Impact of Discrepancies in Effective Written Communication on Organizational Quality of Geographically Dispersed Software Organizations in Software Industry of Pakistan

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ABSTRACT

Many of the organizations in software industry of Pakistan are involved in offshore development (and many are geographically dispersed) and usually teams in such organizations are also geographically dispersed. Effective and efficient written communication is extremely necessary for the organizational quality of these geographically dispersed organizations. Written communication in such organizations is not only important for quality of engineering process (Software Development Life Cycle), but is also equally important for core fundamental processes such as project management, product management, functional management etc. In other words; offshore and geographically dispersed organizations need to understand and eliminate problems in written communication for improved quality of people, processes, projects, products and thereby the overall organization. In order to address this problem; this paper aims in identifying the impact of ineffective written communication on organizational quality for geographically dispersed software organizations and for organizations involved in offshore development in software industry of Pakistan.

Keywords: Organizational Quality, Written Communication, Pakistan, IT Industry etc.

INTRODUCTION

Purpose
The purpose of this paper is to identify impact of ineffective written communication on organizational quality in software industry of Pakistan (Specifically organizations that are either geographically dispersed and / or are involved in offshore development process).

Research Methodology
The study is exploratory, explanatory and descriptive in nature. Research and analysis is done using both qualitative (interviews, surveys, discussions etc) and quantitative (statistical mainly) research methods. Data collection is done from 30 organizations that are either geographically dispersed within the country and / or are involved in offshore business.

Limitations
The study will limit its focus to software houses located in Lahore, Pakistan.

Hypothesis
Since the research is exploratory in nature therefore there is no precise hypothesis.

Research Questions
1. What are various preferred written communication techniques for software organizations (A Short Summarized Literature Survey) world wide?
2. What are various preferred written communication techniques in software organizations in Pakistan?
3. What are the problems and issues in the current existing written communication methods / techniques in Pakistan’s software organization?
4. What is the impact of the identified problems and issues on organization quality?
5. How problems / issues can be minimized?

LITERATURE REVIEW

Several researchers agree that communication related problems have deep impact on quality. For example as per Christiansen (2007), “One of the biggest challenges in offshore development is communication. As software development relies heavily on quick information flows, this makes communication a huge challenge in an offshore framework. Offshore software projects therefore become much more difficult to manage than collocated projects and often operate at a suboptimal performance level.”[1]. Shami, Bos, Wright, Hoch, Kuan, J. Olson and G. Olson (2004) cite Herbsleb who found that cross-site
communication and coordination issues cause a substantial loss of development speed. Similarly, according to Gopal, Mukhopadhyay and Krishnan (2002), “Communication and coordination mechanisms in offshore development reduce project uncertainty and improve performance.” Similarly, according to Jones, Oyung, and Pace (2005) and also by Wallace (1999). In these two pieces of literature focus is laid on the fact that communication has strong implications on team performance. According to a Canadian consulting and training firm, one employee who writes just one poorly worded memo per week over the course of a year can cost a company $4,258.60. Talking about the reason(s) of miscommunication, Astous & Robillard (2002) and Robillard (1999) observe that problems of coordination and communication may be generated when teammates in the field are geographically dispersed. For this paper; the precise relevant literature was the one that focused on quality related problems caused due to ineffective written communication. Off course material specific to Pakistan was most valued. Unfortunately such exact information could not be obtained. Figure 1.0 explains the literature availability:

![Literature Availability Diagram]

It is important to specify here that study of several studies explain that paper, email, video tapes, audio tapes, news groups, text chat, instant messaging, data conference (document sharing) and work flow applications are the most common means of written communication medium with software organizations.

**ANALYSIS**

1 Preferred Written Communication Techniques in Software Organizations In Pakistan

This section addresses, what are various preferred written communication techniques in software organizations in Pakistan and why these techniques are preferred. Following are the top preferred written communication techniques in software industry of Pakistan. The techniques are listed according to their usage priority (the mostly used technique is on the top).

1.1 Email

Email is the most widely used medium. It is being preferred because of the following facts:
- It is an efficient and inexpensive mean.
- It helps to address large number of people at the same time and is independent from the receiver’s presence.
- Emails are good medium to circulate any news, updates, and messages.
- Emails are better for descriptive communication with clients.
- Emails can be stored and retrieved quickly from history.
- Emails are also used for auto generated notifications about performed and pending task and helps to escalate information where needed.

1.2 Chat and Data Conferencing

Chat and data conferencing is the second most widely used technique because of the following facts:
- It provides an instant source of communication and is very much speedy.
- Most of the problems are solved during chat, which saves time.
- Multiple users from different locations can use it to discuss the issues and problems instantly.
- Usually higher management is busy, so small issues or problems are communicated with them on chat and feedback is obtained instantly. This reduces the communication gap between peers.
- It includes the ability to maintain a record of conversations through history. This helps to back track history and clear understanding about discussed points as and when needed.

1.3 Work Flows Application

Workflows applications are the third most used medium; it is used because of the following facts:
- Work flows help define a systematic communication protocol / method.
- It reduces inherent complexities in communication.
- Eliminates conflicts within communications.

1.4 Paper

Paper is the fourth most used medium; it is used because of the following facts:

* Usage priority is determined after qualitative analysis of the survey.

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* Based on literature reviewed!
• It is a secure and reliable medium.
• Used where it is not possible to arrange computers.
• Used in case of critical documents where approvals and signatures required.

1.5 Audio and Video‡
Audio and video tapes are the least used medium; it is used because of the following facts:
• Mostly used for trainings within and outside the organizations.
• This medium is very effective in case of any domain or knowledge sharing.
• Recordings can be viewed by stakeholder as and when required.

2 Problems / Issues Associated With Each Written Communication Mediums, Their Impacts on Organizational Quality and Recommendations for Minimizing These Problems / Issues
This section explains the problems and issues associated with each written communication mediums identified earlier and their impacts on organizational quality. The section also explains how identified problems / issues can be minimized.

Default Behavior
Good writing skills are pre-requisite for effective, efficient and high quality written communication. It is important that spelling, grammar, punctuation and other writing mistakes must be avoided. Written communication must have simple but appropriate vocabulary. It must have excellent comprehension.

Before we proceed any further, it is important that we carefully understand the following key. This key is used in order to better present the analysis in this paper.

<table>
<thead>
<tr>
<th>Table 1.0</th>
<th>The Key</th>
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<tbody>
<tr>
<td>Element</td>
<td>Sign</td>
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<tr>
<td>Identified Problem / Issue</td>
<td>*</td>
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<tr>
<td>Impact of Problems / Issues on Organizational Quality</td>
<td>+</td>
</tr>
<tr>
<td>Recommendations for Minimizing Identified Problems / Issues</td>
<td>-</td>
</tr>
</tbody>
</table>

4.2.1 Chat and Data Conferencing
• File Sharing:
  * During chat and data conferencing people share large no of files without documenting any information about shared files for future reference; therefore no documented track of shared files exists for reference.
  + This situation increases the overall network traffic of organization. Increase in network traffic increases the response time of other applications running over the network. Keeping track of shared file on network also requires huge effort and cost. This, however, is an indirect consequence. One of the direct consequences of absence of file reference is that communication between team members cannot be considered formalized. This gives rise to adhoc situations resulting in rework, decline of productivity and direct impact on document integrity.
  - To overcome this problem a central repository and/or configuration management system can be established for the organization.

• Reliance on Time:
  * Chat and data conferencing is time bound and requires the presence of communication partners at the same time. Due to different working hours in different time zones employees are not able to communicate with colleagues who are geographically located in different time zones. In other words chat and data conferencing cannot be used if communicating partners are from different time zones.
  + If chat and data conferencing is used as a communication tool in the condition stated above then employees undergo tremendous loss of their personal and social time. This is mainly due to the wait time. The result is that employees lose focus on work as they are over burdened, exhausted and their productivity and work quality declines by leaps and bounds.
  - If convenient, and unless not extremely critical, use other communication medium that best suit the type of situation stated above.

• Hacking:
  * The chat and data conferencing medium is not secured. Important data files can be hacked.
  + Information can be misused causing fraudulent activities.
  - To share the critical data files, use the secure emails or use the compressor / zipper tools and make sure that the files being shared are password protected. Use the information security standards to share the files and to set the passwords lengths.

4.2.2 Email:
• Excessive Emails:
  * Due to large no of emails it is difficult to know and judge that which email has a higher priority and which requires immediate action and replies.
  + A major consequence of this problem is that employees may lose precious time in organizing, prioritizing and managing their emails. The result is waste of organizational resource, time and thereby quality.
  - Person sending the email must clearly know the actual targeted stakeholder of their email. They should rightly know as to who should be addressed in “To”, “Bcc” and “Cc”. Sender must also set the priority of emails according to the criticality of the subject matter.

‡ Here it is important to note that this type of communication may seem more like an oral communication but in actual the point discussed here refers to the indirect communication carried out by writing data on media in form of audio and / or video.
• **Security Concerns and Spam:**
  Hacking has been discussed earlier in sub section 4.2.1. Here we must know that communication through emails suffer from security issues similar to the ones discussed in sub section 4.2.1. The discussion below is spamming specific.
  * Email contains spam.
  + A major consequence of this problem is that employees may lose precious time deleting / eliminating spam. Spam also damages the hardware / software system. The result is waste of organizational resource, time and thereby quality.
  - Using better security filters and virus scanners, spam can be filtered out. This must be done at the network administrator level as well as individual (employee) level.

• **Writing Email:**
  * Sending email to executives is a time consuming job. This is particularly true for countries like Pakistan, where bosses are usually addressed with great respect and dignity. In each email special wordings are required in order to rightly communicate with the bosses keeping in view the local norms.
  + Peoples lose their focus from their main tasks and objectives. The result is waste of organizational resource, time and thereby quality.
  - Organization can build standard templates for emailing. Trainings must be given to employees and executives explaining them the methods of writing effective emails as quickly as possible. Cultural change is required within the organization that must eliminate social differences between bosses and their sub ordinates.

• **Late Replies:**
  * In some cases it is very much possible that replies (decisions) are received very late. Organizations have their own rules regarding email reply back time.
  + Late decision or replies result in time slippages. The result is ineffectiveness, poor efficiency, loss of productivity and decline of quality.
  - Emails are not suitable for quick answers. Use instant messaging or any other appropriate communication medium in such cases.

• **Internet Availability:**
  * Emails can be used only if internet and email server is available. Sender cannot ensure that email has been delivered to the recipients unless the recipient replies back.
  + The situation above results in time slippages, uncertainty and delayed response. Again! The result is ineffectiveness, poor efficiency, loss of productivity and decline of quality.
  - Reduce the downtime of internet. IT support persons can ensure that email server is live all the time and that no email is hung on server.

4.2.3 **Work Flows Application:**
• **Hardware and Software Cost:**
  * Workflow applications are costly to implement, install and maintain.
  + Small organizations cannot usually bear such costs. The result is that in most of the cases manual workflow are used that consume time, energy, effort and thereby decline productivity and affect quality.
  - SAAS (Software As A Service) concept is growing now a days and organizations can take a benefit if such kinds of software (that can fulfill their business need) are available on SAAS model.

4.2.4 **Paper**
• **Costly, Difficult To Manage, Storage Problem and Slow Response Time:**
  * Paper is a costly written communication medium as compared to emails, chat and data conferencing. Managing and organizing papers and tracking them properly require a lot of time, effort and cost. Letters; inter office memo and other similar written communication on paper requires a lot of time and money for work completion and execution. The medium also requires extra space for storage and needs heavy duty file management system and other human and material resources.
  + Important information can be misplaced and damaged if not taken care of properly. Since this medium requires maximum amount of resource, effort, cost and time therefore this directly affects organizational productivity and quality.
  - It is preferable that this medium must only be used in circumstances where hand written communication is essential such as signatures Etc. Similarly the medium can be used for archiving important documents for proofs. Also backups of documents can also be taken in hard form. It is important to note that this medium must be avoided wherever and whenever possible, unless extremely required. The modern technology offers concept of electronic document management system, which can be used in order to cater similar issues.

4.2.5 **Audio and Video**
• **Cost:**
  * This medium is not very widely used because of the fact that it costs much more than other mediums mentioned earlier. Tracking and storage of this medium is very expensive.
  + This medium is not widely used so no associated impacts on organizational quality found.

   **CONCLUSION**

In this study we have found that emails, chat and data conferencing are the mostly used and preferred written communication medium in software industry of Pakistan. On the other hand, paper is not popular as an effective and high quality communication medium unless required in special circumstances.
Every communication medium has its own advantages and disadvantages. Discrepancies also exist in chat, data conferencing and emails, which are the most widely used; means of communication. Choosing a correct medium of communication can eliminate time, resource, effort and cost wastage. It is important that medium used for a particular type of communication should suit the nature of communication, the needs of situation and also the needs of stakeholders of the communication. Choice of incorrect written communication medium can lead the organization towards unnecessary delays, exhaustion, rework, and decline in productivity and quality. Most of the discrepancies in written communication can be resolved through trainings and awareness programs. Effective written communication can not only help us to solve problems quickly but can also improve project, products and overall organizational quality.

REFERENCES


DATA COLLECTION SURVEY TOOL

Instructions

You are invited to participate in our research work survey for Impact of Discrepancies in Effective Written Communication on Organizational Quality in Software Industry of Pakistan. Please participate in this research to fill this survey. It will take approximately 15-20 minutes to complete the questionnaire. Your participation in this study is completely voluntary. Your survey responses will be strictly confidential will be only used for research purpose. Thank you very much for your time and support. Please start with the survey.

Survey Target Audience: Software Organization Staff

General Information

Full Name: ___________________________________________________________________________________
Designation & Department: _____________________________________________________________________
Experience in Current Organization (Years): ______________________________________________________
Total Experience (Years): ______________________________________________________________________
Organization Name: ___________________________________________________________________________

Questionnaire

Question 1:
Written communication techniques are vertically mentioned in below table, please assign Rank (1 to onward, Rank 1 will be for mostly used technique in your organization). Please specify why those techniques are preferred.

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<tr>
<th>Factor</th>
<th>Assign Rank</th>
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<td>Work Flows Application</td>
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Please mention below if you use any other communication medium.

Question 2:
Written communication techniques are vertically mentioned in below table.
Please specify issues associated with each technique (use one column for one issue or problem), also fill the other columns for that particular issue.

For Criticality use only these words: Very High, High, Medium, Low, Very Low

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