INDIVIDUAL ASSIGNMENT REPORT

For Ci222, Project Planning and Control, at University of Brighton, CEM, Brighton, January, 2017

Terms of Reference

A report submitted in fulfilment of the requirements for the Individual assignment project, part of the ci222 module, BSc Computer Science Course, CEM, University of Brighton.

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Cover Page illustration: healthcare.gov; Illustration by 731

Table of Contents

Table of Contents

Introduction

Objective

In the current report the author attempts to address the requirements of the assignment as described in the brief.

The assignment question statement is: "*In reference to a failed IT project, which project management approach (traditional or agile) to decide might have helped the project be a success? Explain your answer".*

Approach

The author refers to the HealthCare.gov's failure in 2013 and discusses how an agile approach could have eased the impact or even lead to a success.

The project

The HealthCare.gov, as also described by Ford (2013), is a platform for the health-care enrolment of individuals and businesses under the provisions of the Patient Protection and Affordable Care Act (PPACA), nicknamed Obamacare, operated by the United States government.

The failure and its impact

The website failed already on its lunch on October 1st, 2013. As Cleland-Huang (2014, p.27) states, "Consumer Reports noted that of the 9.47 million people who attempted to register at HealthCare.gov during the first week of its launch, only 271,000 succeeded… The system simply was not designed to handle the massive influx of initial users."; consequently, as Angelo (2015) explains, despite the project's overall cost of $300 million (p.19), just two and a half weeks after the initial roll-out the White House considered shutting it down permanently while many of the White House stakeholders lost or vacated their positions (p.15).

Discussion

The Cause

As the research shows, the project team's main problem was **running out of time** (Heusser, 2013; Mortosko, 2013; Ferenstein, 2013) which consecutively caused other problems such as, **inadequate testing** (Angelo, 2015, p.2-3; Heusser, 2013), and **security issues** (Cleland-Huang, 2014, p.27), among others (Angelo, 2015, p.15).

Traditional vs agile techniques

As also Foster (2013) discusses, an agile project management approach could potentially reduce the chances of fail.

Carrol (2015, p.10-18) explains that traditional approach techniques tend to make the process rigid and lucking the ability to accommodate changes which increases complexity and often causes the delivery to run out of time. He also adds (p.12-13) that a combination of agile techniques can help avoid or at least improve the project's efficiency in ways that traditional (also called waterfall) techniques cannot.

Additionally, as Jones (2012) quotes from the Standish Group's 2011 CHAOS report, "*Software applications developed through the agile process have three times the success rate of the traditional waterfall method and a much lower percentage of time and cost overruns.*"

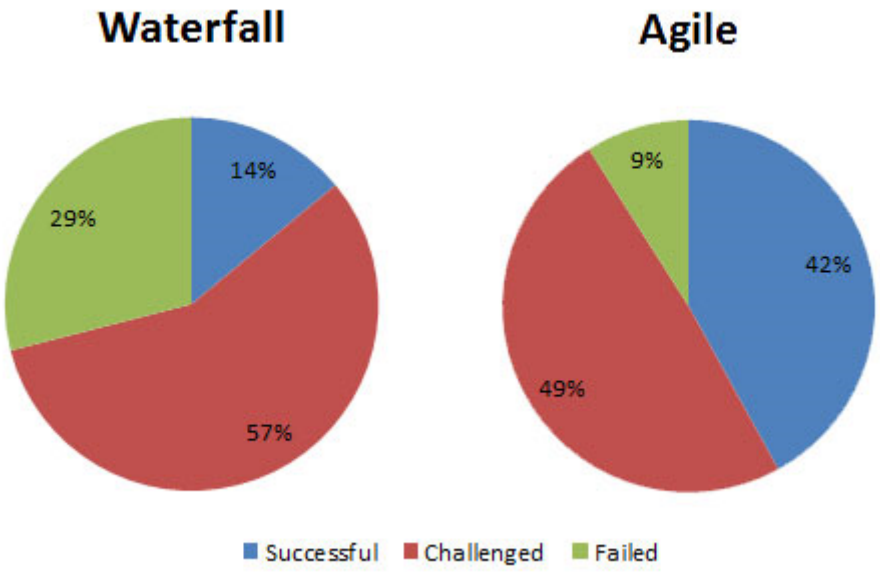

Figure 1: Waterfall vs Agile success rate, Standish Group 2011

Adopting an Agile Approach

Further, the author is discussing the main Healthcare.gov's release problems and how agile techniques could have helped avoiding or reducing the impact of each fail.

Early and greatly complicated Requirements (Cleland-Huang, 2014, p.28), alongside of luck of Stakeholders collaboration (Angelo, 2015, p.4).

As Cleland-Huang (2014) states, "the 'requirements' for Healthcare.gov came in the form of many thousands of pages of legal healthcare regulations".

An agile approach

As Carrol (2015, p.12) describes, "Requirements cannot be fully defined at the beginning of the software development cycle; therefore, continuous customer involvement is very important", an idea which is also supported by Angelo (2015, p.4).

Large development teams alongside the massive project's scale (Anthopoulos et al., 2016, p165; Angelo, 2015)

An agile approach

As again per Carrol (2015, p.12), "keeping the size of the team small and having them located together is a tremendous aid to the communication process… In agile development, self-organization and motivation are important, as are interactions like co-location and pair programming."

Unable or late response to changes (Anthopoulos et al., 2016 and Angelo, 2015). High complexity led to major delay and inability to deal with changes. Heusser (2013) explains that "at go-live the JavaScript code itself was still full of filler text (lorem ipsum)"

Whilst with *agile approaches* requirements are anticipated to change Carrol (2015, p.14)

Iterative and Incremental development

Based on the Author's findings, the technique on its own could save the project.

The approach is detailed in the DSDM Agile Project Framework Handbook by the BDSM Consortium (2014) and as described in the relevant Wikipedia article (2016), "The idea is to develop a system through repeated cycles (iterative) and in smaller portions at a time (incremental), allowing software developers to take advantage of what was learned during development of earlier parts or versions of the system"

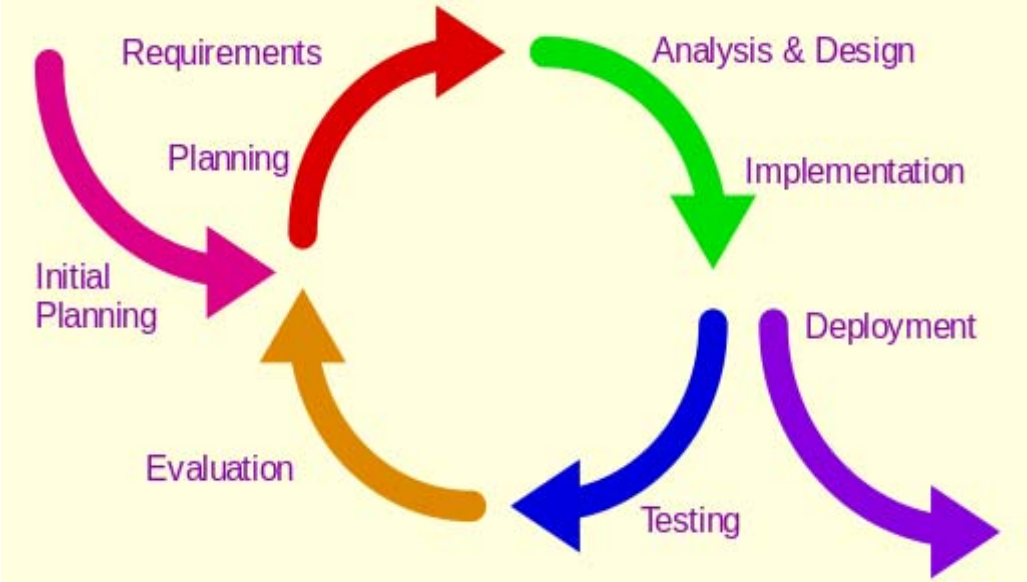

Figure 2: Iterative development model (Wikipedia, User: Westerhoff 2014

Adaptation by the healthcare.gov website

Applying the technique to the project, the website is released gradually in "Sprints", a term also described by Schwaber and Sutherland in the Scrum Guide 2016. For example, the already developed "user registration" stage is released initially only to some particular geographical area, such as a single state, and following successful completion it is gradually rolled out in other areas as well. This would have make it easier for the system to respond to users' demand as the requests would be significantly reduced.

Moving on, and while the initial registration phase is introduced to other areas, additional phases such as support, are becoming available to registered users. This consequently is "maximizing opportunities for feedback… [and] ensuring a potentially useful version of working product is always available.", Schwaber (2016), so that the development team gains experience about the issues and response they need to develop for the future users.

The opposition

As per common conception, agile approaches fit only small projects with uncertain requirements rather than large-scale and/or government based projects. However as Larman and Basili (2003) suggest, there are several examples of large-scale projects implemented with agile techniques like the already mentioned Iterative and Incremental development, while Schwaber (2016) shows additional frameworks for applying Scrum practices to large projects, such as **Large-Scale Scrum (LeSS)** and **Disciplined Agile Delivery (DAD).**

Conclusion

Concluding, the author showed how agile project planning approach could have contribute to the success of the healthcare.gov or at least be less of a failure and also showed how agile project management techniques can be beneficial to future software development project management attempts.

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Graphics

Cover image
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