

EXECUTIVE SUMMARY

The Management Field Study Project studied and evaluated deviation of software development rework time against the estimated time in IFS R & D International (Private) Limited which is one of the largest IT firm in Sri Lanka. The study aimed to evaluate the factors affect to the situation and provide recommendations to solve the problematic situation. The project was an in-depth rework time analysis of the Central Europe Consulting team which has a large customer base and proper quantitative data tracking mechanism for the performance improvement.

The methodological approach taken in this study was a qualitative and quantitative analysis of the causes and solution development to resolve the problem. For the data gathering, techniques such as brain storming, interviewing, past data analysis and focus group discussions was used. The causes were further analysed by using cause and effect diagrams, bar charts and five-why analysis to identify the frequent causes. According to the detailed analysis of the causes, solutions and recommendations were developed based on 5W1H approach to resolve the identified problem. However, this management field study was limited to the situational analysis and solution development for reducing the software development rework time in the Central Europe Consulting team due to some practical constraints to access the data to other departments and the time limitations.

The organisational analysis was done based on SWOT analysis and study identified, the strengths, weaknesses, opportunities and threats linked with the key problem which was high actual time spent for rework than the estimated time. Study revealed, there was more than 140% deviation of the actual time spent on rework than the estimated time in last nine months period. The situation gives an impact to the organisational profitability because of non-invoiceable time reporting, project delays and customer dissatisfaction. Qualitative and quantitative data analysis provide numerous causes for the problem. Out of them, the main causes are identified which are change requests, inadequate software quality assurance and project planning issues. Theoretical perspective of the study was analysed based on the available literature and the study framework was derived by considering the contributory factors which are: change request management in software projects, software quality assurance and software project planning.

Overall project objective was to develop solutions and provide recommendations for reducing the actual software rework time deviation against the estimated time of rework.

So, it was expected to reduce the deviation to 0% at the end of 2020. Based on the investigation results, project components are constructed which are; situation analysis, introducing change request management process, improving the software quality management system and improving project planning process. Situation analysis highlighted the major causes and the causes were further elaborated. Issues with the change request were connected to changing of initial requirements, documentation issues, and ambiguities in the change request management process. Issues with inadequate quality assurance occurred due to the issues with the time estimation for quality assurance, documentation issues and lack of competency. The study indicates the next major cause is “reworks were not done by the Software Engineers who have done the original customization” which refers to project planning issues. Five-Why analysis indicates the root cause for the issue as ‘the overall control of the project is not done by the Sri Lankan team’. Solutions were developed based on each project component by considering the cost and benefit of each solution which linked to the required resources.

The project was finalized based on the results and the solutions. The study discussed the practical implications based on the results gathered, against the theoretical implications based on the existing literature. Finally, the recommendations were provided which includes implementing a change request management process, implementing a knowledge management system, document standardisation, change quality assurance model for mobile based software developments, implementing a test automation tool, providing trainings for quality assurance certifications, changing resource allocation model for software projects, improving communication strategy within the project team by appointing a project coordinator for each project, providing project management trainings and implementing a tool for project planning. The analysis and recommendations can be applied for the work environment for improving the productivity of the software development projects.