Abstract

“A product’s quality is a function of how much it changes the world for better” – Tom DeMarco

“Any activity becomes creative when the doer cares about doing it right, or better” – John Updike

The very nature of software projects make them unique - even though a typical software organization may have large number of projects running in parallel, each of them are unique and cannot be fully compared with one another. Each may vary on its execution and global delivery model, stakeholder management elements, project management practices and risk management systems. Hence, establishing an effective quality assurance system to build on the confidence on the deliverable becomes equally challenging for the organizations. Most organizations typically face this challenge by implementing an effective process framework which acts as a guidelines and navigator in the toughest software development environment.

Quality Assurance in software is an emerging and highly demanding area which is very critical for the success of the software project, and hence an integral part of software project management. The importance of the quality assurance system is highly driven by the factor it build a proactive management system that reduces the amount of rework, leading to lowering of cost and improve productivity as well as reduces time-to-market.

Statement of the Problem

The society expects only quality products and services from the manufacturers and service providers. This may be due to the very high level of awareness among the customers about the product or services, the technology up gradation, more competitive products and higher literacy level. New products and services are coming to the market at regular intervals. So one of the parameters adopted to select the product or service is ‘quality’. To maintain or
sustain quality for a long period is essential and also very difficult in the absence of systematic inbuilt quality assurance procedure in the system of the organization.

The software industry is one of the emerging and developing industries, not only in the developed countries, but also in the developing and underdeveloped countries. The industry also generates lot of employment opportunity, so that more youngsters are inclined towards software industry for their well being. All the studies carried out in the past are of general in nature, or focused on one particular area of software project management. But the quality assurance practices in the industry are to be followed on all the areas of the software project management, so that the overall quality can be enhanced. So a research study is needed to identify the quality assurance practices adopted in the industry in India in general and software industry in particular, focusing on the software service industry, because more than 60% of the members of Nasscom are from software service industry (Nasscom report 2011-2012). Hence in this study, an attempt is made to study the quality assurance practices in selected organizations of the software industry, specifically on the important areas such as risk management, project monitoring and control, configuration management, requirements management and quantitative project management, which are identified through brain storming involving experts from the software industry.

**Research Methodology**

There are 957 software service companies in India (Nasscom research report for 2011-2012). A sample of ten percent of the companies (96) was selected using stratified sampling technique, which is one of the powerful probability sampling techniques. A questionnaire was framed in consultation with the quality assurance experts from different software organizations. The areas covered in the questionnaire are selected based on expert judgment. The questionnaire comprises of demographic and certain organization factors and the quality assurance practices in the area of configuration management, project monitoring and control, Risk management, Quantitative project management and Requirement management adopted in the software industry. The questionnaire developed is based on real-time practices in software projects for the identified areas. To ascertain the opinion from the company a project manager/developer/tester/quality assurance persons was contacted. A pilot study was conducted after collecting the opinion from ten
companies and the questionnaire was modified based on the outcome of the pilot study. Suitable tools, in tune with the objectives of the study were adopted in analyzing the collected data. Statistical tests were conducted at 5% level of significance.

**Summary of Findings**

In this study, an attempt is made to study the Quality Assurance Practices in Software Industry in India through the opinion of the sample respondents selected from some of the software organizations in India. It is understood from the study that the respondents are aware of some of the practices, but the awareness has to be strengthened through various programs to be initiated by the top management. If is also evident from the study that the respondents with their little knowledge on quality assurance willing to execute the projects. So it is utmost necessary to train not only the top management, but also the project managers and the quality professionals towards the various quality assurance practices suggested by standard quality assurance models. As the number of studies relating to quality assurance practices are limited in India, similar research studies can be conducted with an expanded study domain, to enhance the quality of the product, services and the project management execution system. If all suggestions in this study are incorporated by the stakeholders who are practicing Quality Assurance in their work domain, then the performance of the system will reach its new heights in the coming years.