Challenges of Agile Adoption and Leadership Roles in Agile Adoption Success

Rachel (Thu) Le

University of Washington

Abstract

The rapid development of technology and the increase of complexity in designing software systems in the past decade has caused the shift from traditional approach of Waterfall or life-cycle development model to Agile methodologies such as Scrum and Extreme Programming (XP). In many projects, Agile methods have shown to be successful and reduce wasted effort, time, money and the product is delivered sooner in frequent increments that are easily adapted to change. However, Agile brings the most success when it is used for small and individual teams. When adopting agile, larger scale companies with multiple teams, especially teams in geographically distributed sites often face many challenges that can ultimately lead to failure of the effort. In this paper, I present a literature review of the challenges, success factors of Agile transition in large organizations as well as leadership roles in its success. A total of eight papers regarding challenges, success factors and leadership roles in Agile adoption and scaling that are published in the past 5 years are examined. Most of the reports are based on interviews and surveys from agile adopters and practitioners which shows that there is currently insufficient effort to do thorough academic research about the topic. The most common challenges are human-related issues such as resistance to change due to misconceptions about Agile and wrong mindset, the difficulty of creating self-organizing teams and the lack of management support. These multi-dimensional and interlinked challenges can potentially be addressed starting from leader roles in teams and organizations.

*Keywords: agile transition, agile adoption challenges, agile leadership*

**INTRODUCTION**

Software Development Life Cycle (SDLC), with its earliest and most well-known version Waterfall model, is a framework for developing software that helps deliver software in one single project by going through multiple sequential development stages such as requirement analysis, design, implementation, testing, deployment and maintenance. On the other hand, agile approach with its most popular versions as Scrum and XP focuses on building products by repetitions of the same development stages in multiple product increments in a shorter period of time. SDLC requires upfront specified requirements that are hardly adjusted once the development cycle starts while agile approach provides flexibility by allowing changes to be introduced during or in between iterations. The customer participation and feedback during development that is absent in SDLC also contributes to more successful and high-quality products as it better reflects customer needs and visions. Last but not least, the early discovery of defects and adaptability to changes in product and product direction by doing smaller and more frequent development iterations help deliver the product with high value to customers while lowering cost, time and effort.

Due to these advantages of agile, SDLC is losing its popularity and more and more companies are adopting agile for developing software products. Startup companies with small teams are well-known for using agile methodologies such as Scrum. On the other hand, larger and more established organizations attempt to become agile through adopting frameworks such as Scaled Agile Framework (SAFe), Scaling Scrum with Large Scale Scrum (LeSS) and Scrum-of-Scrum. However, they often face a great deal of challenges when adopting agile to fit their scope. In addition, compared to large scale companies that utilize agile since starting up, the ones with long history of using SDLC have even more difficulties due to existing structure that is often in conflict with agile values and principles.

Agile adoption comes with the change in people’s perception about agile values and processes, with understanding of agile values as the most important aspect before adopting agile processes and tools. The focus on agile values shows that change requires a huge shift in mindset, attitude and behaviors. This is often difficult, takes a long time and the attempt can fail due to humans’ natural tendency to resist change and maintain our old way of working. This paper will discuss common challenges among all selected papers for literature review such as resistance to change, wrong mindset, poor Agile customization, cultural and organizational issues as well as team-related problems such as lack of collaboration, commitment and teamwork. Solutions are drawn to address these challenges and can be successful with the help and support of leaders and management. A few examples are providing training, resources and time to adopt agile, aligning values and ensuring common visions among all roles and careful tailoring of agile adoption based on teams and organizations.

**CHALLENGES**

**Change Resistance**

In selected studies, authors have their own way of sorting challenges of agile adoption into different categories. However, one common theme is that a challenge can be a result or a cause of another challenge as these challenges are often multi-dimensional and interlinked. For example, every selected study mentions change resistance as an impediment to successful agile transformation (Kalenda, Hyna, & Rossi, 2018; Dikert, Paasivaara, & Laasenius, 2016; Gandomani & Nafchi, 2016). In Dikert’s publication, resistance to change is the number three out of nine most commonly reported challenges (Dikert, Paasivaara, & Laasenius, 2016). There can be multiple reasons behind change resistance. First and foremost, it is human nature to resist change and maintain old way of thinking and working. Second, some members do not see the benefits of adopting agile and are skeptical if agile would even work when their current way of working is already “good enough” to deliver product to customers. From the team aspect, many team members are used to being told what and how to do things due to managers’ command and control style so they do not know how to operate in self-organizing teams which comes with new responsibilities. Many also believe the increased team transparency means they are being watched by others. For team members who want to contribute their creativity and decision making, fear of job insecurity and risk taking can prevent them from change. On the management side, managers have to transition from micromanaging and giving orders to giving freedom to team and as a result, they fear they would lose power and not be needed anymore (Dikert, Paasivaara, & Laasenius, 2016; Gandomani & Nafchi, 2016). Additionally, when agile adoption is forced upon the team by management without first inspiring and helping them realize the values and benefits behind agile, team is likely resist change.

**Wrong Mindset**

Another challenge that easily results in failure of agile adoption is people having the wrong mindset. For example, according to Alahyari et al, wrong mindset can manifest as adopters being overly enthusiastic about agile methodologies and having unrealistic expectations such as thinking agile would solve every problem (Alahyari, Horkoff, Matsson, & Egenvall, 2018). Other manifestations can be managers relabeling old practices with agile terminology or teams utilizing agile tools and processes with no understanding the underlying purpose and values while keeping their own way of thinking. Consequently, this creates a false sense of doing agile. Sometimes, doing agile in a wrong way is even more harmful than not doing it at all as wrong mindset and behaviors are difficult to correct once they are established.

**Poor Agile Customization**

Agile being difficult to implement as the number one reason for unsuccessful agile adoption includes lack of literature research in agile scaling guidance (Dikert, Paasivaara, & Laasenius, 2016). There exist frameworks for scaling agile such as SAFe, LeSS and Scrum-of-Scrum but following by-the-book agile processes and practices without consideration for organizational environment and dynamics unique to current team(s) will likely result in failed agile adoption. In addition, it is not easy to improvise agile approach without the expense of weakening agile principles and this requires a high level of agile experience as well as deep understanding of specific company and team’s culture and politics.

**Cultural/Organizational Issues**

Organizational culture plays an important role in the success of agile transformation process (Dikert, Paasivaara, & Laasenius, 2016; Gandomani & Nafchi, 2016). For example, a large company wants to experiment Scrum on one specific team and if successful, it will replicate the progress gradually to more teams. Despite the company’s leaning towards agile adoption, middle and higher management are still using command and control style instead of giving freedom and allowing team to self-organize. This results in a misalignment and conflict between new agile values of teams and current old leadership/management style. The lack of understanding and support by management to move towards agile can be a tremendous impediment to successful agile adoption.

**Lack of Collaboration, Commitment and Teamwork**

The transition to newer way of thinking requires extra workload on top of current development work such as collaboration and work coordination inside and across teams. Adding other layers of difficulty such as teams located in multiple sites, learning new skills to be cross-functional and implement continuous integration, the constant pressure to show meaningful results from agile adoption as well as the lack of support and resources, it is hard to make agile work for multiple teams and easy for teams to lose motivation and commitment to change (Kalenda, Hyna, & Rossi, 2018). Last but not least, the lack of team transparency, effective communication and knowledge sharing also contribute to lack of collaboration.

**SUCCESS FACTORS AND LEADERSHIP ROLES**

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