Chapter 3

A Canvas for Capturing Context of Agile Adoption

Pan-Wei Ng
Ivar Jacobson International, Singapore

ABSTRACT

Although agile development promises better customer response and quality, not all who attempt agile seem to get such desired results. The issue is context – understanding the context in which agile is being adopted and choosing the right practices. Our research question is how agile-coaches can best elicit and communicate the agile adoption context with development teams and organizations. In this paper, we propose capturing and describing agile adoption context visually using a set of architectural views. This is analogous to describing architectures, but now applied to the context of agile adoption. We propose a set of views and applied it in the agile adoption of a company’s internal social network system (SNS). Our experiences taught us that context evolves as agile coaches interact with development organization and teams, and the context description evolves and converges to the team’s desired way of working after the agile coach leaves the scene. It is also the basis for drawing upon past experiences and building experiences for the next agile adoption engagement.

1. INTRODUCTION

1.1 Context! Context! Context!

The fundamental challenge is that software development is complex and success depends on a large number of context factors. Dyba (T. Dybå, Dag IK Sjøberg, and Daniela S. Cruzes., 2012) pointed out the importance of context when it comes to empirical studies. Indeed, some development is very complex. Clarke and Connors (Clarke & O’Connor, 2012) found 8 classifications, 44 factors and 170 sub-factors. Jones (Kotter, 1995) identified 121 factors affecting quality alone. The large number of factors poses serious challenges to practitioners. Teams need to evaluate which factors are more important them and understand when certain factors be emphasized or downplayed.

DOI: 10.4018/978-1-4666-9858-1.ch003
Before moving further, we want to clarify the context for our discussion in this paper. Indeed our discussion about context requires a context. The context of our discussion is about agile adoption, the transition from a less agile approach to a more agile one. Kruchten (P. Kruchten, 2007) highlighted that successful agile adoption depended on context. Hoda, Kruchten, Noble, and Marshall (Hoda, Kruchten, Noble, & Marshall, 2010) conducted a Grounded Theory study and argued that development methods and practices must be adapted to fit their contexts. For example, agile adoption in a highly regulated context would be different from a less regulated one as reported by Fitzgerald, Stol, O’Sullivan, and O’Brien (Fritscher & Pigneur, 2010). Chow and Cao (Chow & Cao, 2008) found 36 factors affecting the success of agile adoption. Today, empirical studies (Begel, 2007; T. Dybå & Dingsøyr, 2008; Li, 2010) on agile methods are plentiful and easily accessible by practitioners. However, there is still very little work to provide a systematic approach to describe the context in which agile methods and adoption took place.

1.2 Objective and Overview of Paper

The challenge for practitioners, especially agile coaches, is how to get an accurate understanding of the agile adoption context comprehensively and quickly and from there, help teams choose the appropriate course of action. Note that while being able to consolidate empirical data and make generalizations is a useful by-product, our primary goal is to make concrete actionable recommendations and steer clear of potential pitfalls for the specific case we are involved in.

We propose using an architecture centric approach to capturing agile adoption context. Osterweil noted that software processes are software too (Osterweil, 1987). Accordingly, just as software architecture descriptions help us understand the nature of complex software systems, software processes need architecture descriptions too. In software itself, architecture descriptions with agreed viewpoints are often used to communicate the complexities of a software system (Hofmeister et al., 2007). As pointed out by Ambler (Ambler, 2002), the use of architecture descriptions should be agile and lightweight. Lightweight models of businesses such as the business model canvas (Fritscher & Pigneur, 2010) used in Lean Startup (Blank, 2013) are gaining popularity. It follows naturally that some kind of lightweight informal architecture description with agreed viewpoints would be useful to describe and communicate agile adoption context, to identify potential improvements to current way of working, and where barriers and roadblocks to adoption might be.

Our proposed agile adoption canvas builds upon our earlier works on modeling analyzing process improvement context (Pan-Wei Ng, 2014; Ng, 2013; Pan-Wei. Ng, 2014). The agile adoption canvas answers three questions:

1. How a team is developing and delivering software.
2. What the team has tried.
3. What the team should try next and why.

The agile adoption canvas comprises a number of viewpoints, namely: the timeline, value-stream-activity, software system, stakeholder-and-team, work-management, and objectives-and-practices viewpoints. We propose using an agile approach to capture these views through an informal canvas, which is a whiteboard that participants can doodle and comment on. As such we call this context description an agile adoption canvas.