Communication Management Guidelines for Software Organizations in Pakistan with clients from Afghanistan

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Abstract:
Developing software through Global Software Development (GSD) became very common now days in the software industry. Pakistan is one of the countries where projects are taken and designed from different countries including Afghanistan. The purpose of this paper is to identify and provide an analysis on several communication barriers that can have a negative impact on the project and to provide management guidelines for medium size software organizations working in Pakistan with clients from Afghanistan and to overcome these communication barriers and challenges organizations face when coordinating with client. Initially we performed a literature review to identify different communication barriers and to check if there are any standardized communications management guidelines for medium size software houses provided in the past. The second stage of the research paper involves guidelines with vendor's perspective that include interviews and focus group discussions with different stakeholders and employees of software houses with clients from Afghanistan. Based on those interviews and discussions we established communication management guidelines in order to overcome the communication problems and barriers working with clients from Afghanistan. As a result of the literature review, we have identified that barriers such as cultural barriers and language barrier were one of the main reasons behind the project failure and suggested that software organizations working in Pakistan should follow certain defined communication guidelines in order to overcome communication barriers that affect the project directly.

Keywords: Global software development (GSD), Communication barriers, medium size Software Organization, client, communication management guidelines.

1. Introduction

The need of software gives much importance to software development field. Software development needs highly skilled professionals for developing a user friendly application. Software companies in developed countries are doing their part to provide people with applications following the rules of HCI (Human Computer Interaction). But even the companies in developed countries do not prefer developing software using their own professionals [1]. Patel *et al.* [11] concluded that there exist few reasons behind off shoring software projects; labor cost being one of them. According to Herbsleb *et al.* [8] and Espinosa *et al.* [2], in under-developed countries with lack of skilled professionals, software companies tend to opt for GSD (Global Software Development) where complete software or a module of it is developed by global software engineering teams.

According to Holmstrom *et al.* [7], software organizations transferred their development processes to other countries where cost is low and in return give benefits to customer companies. The main reason of transferring the work to other countries is to lower the cost of work due to the low workers' wages.

Consequently, the organizations get low cost software in a short span. Conchuir *et al.* [3] and Holmstrom *et al.* [7] debated if GSD provides huge benefit to organizations as people belongs to different culture work together and share their ideas and skills.

Pakistan and India are among a few of the developing countries where there are highly skilled professionals who charge less as compared to other software industries in the world. Pakistan not only accepts software projects from developed countries but it also deals with countries where the software industry is in the stage of infancy. Afghanistan is one of those countries; therefore projects in Afghanistan are outsourced to different counties. Due to its geographical proximity and few similarities in cultural practices with Pakistan most of its IT projects are developed by Pakistani software organization. Although this Global Software Development is advantageous for both, host and client but there also remain few drawbacks, according to Herbsleb *et al.* [8] and Espinosa *et al.* [2]. One of the major drawbacks of global software development is the communication barriers that occur between the client and the vendor.

2. Research Questions:

Like in other disciplines, the importance of communication in managing IT projects cannot be exaggerated. The recent statistics showed that more than sixty five percent of offshore IT projects are unsuccessful. One of major factor behind that contributes in failure is lack of communication or insufficient communication. To check this, we address the following research questions:

A. *What are the communication barriers between the client and the software organizations? Are there any guidelines provided for communication barriers between the client and the software organizations?*

AND

B. *Can we provide any communication management guidelines for overcoming various communication challenges encountered while coordinating with clients from Afghanistan?*

3. Research Methodology

Initially, we carried out literature review and identified the reasons for communication barriers and whether there is any communication management guidelines standardized for medium size software houses in Pakistan with clients from Afghanistan.

The second part of the research paper involves vendor's perspective about the necessary communication channel through interviews and focus group discussions with different stakeholders and employees of medium size software houses in Pakistan with clients from Afghanistan to establish communication management guidelines in order to overcome the communication problems and barriers working with clients from Afghanistan. This part of research is accomplished through a series of focus groups and interviews with project managers, stakeholders and other employees of medium size software organization working in Pakistan who have been working directly with the clients in Afghanistan or have experience working with software development projects or outsourced projects with clients from Afghanistan.

More than 28 employees working in 13 medium size software organizations working in KPK and Islamabad were interviewed to collect data and information regarding communication guidelines in order to design structured communication guidelines for software organizations. The information and data was gathered and then restructured to design communication management guidelines for medium size software organizations.

4. Results

A) Communication Barriers:

Effective communication plays an important in the success of the project. The project communication is defined as "a process that ensures timely and appropriate collection of data, collection, dissemination, storage, and ultimate disposition of project information", according to Project management institute standards committee. The literature review revealed that there are indeed communication gaps that can occur as a result of outsourcing software development. There are various factors that contribute to the failure of global software development. Khan *et al.* [12] concluded that, "language and cultural barriers', among other factors, can have a negative impact on software development in GSD. They suggest that software organizations should focus on these barriers in order to have a positive impact on outsourcing clients and succession in outsourced contracts".
Herbsleb *et al.* [9] also concluded that in many cases global software development teams fail to fulfill high expectations due to communication barriers and in return project fails.
According to Holmstrom *et al.* [7], there are three major challenges faced during offshore i.e., communication, coordination and control. Out of these three communications is very significant during development process and it is the source of other issues like coordination and collaboration.

According to Shah *et al.* [6], the main factor which badly affects the successful offshore projects are improper communication, language issues and cultural differences. The reason why information not properly communicated is due to lack of inadequate knowledge management strategies and also due to the stakeholder's cognitive aspects. Holmstrom *et al.* [7] concluded that there should be effective communication and meetings among the GSD otherwise the whole project lead to failure. The main reason is that the team stuck at the indeterminate state and fails to manage a continuous momentum which occurs due to improper feedback and discussion.

As a mitigating strategy, Lee *et al.* [10] suggested opening global communication channel for increasing internal and external communication by follow the sun approach considering time differences, continuous communication when setting work hours/shifts and vacation schedules, having frequent regular meetings and progress reports etc. Identifying and applying suitable strategies for the project early in the project duration is decisive for their effectiveness.

Shah *et al.* [6] also concluded through their literature research that using ontologies as modularization of work, study of the cognitive nature of people, communication facilitators, training on cultural norms and the characteristics of their environment can help in coping with the communication issues. Conchuir *et al.* [3] debated that the benefit offered by GSD environment can easily turn into serious risks if the challenges faced by the GSD are not handled properly.

By going through literature we come across different guidelines and strategies to deal with offshore projects depending on different culture and communication issues. But there are no specific guidelines provided for medium size software organizations in Pakistan dealing with the clients located in Afghanistan. To cope with these issues and challenges specific strategy should be adopted to help GSD between Afghanistan and Pakistan.

B) Standardized Guidelines:

Managing a GSD projects requires complex management, communication strategies and techniques to ensure its success. There are different guidelines and strategies are suggested to help successful GSD. Gassmann *et al.* [13] defined organization's administrative structure for controlling virtual team. Lee *et al.* [10] proposed specific coping strategies for managing global virtual team. Gawer *et al.* [15] proposed strategy for applying mixed (iterative and waterfall) approach in global software project. Ramesh *et al.*

Ramesh *et al.* [16] developed an object oriented model for organizational strategy for coordination in global virtual team based on Mintzberg's "Structure in Eyes: Designing Effective Organizations", standardization of processes approach. Prikladnicki *et al.* [14] also supported well defined process and data for GSD. A survey of the vendor's perspective in Pakistan and Afghanistan was carried out through focus group discussion and interviews. The survey used questions to identify the basic needs with respect to the communication channels between the two parties.

The following important factors were identified as a result of this survey:

1) **Initial Meetings:** Meetings between the client and the software house are very important. These meetings can wither be face to face or through Skype or video chat. These meetings set the expectations of the clients and also help in building communication and trust between the two parties.

2) **Focal Persons:** Focal persons, from both sides should be identified from the start of the project. Their roles would be of a communication agent who would act as a middle man between the client and the employee. These focal persons could also act as translators in cases where there is a language barrier and help both sides to understand the culture.

3) **Sufficient communication tools:** Both the parties should have efficient communication tools. These tools can be various gadgets that can help them in communicating with one another and can also be in the form of human resource well versed in the art of communication.

4) **Information Sharing:** The plan for information sharing should be laid out at the start of the project. This helps in minimizing the chances of mishaps and misunderstandings between the two parties.

5) **Regular Meetings:** A meeting schedule should be created at the start of the project so that the two parties are to date with the progress and demand of the project. There should also be room for sporadic meetings in cases of emergencies and urgencies.

6) **Project Reviews:** Project reviews should be conducted in a timely manner, in order to verify the progress and to mitigate any overlooked errors.

7) **Timeline of deliverables:** The timeline of delivering the various parts of the project should be discussed beforehand with the client so that the expectations are kept at a standard.

8) **Capacity Building:** The capacity of the human resource of the software organizations should be built on the art of communication in order to build the abilities of the staff to effectively communicate with their clients.

9) **Information Distribution:** The information distribution between the form and the clients should be systematic and utmost care should be taken about confidentiality and data protection so that the project cannot be hijacked by any rouge elements. The various models of communication should be implemented and followed in this regard.

10) **International standards:** Internationals standard such as CMM, ISO, PMI etc. should be followed at every step of the project. This compliance of international protocols if very important as it provides uniformity in project delivery.

The in survey and interviews, it was found that medium size software organizations are implementing their own defined standards in communication with clients from Afghanistan in their own ways. They use their

own defined standards for communication that are less effective. However almost all of the participants of the survey enlisted the above factors as desired and needed for reducing communication barriers and for effective communication between the two parties.

5. Summary and Discussion

Through our research work we have identified the presence of communication barriers between client and software companies and also have collated different significant information and data from various sources to develop communication guidelines for medium size software organizations working in Pakistan with coordination with clients in Afghanistan.

The literature review we undertook indicated that in GSD there are many factors which play their part in communication barriers between the vendor and the clients. These factors include socio-cultural difference, language barrier etc., because of which the projects are not designed as desired and not upto the standards. The literature review also indicated that the factors related to communication barriers were highlighted in many researches but no work was done to provide the guidelines to overcome these barriers. Therefore it was important to identify key communication guidelines in order to overcome the communication barriers that some time leads to project failure.

To define effective communication Guidelines, focus group discussions and interviews were conducted with vendors to get vendor's perspective, which allowed us to understand various communication issues that exist between clients from Afghanistan and software companies in Pakistan. There are many issues that arise when the medium size software companies in Pakistan confront with while coordinating it with its clients in Afghanistan. These issues generally arise due to communication barriers, which needed to be addressed for effective coordination. For this reason it was important to design general communication guidelines for software organizations working in Pakistan to have effective coordination with its clients in Afghanistan.

The data was gathered and analyzed to form few important communication management guidelines that will help in communication with clients from Afghanistan and reduce communication barriers to design the projects that are up to the standards and expectations of the clients.

6. Limitation

Interviews and group discussion were conducted with Managers, employees and other stakeholders of software organizations with clients from Afghanistan located in KPK and adjacent areas only Due to limited time other medium size organizations in Pakistan with their clients from Afghanistan were not approached. More well designed communication guidelines can be made by taking into account views of other medium size software organization with clients from Afghanistan.

7. Future work

The primary focus in this research was clients from Afghanistan. In future we will look into barriers and communication guidelines from other country perspectives too, in order to make guidelines for overall offshore projects around the world.

8. Conclusion

Effective communication between the client and vendor in offshore projects is the main challenge that directly contributes in the success of failure of a project. In this paper we have explored the key communication barriers like language difference, cultural difference that affect projects from Afghanistan.

We also analyzed various solutions for effective communication and coordination amends the medium size software houses in Pakistan and clients from Afghanistan and designed some important communication management guidelines for medium size software houses in Pakistan with clients from Afghanistan. The solution identified in this study include important guidelines such as providing training to staff members by software organizations about how to communicate across different cultures, appointment of communication agent, establish clear communication procedure at organizational level, and establishing procedures for project critical information sharing with clients.

Acknowledgements
The authors would like to thank Universiti Tun Hussein Onn Malaysia for supporting in the publication of this research work using Multidisciplinary Grant with Vote No. 1315 and also to Gates IT Solution Sdn. Bhd. for their incentive in publishing this paper.

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