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Operational excellence through Agile Practices
by Chandan Lal Patary
Advisory Article

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Abstract

Demand is ever increasing in today's world to improve operation excellence to meet the competitions for any project. Steps organization could take to get the maximum value in less time and less cost by executing the projects through well-defined proven process and demonstrate greater customer satisfaction and achieve the target revenues are through an established process. Through quantitative methods for measurement, a team can demonstrate and convince all stakeholders about the excellence. Continuous performance improvement has to measure and demonstrate to show operational excellence. Increase productivity, increase quality, reduce cost is the mantra of Operation excellence, which team has to perform, measure and demonstrate. There are several excellence models which can be referred to like Quality Circles, Just-in-Time, Total Quality Management, Business Process Re-engineering, Six Sigma, and Lean. To get excellence depends on efficient execution of any model based on the circumstances.

Introduction

According to Wikipedia, Operational Excellence is a philosophy of leadership, teamwork and problem solving resulting in continuous improvement throughout the organization by focusing on the needs of the customer, empowering employees, and optimizing existing activities in the process.

Agile Manifesto twelve principles are,

1. Customer satisfaction by rapid delivery of useful software,
2. Welcome changing requirements, even late in development,
3. Working software is delivered frequently (Weeks rather than months),
4. Working software is the principal measure of progress,
5. Sustainable development, able to maintain a constant pace, Close,
6. Daily co-operation between business people and developers,
7. Face-to-face conversation is the best form of communication (co-location),
8. Projects are built around motivated individuals, who should be trusted,
9. Continuous attention to technical excellence and good design
10. Simplicity
11. Self-organizing teams,
12. Regular adaptation to changing circumstances.

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In today's world all organization has to increase the project execution speed to sustain the high competition and reduce the time to market. Project Execution cycle time has to reduce continuously by working smart with a smart process which is continuously evolving. The Organization which has the ability to reduce the execution cycle time will have the competitive advantage. Project can maximize operation excellence by following agile practices. Organization can get the expected output and reduce the execution cycle through best practices followed across industries within agile framework. Scrum masters and managers have to drive the agile process religiously to get the required output. Agile provides value in less time to the customer.

Problem Statement

How can team Improve operation excellence by establishing agile process?

How team can get the maximum benefit out of the process by knowing the performance gap and through continuous improvement?

What are the measurement parameters to demonstrate that team is doing excellent in execution?

Proposed approach

Below are the highlighted points learnt during execution of the project and for the team the need was to get maximum output by adopting agile methodology for execution of the project. All these flow has to be monitored measure and drive for the ultimate results.

a) Effective Requirements management
b) Mindset Changes
c) Culture Changes
d) Communication management
e) Distributed team management
f) Metrics and measurement
g) Process improvement

Effective Requirements management

Identifying features and creating backlogs is a major drive before start of the agile project. Product management and Architect involvement is critical to drive this product backlog creation. The major conflict begins when the requirements are not obviously visible and technically viable. Business management hesitates to invest if the product or project vision is not very clear. Agile accepts changes but investor need to know how much and by when? More granular are the requirements, success rate of agile project execution goes up. Tools play a critical role to capture the requirement state and

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monitor and controls the requirements. The backlogs have to be traceable and tracked to closure.

Requirement changes have to be tracked and change management impact has to be monitored. The fundamental of agile is change. Architecture should have ability to absorb those changes at any point of time in execution cycle. Change request has to add into the product backlog with priority set. Every sprint should have capacity planning for the team to burn those feature. Backlogs have to be broken into tasks in granular level (8 hrs) level so that tracking of development review- testing and requirement closure is efficiently done. Complete the high priority requirements, ship those requirements to customer, take the inputs and update the requirements as new features in the product backlogs and same cycle continues to maximize the customer satisfaction and value generation.

Mindset Changes

Agile demands mindset changes across the organization. At the core of agile execution it is the team members who will drive the entire show. So the team members have to be always motivated to successfully execute the show. The challenges some of the organization face to convince the top management is to buy the agile process. Traditional business drive will not work with the agile process. Contract and stakeholder management has to be different.

Agile needs dynamic and motivated team members. Organization policy has to align or change accordingly so that agile projects get maximum value out of it. Agility, collaboration and team player attitude are the key to the success for an agile project. Team should attend seminars and training on agile happenings in the Industry. Need to try different way of executing the tasks so that team can evolve continuously.

Team members should be encouraged to do the mistake and learn from the same and share the lessoned learned. Progress and improvements has to be demonstrated continuously with the business leaders to reflect the continuous business values. The success rate of the demo has to be measured and actions have to be identified for continuous improvement. Data needs to be presented to the management from scrum based project.

Traditional project Manager does not have any role to play in agile project. He/she can be a facilitator and help the team to achieve the maximum burn down rate. She/he has to guard the team from external interference so that team achieves the goal.

Culture Changes

Agile embraces changes, agile expects fast decision making, agile expects frequent failure and learn from the mistake. Agile expects mature team members, agile expects reduction of overheads. Not much documentation work at starting.

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Organization needs to recognition the team members who are contributing significantly for the sprint velocity. The same drive should happen more frequent. Reward system has to be strong enough to energize the contributors.

Infrastructure has to be up and running to share the information. Build machine, code repository, communication lines etc. has to be up and running .Infrastructure investment has to be prompt with minimal follow-up.

Line management has to actively involve and manage highly motivated team members to maintain the spirit and control the attrition. Involve wherever people management conflict arises.

Team should be small to increase the interaction and increase ownership. Large distributed team has multiple side effects. Team building is fast and long lasting for small team. Agile team need to form with proper team players like expert Architect, domain expert, experience developer and experience test engineers etc. More team members could jeopardize the agile team success rate if they are at entry level developers.

Information management

One of the main pillars of agile project execution is communication and information sharing. How efficiently team members communicate will directly impact the scrum team. Everybody should know what is going on in SCRUM team. By applying all different mechanism for information sharing, information has to radiate to all the stakeholders. Look for issues. Look for dependency, head on to these so that team gets the correct velocity without failure.

Leaders have to ensure for the smooth and healthy communication among team members and stakeholders. There should be healthy conflicts but need to control those if it is not helping project. Daily scrum, scrum of scrum, review discussion in all kind of communication has to execute with mature team members so that every team members feel that because of their contribution project status is changing. Team effort has to be highlighted always rather than individual excellence.

Distributed team management

Many global projects usages agile process; those projects have to take different approach and need to take special care for execution. Agile heavily depends on prompt communication. Need to deploy different mechanism to get the information without any delay. Mail, blogs, messenger, video conference, telephone etc. apply all mechanism to create a virtual collocate team. Distributed team need to know culture to effectively work together. Line managers have to help if there are any conflict arises which is beyond scrum team capability.

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There should be scrum of scrum meeting to resolve those issues. Sometime face to face interactions through travel from each side increase the team bonding and collaboration, which is excellent and silver bullet to reduce conflicts. Centralize tool for data access is a must. All stakeholders' like product manager, business manager, consultants, and test engineers need to be directly involved and contribute for effective agile execution. Team members have to be highly adaptive so that they can get along with the global team.

Metrics and measurement

To get excellence output process need to measure on daily basis and improve continuously. Agile need different measurement and control mechanism to track the project health, to assess the team performance, to assess the team output in terms of quality, to assess the team productivity. Team should measure the velocity to predict the execution completion. Estimation accuracy play major role for sprint planning. Over planning is bad for execution so minimal plan and execute and show shippable artifacts.

Agile avoids big bang delivery. Frequent workable software delivery is healthy way demonstrate progress. Estimation need to improve constantly sprint by sprint to improve the efficiency. "Doneness" matters a lot for scrum execution. "Doneness" is the measurement terms for scrum based project where team calculates how many story points/features actually developed, reviewed, tested and signed off from the product manager. Team need to control if doneness is not achieved 100% consistently.

Technical debt should not pile up continuously and become a mountain of issues hidden in the shippable software which need to check and control. By focusing on test data metrics team can efficiently track and measure the quality improvement which will reduce rework for future.

Process improvement

Agile needs continuous process improvement specific to the organization. Team has to religiously follow continuously process improvement through retrospect, introspect and brainstorm. Every team members should suggest some kind of continuous improvement after each and every sprint. Team should stop doing what is not working and should explore more to get the maximum output. Individual has to be responsible to capture all the improvement points and drive those points. The same should share with other SCRUM team to get the inputs. Team members should have total empowerment for planning, changing and controlling the process.

Agile need process to be strictly followed so that the teams get the desired output. All stakeholders have to participate in sprint demonstration and contribute. High collaboration among team member is highly expected like Architecture team vs. development team vs. testing team vs. business analyst. Product owner's early

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involvement and continuous monitoring about the feature development progress, correction is very much required. In absence of product owner involvement, failure rate increases. Sprint completion has to be signed off by the product owner with backlog closure. Stakeholders continuous inputs are require to successfully executing the project. Agile mostly follow test driven approach and delivering of working software.

Really, really working software, that is the game changer. To maximize the output team should automate wherever possible. Need to increase the automation to reduce the human intervention wherever applicable. Agile is a test driven software development, so it should maximize test automation. As agile puts active checkpoints throughout the project execution cycle it mitigate most of the risks and deliver high quality software.

Business Impact

Execution excellence is the key to deliver the product into the market into shortest timeframe. Organization will get greater benefit if agile process can deploy and religiously follow and continuously improve. Knowledge has to capture and reuse wherever applicable instead of reinventing the wheels. Organization has to build agile team who are producing shippable product in less time and transparent metrics should support the progress for effective measure and the project status. Tangible output has to be shown to measure the progress. Team should deliver continuously high quality product and take feedback to correct if required. By deploying agile, team should demonstrate if schedule performance, Budget performance, quality performance, cycle time reduction, productivity improvement, reducing rework is in improvement path.

Conclusion & Future scope

Agile if properly deployed and followed all the best practices most of the software project will escape from failure and will achieve better execution efficiency. It takes time to mature up to a level where organization can start observing the operation excellence from the agile team.

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Mr. **Chandan Lal Patary** is currently working as an Agile Coach/Program Manager at ABB. He has deep experience in developing software applications across various domains and has successfully executed many projects. Chandan has worked on domains like Healthcare, Aerospace, Building Automation, Power Automation, and Industrial Process Automation, under real-time, mission critical product development to large scale application development conditions. Chandan has 15 years of IT experience. He is a certified PMP from 2008 and a Green Belt certified holder. Chandan is an agile practitioner and Certified Scrum Master. Chandan holds a Bachelor's degree from National Institute of Technology (NIT-Agartala, India) in Electrical Engineering. He completed one year of Executive General Management program from IIM-Bangalore, India in 2007. He can be reachable through email/LinkedIn: patarychandan@gmail.com.