Chapter 8
A Survey of Agile Transition Models

Imran Ghani  
Universiti Teknologi Malaysia, Malaysia

Dayang Abang Jawawi  
Universiti Teknologi Malaysia, Malaysia

Naghmeh Niknejad  
Universiti Teknologi Malaysia, Malaysia

Murad Khan  
Universiti Teknologi Malaysia, Malaysia

Seung Ryul Jeong  
Kookmin University, South Korea

ABSTRACT

Nowadays, since business environment is highly dynamic, software necessities are continuously being improved in order to meet the needs of modern industrialized world. Therefore, IT organizations seek for a quick way of software delivery and for adapting to the necessary technological changes. From this ideal viewpoint, traditional plan-driven developments lag behind to overcome these conflicts. The purpose of this chapter is to present the existing models and frameworks which guide organizations to adopt agile methods. This may help organizations to follow professionals’ suggestions during their migration from traditional systems to agile development.

1 INTRODUCTION

Since the purpose of organizations are improving return on investment (ROI) and controlling the risk of projects failure effectively, Agile software development has become as the most debated solution in the last decade and many companies are transforming from traditional development to Agile developments methods like SCRUM (Druckman, 2011).

For the first time, the word agile was utilized incorporation with software process in 1998 (Aoyama, 1998). The ability of sensing and rapidly responding to business scenarios in order to remain creative and aggressive in an unsteady and quickly changing business environment is agility (Highsmith, 2002). The agile attitude for developing is the agility of development teams, development process and their environment (Boehm & Turner, 2004). This approach integrates shared ideals of various stakeholders.
and a philosophy of regular providing the customers with product features in short time-frames (Moniruzzaman & Hossain, 2013; Southwell, 2002). This frequent and regular feature delivery is achieved by team based attitude (Coram & Bohner, 2005).

Beck et al. (Beck et al., 2001) expressed that customers are unable to define their requirements exactly due to the rapid change in the world of technology and companies which are used the new technologies in their products. Therefore, agile approaches are intended to cover the changing needs in software technology environment. In 2001 (Ambler, 2002), a group of 17 software consultants with different backgrounds created the Agile Software Development Alliance to define a manifesto for agile software development principles. Agile methods stressed on the unexpectedness challenges in practice based on the communication among people and their innovation instead of processes. The main purpose of agile methods is to improve and increase the responses time to requirements, environmental changes and achieve the deadlines (Rao, Naidu, & Chakka, 2011). Beck et al. (Beck et al., 2001) expresses agile software development manifesto as the following:

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


Agile methods focus on producing the software early and avoiding to waste time in costly plans and delivering a valuable result to the customer in a limited time as soon as possible. To achieve this goal documentation has a lower priority during developing an agile project and it has to be provided while the project has finished and delivered to the customer (Van Vliet, 2007). Highsmith and Cockburn (Highsmith & Cockburn, 2001) declared that agile methods emphasis on the integrity of working code and the efficiency of people which are working together with courtesy. The authors believed that during project development, people would exchange their ideas by discussing face to face more quickly than by reading or writing documents.

According to Forrester report in 2006, almost 17% of companies adopted agile methods and more than 50% of the participated companies were involved to adopt them (Schwaber, Laganza, & D’Silva, 2007). The percentage of this statistic increased in 2009 in a study that showed 76% of participated companies initiated at least one or two agile projects (Ambler, 2009a). Today, many major companies have implemented agile in whole or some parts of their projects, namely: Yahoo!, Microsoft, AOL, Shopzilla, CNBC, Google, Siemens and Rockstar (Smith & Sidky, 2009). Scott Ambler conducted a survey during 13 February till 24 March 2014 (Ambler, 2014). In his research the challenges faced by organizations and the state of agile adoption in organizations were examined. Figure 1 shows the adoption of agile programs success rates in organizations. However, there are some failures (5%) in agile adoption but there are more successes in organizations.