Improvement of Task Tracking to Manage Team Growth

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Abstract — *Monitoring and Control is one of the Project Management (PM) Phases which this project addresses. Proper execution of the Monitoring and Control phase along with a suitable Task Tracking process helps minimize opportunity areas to run a project. Quality Notification (QN) Department of Infotech Aerospace Services (IAS) identified areas of opportunities in their Task Tracking activities. This project used a DMAIC methodology to identify the root cause of the problem and set corrective actions to fix the problem. In this process, a Benchmark event was executed and an action plan was set to work on the QN Task Tracking tool development and comply with the set objectives. Tool development resulted as a good example of Innovation practice by using the Original QN Task Tracking tools and merging them to IAS's best in class Department's tool. The use of this tool has displayed benefits for both Project Engineers and Designers by having important information of their work readily available in a standardized manner for the generation of reports to customers with minimum efforts; therefore, employee's time efficiency is improved by the generation of this tool. IAS benefits from this project as it allows continuing growing the team headcount and workload in a controlled environment.*

Key Terms — *Control, Innovation, Monitoring, Project Management.*

INTRODUCTION

This project is incorporated on the Quality Notification (QN) Department of IAS Puerto Rico. This department works to provide engineering assessments to Aerospace Turbines manufactured parts that when inspected do not comply with Blueprint dimensions (within the established tolerances) to determine if the parts will be Accept As Is (AAI), Repaired, Reworked, or Scrapped.

The contents of this paper entails around the importance and the need of a robust process of Monitoring and Control to allow team growth. It was identified that QN Department's task tracking system needed to improve the handling of cost (time) and quality information. Good Task Tracking provides value to both internal and external customers. Internal customers include designers, project engineers, and company's management while external customers we are referring to the stakeholders outside of the company. Internal customers can use the information available in the task trackers to identify task ownership, gauge the current performance in terms of self-monitoring of budget, and On Time Delivery (OTD). In order for the department to maintain a good customer satisfaction, OTD and budget have to be monitored closely with information that is accurate and readily available in order to make business decisions that do not impact customers unfavorably. This improvement helps Department to be successful and have the required tools to grow in a controlled environment.

Define Problem

QN Task tracking process areas of opportunities were identified more easily in proportion to the team and workload growth. Figure 1 displays growth experienced in the QN Department for the period of January 2014 to October 2016. This also shows that there is a pattern of grow of 1 additional employee per month, based on the slope value of 1.0. Increase in work and manpower resulted on: tracking efforts increase, resource management complexity increase, and reliability of manual tracking reduction. This led to the hiring of additional

Project Engineers to manage the Statements of Work (SOW); however, this still did not close the performance gaps of the QN Task Tracking as it became more complex.
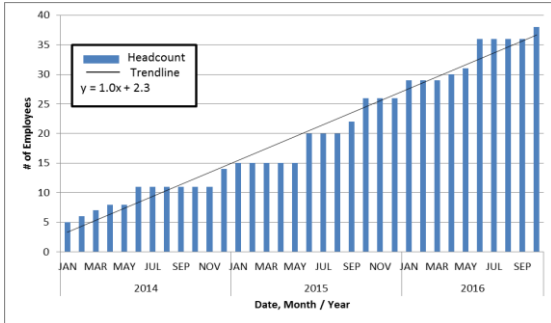

Figure 1
Quantity of Employees in the QN Department per Month/Year.

Thesis

Task tracking systems that allow maintaining control of tasks and gauging of the results for a project no matter the size can result on competitive advantage and provide opportunities for continuous team growth.

Objectives

Objectives for this project were established based on the problem that was previously identified for the QN Department on its Task Tracking process. With the importance of Resource Management, Monitoring & Control of projects, and Customer Satisfaction in mind, the following objectives were defined:

- Reduce Project Engineers efforts (time) by 30% to provide reports of budget monitoring (CPI).
- Improve velocity and Quality of providing Task Status within a period of 1-2 hours.

By addressing these areas, the project will prove a successful one to help the QN Department continue the grow trend with favorable customer and employee satisfaction. This can become a competitive advantage for this service as it can grow without the risks of not managing projects correctly due to poor management tools or processes.

BACKGROUND

Importance of Task Tracking

The contents of this paper entails around the importance. Project revolves in the identification of the current Department Task tracking opportunities for improvement and working on alternatives to fix them. Task Tracking is part of the activities incurred in the process of Task Management along with planning and reporting. This is part of the Task Management process of handling a task from its start to all the way to closure [1].

The importance of accurate and up to date Task Tracking is crucial to allow management and project engineers take informed decisions for resource management and putting control methods to make sure the project criteria are been met. All of the items mentioned are directly related with the experience of the customer to be delighted. Customer's value experience can affect the workload capabilities as if the customer is not satisfied workload can be impacted adversely.

Task tracking issues are made more evident when the amount of work increases as it increases the complexity of keeping track of all of the tasks [2]. Department's headcount for 2016 has seen an increment of around 60%. This exponential increase has led to an evident increase in tracking complexity, thus far concluding that current Task Tracking methodology is not robust.

Now it's important to determine the method to be implemented to make the Task Tracking activities more robust as it will benefit the development of the project engineers work as they will be able to take decisions with data that is accurate, thus results in benefit in enhancing productivity and organization performance. In order to decide what approach will be taken to improve the task tracking methods, it's imperative that the following be considered when deciding what the best course is:

- Cost of implementation: for this project much of the options available are software's that are generated to focus on this area or considering

the services of a programmer to make a custom job to cover objectives [3].

- Duration: as required by this course, the project must be completed within the duration of this course (12 weeks).
- Quality: comply with the criteria established in the set objectives.
- Users: ensure the tool or process is simple and/or captures the interest of the users to help on the proper use and motivation to adapt to the use of the tool or process [4].

Few points that need to be highlighted for the success of this project; those are customer and employee/user focus. With the objectives established this will help on the path of ensuring that employees have the right tools to make the day to day activities more time efficient and delivering enhanced quality products [5].

METHODOLOGY

The methodology selected for this project is DMAIC (Define, Measure, Analyze, Improve, and Control). Figure 2 contains a brief description of what does each DMAIC phase consists of.
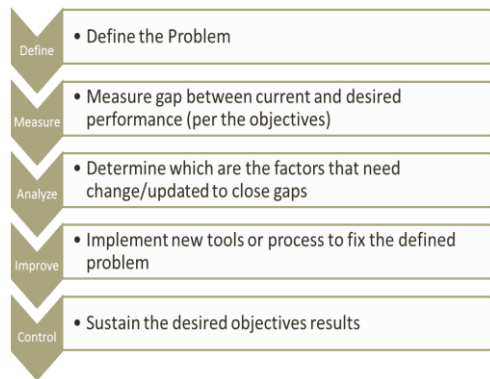

Figure 2
DMAIC Phases

Define

Identification of the current Department Task tracking opportunities for improvement was performed by gathering feedback from IAS Stakeholders: Project Engineers, Supervisors, Manager, and Designers that worked for the QN Department.

Measure and Analysis

In this phase the gap between previous QN Task Tracking processes was measured to determine which factors needed enhancements.

Benchmarking event was executed using IAS's Best in Class department for Task Tracking activities. Figure 34 displays the time it takes to complete Task Tracking activities in both QN and Best in Class Departments.
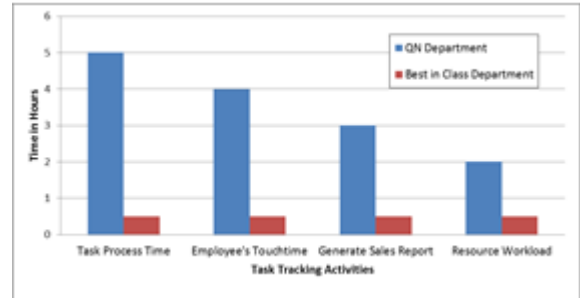

Figure 34
Time Comparison of Task Tracking activities between QN Department and IAS Best in Class Department for Task Tracking activities

Improve

Enhancement of QN task tracking system began with the merging of QN Task Trackers with the functionalities available in the Best in Class Departments Task tracker tool. Merging incurred in the need to move from an MS Excel spreadsheet to an MS Access tool. This tool was created with IAS internal resources to address the following areas:

- Tracking QN progress
- Budget Reports automation
- Resource Management support

Control

Short term control was achieved. Task Tracking tool results were measured to determine the project's objectives were met. More details of the QN Task Tracking tool outcomes are available in the Results portion of this paper. Long term control plan is in place to determine project results were sustained. This long term control plan is not part of the scope of this paper.

RESULTS

With new QN Tracking tool Project Engineers achieved 30% time reduction for providing budget reports. The tool is continued to be worked to obtain the additional time savings as best in class department has achieved better results.

Task status is now readily available and can be extracted within 1 hour. This improvement has displayed the great attributes of developing such tool to support the QN Department in its daily activities.

Additional improvements were obtained with the creation of the new QN Tracking tool. Employees reported an advantage of having all of the task progress information available in a standardized manner, as it avoids looking into different information sources to obtain task information. Also, this centralized source of information helps to minimize the need of using the Microsoft (MS) Outlook® program to look for assignment emails as the QN Task Tracking tool features a list of pending work per employee.

CONCLUSION

Major Findings

Task tracking tool contemplates the objectives set for this Project. There are some additional aspects that will need to be address in the future for the continuous improvement and functionality of the tool. This is as MS Access has a limitation of not working properly when there are more than 12 users using it at once. Also, the programmer has warned that there have been cases that the MS Access tool corrupts information once it reaches the storage of 2 GBs. These issues are scheduled to be tackled in 2017 with the use of resources that have knowledge of JAVA and/or ORACLE as the source of database and user interface.

Summary Statement

Task tracking systems standardization and enhancement to help on the day to day activities is crucial to allow any team to experience growth in a controlled environment. As many companies pursue the need to continue expanding their skills and workload capacities, this should result in higher company revenues and success.

In this project it allowed to display the benefits of the use of the DMAIC methodology to tackle any problem that needs to be addressed. The continuous improvement initiatives will need to be put in place to ensure that competitive advantage is maintained for the benefit of the Department.

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