Technical Paper

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PMO Daily Operations using Scrum Methodology (Case Study)

Jan. 2015

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Abstract

The idea of this case study is to give real example of using scrum methodology on PMO daily operations in the construction industry and how we can benefit from this methodology flexibility.
We tried to focus on daily operations since using such methodologies will incredibly affect on consumed efforts and time.

Introduction

While we are working on setting up a new PMO for Makkah municipality projects we discovered that the traditional management practices will not be the proper for dealing with such environment.
We had many challenges at the beginning, firstly everyone hears that Makkah municipality has PMO he thinks there will not be any defects and everything should be perfect.
Secondly we had frequent daily changes from the client side which did not match with the traditional planning practices, moreover we had to set the success criteria for setting up this PMO and be very specific in that to can measure the results at the end of project.
The client collaboration in this project and permanent requirements clarification from their side was the major important factor for the project success.

Purpose of the paper

How to apply scrum methodology and what tools to be chosen from this methodology to be applied within PMO Operations.
We will discover the importance of setting your goals and focus on the agile essentials and how to continue in process improvements.

Background

Agile project management is an iterative and incremental method of managing the design and build activities for engineering, information technology, and new product or service development projects in a highly flexible and interactive manner.

Applying agile practices on operation management is considered very beneficial for any daily operations since agile practices offer very flexible methods to handle team efforts and time and participate also to do less work (the art of doing less).

Case Study "Makkah Municipality PMO"

We kept following the agile manifesto principals on most of our PMO daily operations since we cannot get in the contract negotiation much which will not enable us to achieve our project goal and satisfy our client.

- **The project agile experience**

In this portion we will illustrate how we applied the agile practices on our PMO daily operations. We will do so by referring the main stages in our project to the agile project stages.

The mission was to set up and roll out for Makkah Municipality PMO through:
- Develop Project Management Application
- Develop Project Management procedures
- Conduct project management training/ awareness sessions
- Reporting the projects progress and create recovery plans for the troubled projects

The scope was not such easy; you are doing these activities with 365 current construction projects, 34 supervision consultant and 155 contractors.

- **Inception phase:**

As the inception phase is the preparation period before conducting the work we care about the following activities:
1- Creating the project charter.
2- Choosing the appropriate team members.
3- Drafting the initial plans for first Roadmap, release and iteration.
4- Indicating the proper team structure.
5- Selecting the proper tools which will be used.
6- Clarifying the nearest deliverables specification.

Regarding the tools which are being used in this project the PMWEB (Project Management Application) and that helped us to keep very wide data base for the current projects (Major Projects -Roads-Utilities-Storm Water Networks) and keep also very quick contract management system which include smart documents work flow.

In our project we have to control and monitor around three hundred sixty five (365) of current construction projects and that was very difficult challenge to keep their data in proper data base and smart documents work flow.

- **Implementation phase:**

The implementation phase in our project was very complicated since our goal to enhance the existing project management maturity for all project key stakeholders including municipality representatives and supervision consultants who manage the current construction projects and enable them to reach the best project management standards and practices.

The existing status of Makkah municipality before PMO:
- Traditional Plans / Road Maps
- High Tech. Low Touch Tools
- Comprehensive Documentation
- Normal Responding to Change

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The Agile Manifesto was the Secret:

Individuals and interactions over processes and tools
Working software over comprehensive documentation
Customer collaboration over contract negotiation
Responding to change over following a plan

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- **Mission no.1**

We decided to be " Agile", started our job by conducting planning sessions in the agile style and that was for indicating the first release backlog items since our project is three years long, we have divided it into three roadmaps and four releases per every roadmap.

We used the suitable tools and techniques from scrum methodology as:
- Daily Stand-up meetings
- Sprints planning meetings
- Sprints review meetings
- Retrospective meetings
- Information Radiators "Burndown Chart"
- Activities time and effort estimations by the team members

- **Mission no.2**

Doing the right job in the right time was our first aim, we started to plan for the first iteration (sprint) by doing the sprint planning meeting to prioritize the most important release backlog items should be completed in this sprint, we did so by dot voting method and the templates preparation was one of the most important backlog item in this stage, our contract mainly caring about evaluating and enhancing the quality, work progress and safety performance of the contractors while executing the construction projects.

- **Challenges**

  - Rapid change "we are receiving everyday"
  - Set the success criteria of the PMO
  - Applying the required new evaluation templates/guides across all project parties very quickly (Client, Consultants and contractors) while they used to apply very low standards templates.
  - Getting their feedback about any required enhancing for the new processes and procedures.
  - Working for improving the processes and tools as the received feedback.
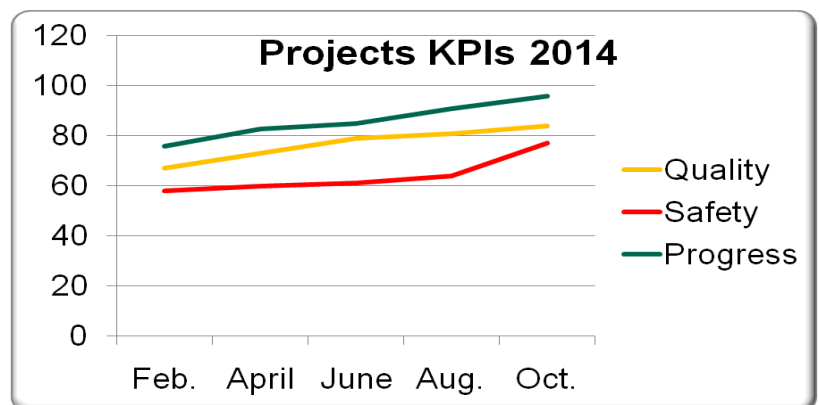 - Adjusting the final operation approach in that slow reaction environment.

Results

Regarding the team
- Better Communication
- Velocity Increased
- Motivated
- Responsible

Regarding the client
- Easy Prioritization
- Care about the value
- High quality products
- Transparency

Projects KPIs 2014

Analysis

While we are using the agile practices as a style of project management we have found that all project stakeholders are contributed and collaborate effectively for the project success, clarifying the iteration deliverables before commencing every sprint have saved a lot of time and eliminate the rework effort.

The daily stand up meetings (scrum meeting) helped a lot to put all the project team members in the picture all of the time and allowed the project team members to cooperate with each other in order to resolve the current pending issues.

The progress monitoring means of the agile style were better than the conventional ones since all of the progress data is at front of the project team members all of the time (e.g. burn down chart, white board illustrating the completed, in progress and not started stories)

The scrum time boxes were very effective mean to eliminate the wasted time in the conventional meeting.

Conclusion

Some important points we have learned from this experience
- The final product and the client satisfaction are the most important factors of any project success.
- Collaboration is very critical factor in all the project stages.
- Importance of being open mind to changes and how to deal with it positively.
- Importance of the product owner role and how he affects other project team members positively if he has well groomed product backlog and updated product roadmap.
- The Agile practices are the best solution to be applied to run PMO Daily Operations.

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