically when using voice[6] between India and the customers quality of internet connections. It is important to put down the expectations in terms of frequency of communication, turn-around time etc.

CONCLUSIONS

This paper has discussed some of the challenges that have to be overcome for successful outsourcing. The challenges are huge but so are the potential benefits. Organisations must develop extensive cross-cultural understanding, communication skills and management competencies. Companies that can take advantage of the outsourcing option and overcome these challenges will experience more success than their competitors [1]. As software outsourcing has become main-stream and everything points to increasing strategic importance to deliver business value via outsourcing partnerships, we recommend extensive analysis to establish suitable practices to overcome the hurdles. We strongly believe that this is not a one sided problem and we have tried to suggest some practices which, when applied would deliver solid business results.

ACKNOWLEDGMENTS

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[4] Even though available Internet bandwidth has increased in India, we are still finding latency being a problem for successful video-conferencing.

[5] When we wrote this paper the cost of fuel and travelling had increased due to increased oil price. Though oil prices have come down since then, our assumption is that meeting in person would become less viable over time, and hence electronic media, may become more important. However we don't believe these means of communication can ever replace face to face meetings.

[6] We do often record Voice discussions, but since the effort to go back and follow up is higher, the usefulness of recorded voice discussions is less useful compared to the record from a text chat.

Guidelines

► Be sensitive to cultural differences while avoiding stereotypes.

► Train customer's staff and vendor's staff to create awareness on culture

► Go half way

► Discuss cultural differences including challenges, but avoid bias

► Ask open-ended questions, and give reasons/limitations for answering yes

► Frequent follow up and status tracking

► Meet face to face, do things together (bounding activities)

► Background document describing the context in which the IT system should exist. Use pictures, diagrams, photos, etc.

► Use prototypes, to communicate GUI, usability, understanding of concepts, risky parts etc.

► Encouraging Indian staff to give feedback and suggestions

► Ask the other party to explain understanding in own words

► Make frequent use of various communication channels; Telephone, Video-conferencing and Instant Messaging

► Use Wikis

► Joint Requirement Collection or jointly review for right understanding of requirements

► Stress importance of deadlines

► Establish protocols for communication

Table 1 – A list of our most important suggestions given in this paper.

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