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Impact of Intra & Extra Organizational Factors on Requirements Elicitation

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Abstract

Requirement engineering has taken the attention in both academic and industries, as today's software's expected to fulfil and provide highly customers' centralize functionality and qualities. Requirement elicitation is the main and major step of any software project development life. It has direct impact on development lifecycle of any software. The incomplete or ambiguous requirement create confusion for the stakeholders. This is the step which leads the project to the success or fulfills the desire of user or it is the step or reason which may leads the project to the downfall. In requirement elicitation process there are many factors which effects on requirement elicitation. In this paper we are proposing the impact of Organizational factors on requirement engineering. Stakeholder needs include an initial, but continuous and critical phase in program development. This section of development is characterized by a high degree of error, influencing important factors based on communication problems. Software development is considered as a powerful process in which the needs of change seem to exist inevitable. Software updates are encouraged by all types of changes including changes in requirements. These types of changes cause internal flexibility, which has several implications for software development life cycle. In particular, the findings reveal that the instability of services is at its highest significant impact on time and cost skip to software projects. Our investigation too tested features that contribute to the level of demand flexibility and I found that flexible as common communication between users and developers and the application of a clear approach to needs analysis and modeling contribute to the stability of requirements. The main purpose of this survey is to look for the requirement elicitation process from the intra and extra factors perspective. The quality of services is critical to the success of the project. Negotiation needs, however these are not an easy task. Vision, psychological model and differences in expectations between users and analysts do this work is difficult and controversial. In most cases, clients are completely convinced of their real needs. In others, the current operating procedure does not meet the expectations of management. In this paper we have search the problems, factors of elicitation process.

Keywords: Impact of organizational factors RE; Requirement elicitation; intra organization

Introduction

The first measure of the success of needs the requirement engineering category is the level of understanding and accuracy of Program developers have a stake in the expectations of participants. If engineers do not have this accurate idea, the existing system will not meet the needs and expectations of participants. The level of satisfaction, used here in a broad sense, is this the last and most important indicator of system quality, and accuracy greatly influenced the quality of system requirements. Requirement engineering includes many steps in the whole process like requirement elicitation, analytics, review, maintenance and architecture etc. but the most important or cornerstone step is requirement elicitation all the other steps is based upon it. This step perform should be perform very carefully while there are factors which effects on it including intra and outer organizational factors. As requirement elicitation process varied with project to project or either organization to organization so the factors changes accordingly while the intra and outer organization factors are almost similar. Negotiation is a process of integration and dissemination of information occurs. At this stage, participants take details on the context and the tasks to be performed to support software being developed. his process is complex and requires all available information, including any experience with previous programs. the viewing, expected expectations among users and analysts make this task difficult again it is contradictory. In most cases, clients are absolutely sure for their real needs. For others, the current operating system does not is in line with management expectations. The software requirements are a complex and risky definition category, as it is there may be incomplete and inconsistent requirements. The survey points out a number of issues in need elevation phase. One of them is related to a lack of adequate supply communication between users and analysts. Users who do not have a clear and detailed view of their real needs. As a result, it is confusing essential job requirements and desired program performance are common during this phase. Besides, each participant he describes his needs differently, and can express otherwise requirements. In these cases, the requirements identified by analysts in most cases is incomplete or incomprehensible. the negotiation phase required and needs to be explicitly issued and supported by the promotion process. We believe that co-operation and negotiation should be the result conflicting circumstances and the fact that conflicts arise when participants make their views clear. Unfortunately, traditionally dispute tools are identified and resolved only by system analysts. Our approach replaces the use of interviews with qualitative queries for the process of building integrated information about the system. The purpose of this paper is to identify the factors of environment of organization which impacts on the requirement engineering.

Research Methodology

A systematic literature review was conducted for this research paper by the following steps;

Plan for review

To accomplish the review, we plan for the following questions;

- What are the environmental factors of an organization which influence on the requirement elicitation?
- How the environmental factors influence of requirement elicitation?

Plan for Survey

- To complete this task, we made an online survey form which is filled by the software team of an organization.

Literature Review

Requirement engineering research is probably the best discussed the topic in Software Engineering. With the exception of several books, there are hundreds of research and industry articles on the subject. We explain in this section just a few of them. As many of the researches has mention that the activities of an organization impact on the requirement elicitation process as the business process, the culture of the organization also has a major effect on requirement elicitation and the most important factor is human behavior, the business structure and the rules of the organization throughout the organization impact on this process. The researchers have mention in studies that technical experience and the Requirement elicitation engineer experience also effects. The social climate also

impacts on organization as well as on the requirement elicitation process. The communication skills between the stakeholders also impacts on the requirement elicitation process. Some researchers also mention that the wish list of stakeholders also has an impact on requirement elicitation. The current market status of organization and the software they want to developed also matters in this process. As we can see from the description above, most strategies do not use updates to raise requirement process. Instead, they use questionnaires, text analysis and problem reports. Others have used the group strategies to increase communication between participants.

Different types of stakeholders are involved in the operation of RE processes and project team formation are very important as they have a significant impact on project outcomes, provided that communication is not interrupted by installation of the wrong people. Business collaborators (BC) as well project managers (PM) are two examples of participants who have a particular interest in the RE process, as their forgiveness requires strong communication skills, and participants as engineers for example, be indicated the level of difficulty in 'interacting' with users as well thus effective communication. BC is responsible for assisting RE process. They have a responsibility to make sure that the requirements are fully defined. In a very basic way, organizational culture can be defined as a basic pattern thinking accepted and used by the organization. There are many typologies available that can be used understanding the culture within the organization from anything based on two, three, or more four different cultural models. Final typology of Quinn and McGrath are as important here as they are depending on the type of activity associated with the exchange of information in four different cultures of organizations. Therefore, they split in half market (logical), adhocracy (opinion), family (agreement) and sequence. Organizational life is full with various features such as buildings, in some cultural and political influences reflected in any given organization. The communication program section at that time, is the conclusion from the section of culture and politics described above. In simple terms, it can be seen as organizational inventions direct communication is communication, where cultural messages are observed.

Theoretically, the choice of The pattern shows what the structure can be like set in the way in which requirements are collected again suggested. Different types of study (e.g. ethno methodological and a large number of research has shown how there really is a gap between the determination of the method and its application in practice. Mostly, that the written RE process is not widely followed, or if so, only the section reveals an obvious dilemma between the development of methods and their use. Making a way 'Work' seems to involve a less active character there is a process, characterized by such behavior development, opportunities, disruptions and consensus negotiation. These are emergencies that require it strong communication to manage successfully.

The research has shown that One theme, clarity and understanding, shows file for common importance among respondents is the basic understanding of all roles of participants as well activities' within the project, for everyone to see how all the different roles are equal and how they fit together 'Big picture'. The second point shows that understanding of human roles becomes difficult to avoid simple role. This is a very well-defined situation is the Prime Minister from Soft Co, where he is subordinate to the senior's pressure on project schedules and limited resources people find themselves 'stretched to where they are it is not uncommon to refer to ', in this case people of technology as engineers had re-entered the role of a business analyst even though they did not 'Speak the BC language'. The height of the role expansion leads to 'misunderstandings or unfair requirements may be documented', as found by business collaborative from Soft Co, where engineers can communicate with users in a way that suits their norms (indirectly user) communication pattern.

Findings

In this section we will discuss the result which we have analyze from the survey related to the intra and extra organizational factors impacts on the requirement elicitation.

As from the survey we have find out that in the process of requirement elicitation the culture of the organization has strong impact over it as the culture of every place has impact on the people and its related things while in case of requirement elicitation the culture has the impact as the requirement engineer will first enter in the organization and the environment and culture will be directly observing by the requirement engineer, also it will help in understanding the organization.

The other most factor which impact on the requirement elicitation are the employees of the organization as the requirement engineer will have to communicate with them for the elicitation their behavior and communication will directly effect on the requirement elicitation team. If the employees are the not honest and sincere with the organization, the elicitation process will not be done properly. Also the staff of the organization matters that they are old employees as their time of employment will effect that the older employees are aware of the organization well and at the time of elicitation they can play a vital role in requirement elicitation as they know the system and organization demand. The other part of elicitation of project which is related to the employees of the organization is their knowledge about the requirement elicitation they should have prior knowledge about the organization and their demands and specially the business demand.

From the survey we have find about the medium uses for the elicitation process is 100% involve in the process as if the requirement elicitation is done face to face will give a clear picture of the demand of the customer while through email and other mediums there will be the chance of ambiguity remains. Another problem is the language of communication. On the one hand, users and customers prefer the natural language to express their own needs; on the other hand, analysts prefer the official, which is less ambiguous.

The requirement engineering team should have the prior knowledge of the organization that will be helpful in the gathering of the data.as the knowledge about the organization may help the team to be prepare for the elicitation process accordingly. And the interview will become easy.

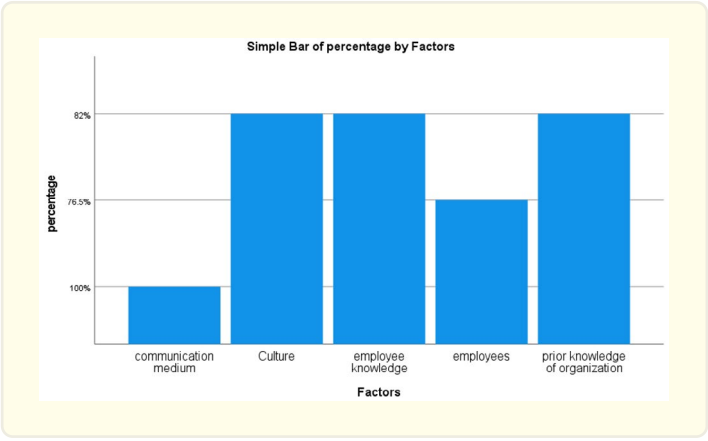
Furthermore, through survey we have find that the business experience of the organization both the development team organization and the organization for which demands for the product. As the development team's organization business experience will be count for the efficiency of the work and the demanding organization's experience will be counted for the standard of project and the level of requirement.

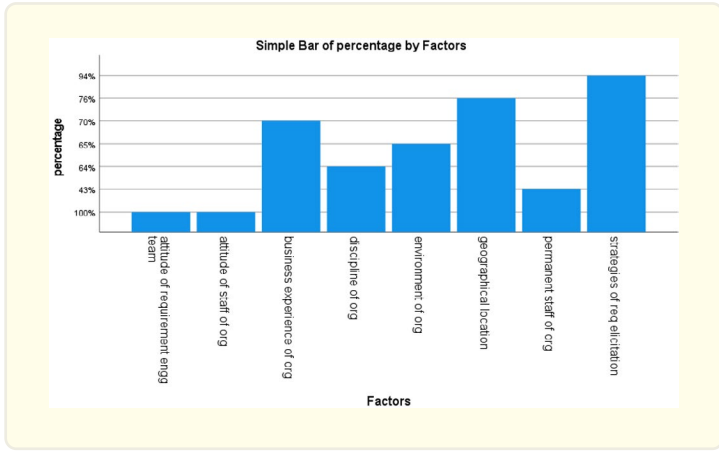
The survey also mentions that the geographical location of the Organization also has a serious impact in a survey some requirement engineers mentions that the location of the organization matters as the location impacts the employee and the culture of the organization so it has indirect effect on the requirement elicitation. From the survey it is also analyze that the project designer also considers the location where it will be implemented.

The survey also took us to get the idea that the requirement elicitation process can be done properly when the user has the domain knowledge.

The survey shows that the techniques and the strategies that are involve in the process of the requirement elicitation have a powerful effect on the requirement engineering as well as the end product if the requirement elicitation process not done well there will be the chance of the project failure.

The whole survey is calculated in SPSS to analyze the result. The calculated result is as follows:





Benefits

Traditional techniques seem to be helpful in the promotion of requirements where one total, each movement commonly used. BC from SoftCo described it as "a good way to communicate" as it allows the link to "Walk next to user" and explain what to the user what they should have thought. Similarly, the second total, conducting interviews with the individual helps 'get anywhere detailed requirements according to BC from FinCo as opposes workshops that can be 'bad with details'. Total three, user documentation and its testing are helpful the process of "finding out what the needs of the the system they have now according to BC from FinCo. So this provides the know now for the consultant as to how the system can be upgraded to participants. The requirement elicitation is the approach which occurs from the users as the users knows what they desired and what they want from the planned software. This approach is the basic and most important step in the software development lifecycle which can lead the project to its destination or either failure. This survey helps us to find out the major reasons which is directly involved in the requirement elicitation process. Through this survey any organization can get benefit by focusing on the factors which are discuss in the paper and they can make their elicitation process more efficient and effective in the development lifecycle. This benefit will help them in business world too.

Conclusion

The paper is based on the factors which have major impact on the requirement elicitation process. It forces the look in organizational matters in a holistic way, i.e. includes a test of how everything works in an organization for everything else. It also highlights the truth that communication issues are a problem for many problems in RE that are always affected by failure of many system development projects. In this paper, we reported the results of research based research on the impact of requirement instability in software project performance and the impact of different RE processes on needs flexibility. The requirements for learning instability provide important understanding of software developers, so that they can pay attention to its associated risks. In this paper, we reported the results of research based research on the impact of requirement instability in software project performance and the impact of different RE processes on needs flexibility. The requirements for learning instability provide important understanding of software developers, so that they can pay attention to its associated risks. This more understanding will then allow them to take control and manage and reduce its harmful impact on the software development process and product. This will continue to make it easier management and control of the impact as such resulting in better ratings, better risk management as well This paper shows that the environment and the culture are not the reasons effecting the RE process while it shows that the extra factors like organization geographical location, the business world, organizations prior knowledge are also the factors which can lead to the perfect requirement elicitation process. It shows that this process is quite difficult that there is need of attention on so many factors but in the end the benefits will save the resources of the organizations the resources may save the time, money and cost of any organization.

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Appendix A. Interview questions

- Is the culture of organization effect on requirement gathering for project?
- Do the employees of organization play an important role in requirement gathering?
- Do the communication medium matters in requirement gathering?
- Do the knowledge of employees for requirement gathering related to the project effect?
- Do the prior knowledge of the organization impact on requirement gathering?
- Do the business experience of the organization effect in requirement gathering?
- Does the geographical distribution of an organization involve in requirement gathering?
- Do the permanent staff of an organization matters?
- Do the attitude of employee and requirement engineer impacts on requirement gathering?
- Do the discipline and environment of organization impact on requirement gathering?
- Do the strategies of the requirement engineering impact on requirement gathering?

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