

EXECUTIVE SUMMARY

This project is to reduce the rework effort percentage at the software development department at Information Systems Associates (pvt) ltd (ISA). The report below discusses high rework percentage at ISA and solutions for them. To identify the problems SWOT analysis, data from the existing process and qualitative data from interviews were analyzed. All those data were analyzed in a systematic manner with the help of employees at various levels in operations. Using fishbone diagram root cause were identified. All these analyses were done based on the existing data assuming they are correct and accurate enough for analysis, which is a limitation that is stated in this project.

SWOT analysis is used to understand the strengths, weaknesses, opportunities, and threats focusing on both internal and external factors at ISA which has provided clear insights surrounding the problem areas of rework. Pareto analysis was used to identify six main contributory six of high percentage of bugs, high percentage of support issues, high percentage of reverted releases, high percentage of training costs, low percentage of delivery vs commitment, and low percentage of effort of new work are identified as the main associated problems of rework. By focusing on these six identified areas using the fishbone diagram root causes were identified for each area by a combination of qualitative and quantitative data to support the causes. Based on the analysis it reason for the above six areas were identified as lack of automation coverage, absence of change approval process, lack of proper reviews, lack of configuration management, lack of definition of done and lack of proper estimation practices for backlog respectively. All six problems are then categorized into three labels of quality, people and process based on the analysis.

The report discusses literature related to rework in general to understand and define what is rework. Each label along with the root causes were analyzed in dept using the literature to validate the problems and find solutions and recommendations from the literature. A study framework was developed based on the literature. Rework is the outcome of the study framework and people; process and quality were identified as the drivers.

The main objective was to reduce rework effort percentage cost from 30.32% percent to 27.80 % leading the cost reduction USD 802,361.29 to USD 585,262.57 within 12 months of project implementation. Subobjectives were defined for three components related to the

associated problems. Updating DoD, defining user story template, RACI matrix for backlog grooming, training need analysis and training plan development were identified as solutions to reduce the rework in process component. Updating document management process, updating change approval process, updating change management template, adoption of automated tools, skill assessment on automation, training need analysis and training plan development were identified as solutions for quality component. Training need analysis for legacy products, document update process, training plan development, configuration management process update, continuous feedback process, and rewards & recognition was identified as people component related solutions. For all these solutions implementation it is estimated to cost USD 32,669.66.

Benefits of the project were identified mainly as tangible and intangible benefits. As per the findings the total benefit of the project is USD 274,536.89. And considering the cost and benefit the project is set to achieve the cost benefit ratio of 7.43, which indicates the true potential of the benefits of the project. Furthermore, the primary outcome of the project is defined as better quality software, value delivery, improved customer satisfaction due to improved delivery. Process component outcomes were identified as better customer satisfaction, better delivery, better value to the customer, increased profitability, better collaboration and on time delivery. Quality related outcomes were identified as better-quality products, better supported products, improved customer satisfaction, and happy customer support team. People related outcomes were identified as less attrition, better carrier growth satisfied employees.

Available solutions in the literature review and the provided solutions had many overlapping areas. Which indicates solutions provided in the report were used and discussed by various research in the past. Finally, the report has given recommendations for implementing the project successfully focusing on short, medium and long-term. The report also discusses the benefits of the proposed solutions and their impact for the next 12 months after the project implementation. However, it should be noted the benefits will far outlive the implantation of the project and value will incrementally increase with the implementation of the recommended solutions of the project.