

Visualisation and Agile Practices to the Rescue of Traditional Project

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Abstract

Agile as a methodology has become popular in the last few years and our organization has seen a steady increase in the projects adopting Agile methodology like Scrum, XP , Kanban and various combinations thereof. However there are many projects that still follow traditional methodologies for various reasons. These reasons vary from contractual, cultural, structural and sometime even technology is a limiting factor when it comes to adopting Agile.

While there could be barriers in adopting **all** Agile practices within a project, we did realize that **some of the good practices** can be **adopted more easily as compared to others**. With this in mind we went about the task of helping a project which was facing lot of challenges in their day-to-day working. We consciously looked at keeping things simple yet effective with the end objective being to address the issues faced in the project environment on a day-to-day basis.

The remainder of this document describes our journey with this project team and what we both learnt at the end.

Background

Our organisation partners with clients and helps them to address their IT related requirements. A large chunk of the projects fall into application maintenance, minor enhancement, bug fixing and L3 analysis space following standard lifecycle (traditional approach) and there is a strong belief in the senior leaders that a well defined process would resolve their problems. Through this experience report, we would like to share how visualisation and Agile practices rescued the project from depleting customer confidence and quality of service delivery.

A project team of 9 members distributed across UK & India locations was working on an application involving enhancements and maintenance for a large investment bank. The core functionality of the application was to calculate the various indices and involved complex logic which required domain knowledge as well as of the application knowledgeable team. Despite the fact that the platform has been in use for many years, new features were still being implemented by the same project team. Yet it was taking longer to complete the change requests whereas one would have expected the productivity to be high as the team was constant for most of the time.

The team was responsible for all the activities from analysis to deployment. There were many challenges faced by the team, of which the key ones are listed below

- Delay in delivery and low productivity as perceived by the customer
- Low quality of deliverables
- Lack of senior management involvement in planning and forecasting capacity leading to constant pressure on the delivery team
- Low morale of the team

Technology Used by the Project

Technology	Change Request (CR) Size & Type	#Applications Supported	Domain
Oracle, Java, Unix, Mat lab	5 to 7 Days, Development, Enhancements (Major & Minor)	2 Applications	Equities & Derivatives

Approach

The Agile CoE assessed the project and the findings (common to many IT projects), are listed below

- Disconnect / in direct means of communication between client IT and delivery teams.
- Frequent change of work priority
- Unrealistic expectations by client on delivery dates due to lack of information in capacity of the team. (Demand Planning)
- Lack of visibility within the teams and to other stakeholders
- Distributed teams adding to the confusion listed above.

Execution

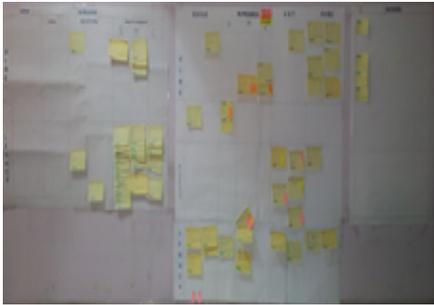
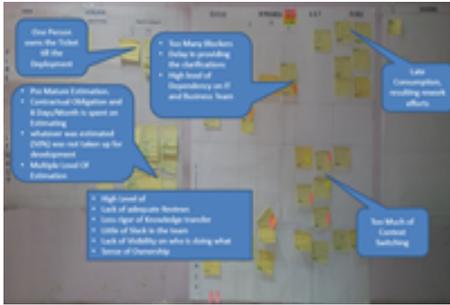
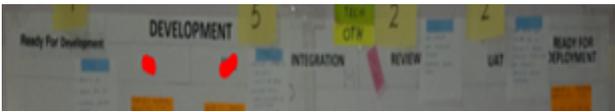
The CoE facilitated retrospectives for the team. The idea was to give the team a platform to talk about the issues as they see and also to have an open discussion across the team members. The outcome of the retrospection brought out the pain points of the team which have been listed below

1. Unplanned adhoc work from customer resulted in team working for long hours and weekends to meet the deadlines. This also resulted in poor quality of deliverables as some practices were ignored due to lack of time resulting in many escalations from the customer which added to the work pressure on an already overworked team leading to a low team morale.
2. Missing deadlines for their deliverables
3. Customer (IT) would prioritise without knowing when the work items would complete and the existing capacity of the team (Predictability)
4. Team slogged during the weekend and got burned out
5. Management and senior management was not aware of demand and capacity
6. No clarity on who is doing what (Visibility)

The CoE recommended using Visualization as an aid to address some of the issues listed above. The root cause of many of the ills was readily available information. CoE conducted exercise on Value Stream Mapping, trained the team on Kanban and helped them to set up the visual board. In addition, teams conducted daily stand-up's, tracked the work visually and had regular retrospectives to ensure that there was constant flow of information between the team, client and HCL senior management.

Additionally metrics like Cycle Time, Lead Time and Cumulative Flow Diagram also helped to get a quantitative perspective (along with the qualitative changes) on the benefits of the newly adopted practices.

During the implementation, the team had identified 3 areas which groups and the challenges within those that were addressed are

Challenges	Mitigation / Implemented Solution
<p>Business Challenges</p> <ul style="list-style-type: none"> · Prioritize features by highest business/end user value · 'Drive' the development efforts to incrementally deliver 	<p>Ad-hoc Tasks and Improper Planning of work items were leading the team burnout. Following practices were Implemented to bring under control.</p> <ul style="list-style-type: none"> ● Initial Visualisation Board Setup-To Understand the Process (Input Cadence & Delivery Cadence) ● Individual Queue columns were created to understand the Work Items on Pipeline ● Weekly Prioritization calls were driven with the items which are part of Input Cadence <div data-bbox="496 862 930 1167" data-label="Image">  </div> <div data-bbox="967 862 1417 1167" data-label="Image">  </div> <p>Drive the development efforts to incrementally deliver</p> <ul style="list-style-type: none"> ● Work Items of Complex variability were suggested to broken down to smaller requirements, to bring more clarity on the requirement and integrated in the respective Swim lanes. <div data-bbox="483 1368 1098 1480" data-label="Image">  </div>
<p>Teams</p> <ul style="list-style-type: none"> ● Eliminating waste and reducing context switching. ● Focused on enhancing knowledge sharing ● Improving collaboration ● Improving Quality ● Deliver Right at First Time 	<p>Factors for Context Switching was</p> <ul style="list-style-type: none"> ● Adhoc tasks requests from Business ● Team was doing high level analysis Estimation for prioritization, which has led the team to go for detailed clarification when picked for development ● Team member who does the initial analysis will not always be working during the development lead to detailed analysis by the team. ● One person would own the end to end till deployment, no one else in the team would have an idea of what needs to be done <p>To address these, following were implemented</p>

- Team had dedicated one/two members to handle adhoc requests and tracked in the delivery cadence.
- Defining of Acceptance Criteria for each work item
- Definition of Done were defined in the Visualisation Board to improve the quality

Daily Huddle

Team conduct Daily Huddles religiously discussing blockers, new work items, new learning's



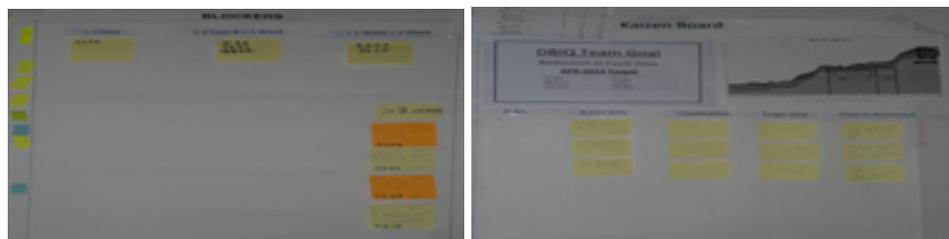
- Work Items were broken down to reduce the complexity
- Swim lanes such as Development, Integration, Review & UAT were created so that the complex work items would go through the stages and the work is been shared between 2 or more team members, for e.g. One team member would complete the development and place the items in the Integration column



Management

- Focus on the value stream (cycle time—idea to implementation)
- 'Drive' Continuous Improvement (Kaizen)
- Manage impediments

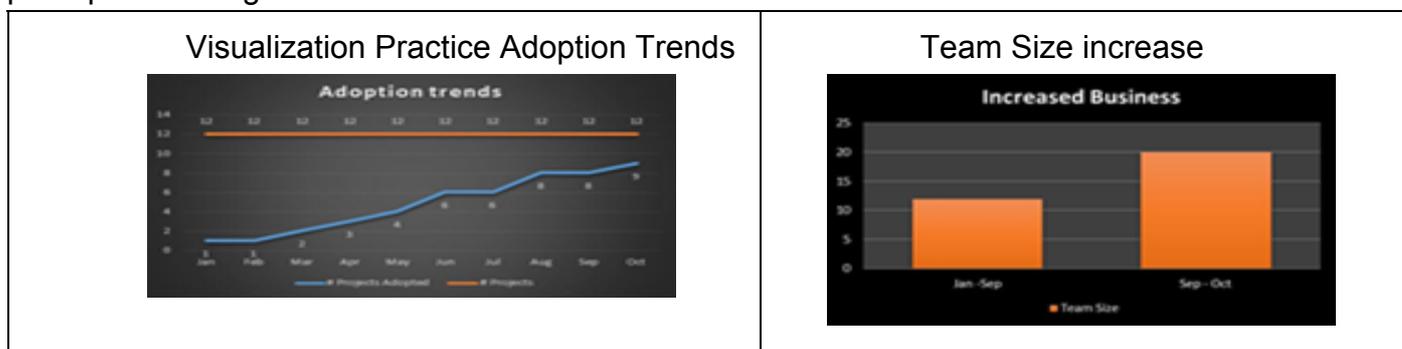
- Blockers with Ageing Concept helped the team to manage escalation proactively
- Team Meetings were used to collect the status of the work items were stopped
- Retrospection's were conducted to decide on the Continuous Improvement areas



The adoption of these practices brought in visible changes in the issues listed above with the primary ones being

- Better transparency on existing work
- Ability to plan better due to increased visibility
- Improved quality of deliverables due to better planning and reduction of ad hoc work
- Better team morale
- Overall improvement in work environment due to less escalations, improved on-time delivery etc.

These benefits have resulted in more projects adopting the practices (graphs shown below) and it is now common to see visual boards, stand-up meetings when one walks in the ODC. There is a perceptible change in the culture and mindset.



Feedback

Customer Observations

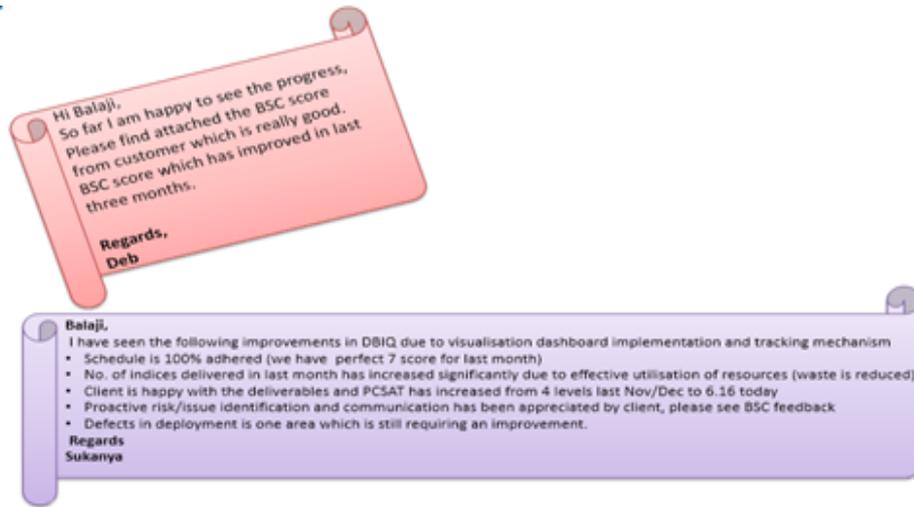
The client’s monthly governance calls to understand the performance of the team and the pain points were conducted objectively based on the parameters shown in the adjacent diagram. After adopting the Visualisation and Agile Practices, the scores started increasing and the change was seen by the customer as well

BSC Scores				
Key Performance Areas	Operational Performance Indicators (OPI)	Score(1-7)	Score(1-7)	Score(1-7)
Execution Excellence	On-time delivery	5.00	7.00	7.00
Execution Excellence	Delivered Right the first time	3.00	3.00	4.00
Execution Excellence	Quality of output	4.00	5.00	6.00
Execution Excellence	Proactively identifying and managing risk	4.00	5.00	6.00
Service Management	Escalation Management	3.00	5.00	7.00
Demonstrating Value	Value for Money	4.00	6.00	6.00
		5.00	5.67	6.17

Team Observations

- Improved Quality because of the Acceptance Criteria and Definition of Done for each work items
- Proactively act on Impediments, Issues gets communicated early; client has appreciated on improved communication of risk/issues.
- Transparency on status , who is doing what
- Resource utilization, able to take and complete more work
- Improved Quality and Collaboration within the team, implicit Cross Training.
- Team is less stressed due to proper planning and prioritisation
- Schedule is 100% adhered.

Management Observations



Conclusions

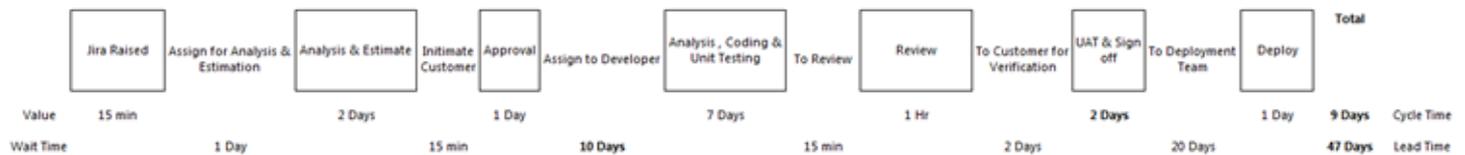
Current Status

Team was able to demonstrate that Work Items were delivered in less time and take up additional Change Requests.

Before Adopting the Practice



After Adopting the Practice



Based on the feedback from the above project and other projects, our group has added the above practices into a larger framework and the table below represents the adoption rates.

- Focussed Accounts : 9
- Total no. of traditional projects : 85
- No of team members in these projects : 1400 (approximately)

Many times we look at a new approach and have an “all-or-nothing” attitude towards it. However some more analysis realize that some practices can still be applied and can still give benefits as compared to adopting something in its entirety. The project’s experience described above is an example of the same.