Leeds Beckett University
Faculty of Arts, Environment & Technology

MSc Business Intelligence

Academic Year 2015-2016

Joanne Kennedy C3369865

Critical Perspectives on Information:

Strategy & Governance

Date of Submission: 17th May 2016

Contents

Article I.   The Use of Agile Delivery in the Context of Strategy & Governance

The UK government's ICT strategy has been developed in order to help provide improved public services; such as those that make life easier, at a reduced cost – this will be done with the implementation of a common infrastructure underpinned by a set of common principles, or in other words the Agile methodology. (Crown, 2011)

The Agile approach was decided on due to the ongoing changes in government priorities which traditional approaches could not maintain. Unfortunately traditional methods led to numerous flaws such as late delivery, low user satisfaction, obsolescent systems and high costs. (NAO, 2012)

The government has come to the conclusion that transparency and openness can not only save money and strengthen the public's trust, but it can also promote public participation, which is why in 2011 the government decided to publish their strategy's online; however was it really for the benefit of the public? (GOV, 2016) In 2014 an article implied that publishing online encouraged competition amongst the IT industry in order to fight for government contracts, although this may be a benefit to the IT industry in order to inspire, motivate and initiate innovation, it could also be seen as a disadvantage due to the IT suppliers having to lower their service charges in order to win the contracts. (GOV, 2014)

The government's strategy has been split into four main focus points, the first point aims to reduce waste and project failure, along with maintaining and inspiring economic growth by developing a fair and competitive marketplace. In order to avoid project failure and reduce waste, a mixture of lean and agile methodologies will be used. (Crown, 2011) Agile is not only seen as a technique for IT projects but also for any business projects that involve IT. (NAO, 2012)

Lean and agile methodologies share a number of similar principles which provide high quality along with quick delivery and customer alignment. Lean boasts to eliminate anything that is not providing additional value by following its 7 key

principles which are; eliminate waste, build quality in, create knowledge, defer commitment, deliver fast, respect people and optimize the whole. (Fichtner, 2016)

Whereas Agile has 12 key principles which are; highest priority is customer satisfaction, welcome changing requirements, frequent delivery of software, business people and developers cooperating daily, build projects around motivated people, face-to-face conversation is best, progressed measured by working software, sustainable development pace, continuous attention to technical excellence, simplicity, self-organising teams, and regular reflection and adaption. (Fichtner, 2016) The most important thing to remember with Agile is its success comes from the input of its customers, they know what they want and it's up to the Agile delivery team to find out what that is and implement a solution. (NAO, 2012)

Although the government plan to consider their technical requirements early, by using the agile methodology it will allow for any requirement changes to be made as well as the addition of new requirements at any given time throughout the development lifecycle. Agile's quick development paired with regular reflection and adaption phases will also allow working prototypes to be delivered and used early on throughout the process which will allow the project's success and benefits to be realised sooner. (Crown, 2011)

The government also plan to incorporate software reuse as a pose to commissioning new solutions. This will be done with the use of a cross-government asset register store, (Crown, 2011) along with open source software solutions which is becoming increasingly available. Due to Agile specialising in fine grained components along with accelerated delivery there is close correlation between itself and software reuse, and it is an important factor to diminish costs. (Janjic, Hummel, and Atkinson, 2009)

The government has established a small department which experiments with developing Agile solutions that are both low cost and quick. This department also gives entrepreneurs and small to medium sized enterprises the chance to contribute to the Governments ICT strategy which allows them to provide their input and have some control over the strategy. (Crown, 2011)

In the future the Government plans to build a test environment where members of the experimental department can "test their solution to ensure compatibility within government's future standardised cloud environment." (Crown, 2011)

Is Agile really a cheap methodology? It seems the answer is only yes if it is done correctly. Although it allows developers to avoid wasting time on features that are not required it may be difficult to maintain and there are still a number of risks that could affect the overall cost. (Galorath, 2013) However the Government ensure they continually measure their performance and utilise benchmarking as a tool to keep an eye on their spending and capabilities. (Crown, 2011) In saying this the Government have also made it clear that they do not consider Agile as the only method they use to improve software delivery which leads us to believe they use a mixture of approaches which is known as the hybrid approach. (NAO, 2012)

Personalised and responsive services are now the norm in society along with user friendly and trustworthy online transaction services. This is something the Government is trying to achieve with the use of third party software companies, although they are also trying to provide opportunities for smaller companies this may not be the best project for them as it is important to note that the Government want to ensure they retain appropriate levels of privacy, (Crown, 2011) however due to privacy not being mentioned in Agile's manifesto it is important to select a company that has a lot of prior experience in Agile Software Development to ensure they fully understand secure testing procedures. (Kotze, 2014)

Strengthening governance is an important part of the Governments ICT strategy in order to steer delivery and ensure it is being used to power public sector reform by providing better public services for less cost, (Crown, 2011) however it is important that effective governance structures are in place in order for the Agile methodology to work. (NAO, 2012)

So what is the point of governance for IT? It is in place to reduce risks, provide guidance, ensure decisions comply with standards such as laws, legislations and ethics, and ensure value is being generated to the business. Although there may be a lack of documentation with an Agile approach this does not mean management

control is lost, (NAO, 2012) many people have a belief that control and governance comes from the traditional waterfall approach however governance is built into every part of the agile methodology from the continued user research and participation, the iterations, the ordering of important requirements, and the cost. (Bracken, 2015)

Governance also incorporates strategic management which involves a series of actions and decisions that diagnoses the long-term performance of a business. (Leeds Beckett, 2016) A new approach has had to be taken within the public sector due to the global economy, the ever expanding public demands, the advances in technology and the demand for more services at lower costs, (McInerney and Barrows, 2000) as in the public sector there is a growing need to understand pressures from a political, governmental and international perspective. (Leeds Beckett, 2016)

Due to the shift from paper records to electronic records a number of issues have arose in terms of access and privacy of data, information governance was created to ensure information is controlled and kept secure through the use of information management programmes, these programmes also mean businesses can account for their actions through their internal records. (Lomas, 2010)

Governance may not improve technical functionality or speed up the delivery process but it is a good way to ensure resources are used for their intended purposes and most importantly used inexpensively, although a collaborative approach is essential. (NAO, 2012) Strong communication is key for governance to be successful in Agile delivery due to high managerial roles having to communicate with individuals from both business and IT sectors. (Weiss, 2014)

There are many other ways governance for Agile delivery can be deemed a success for example if the governance follows the Agile principles then the focus can be on what value the product or service will bring to the company. "Agile delivery teams should decide on the empirical performance metrics they will use and self-monitor," this will ensure project progress can clearly be tracked and performance reports on the calculated metrics can be populated for management. Management may also

want to consider regular reviews on the delivery team with the use of observations in order to gather a deeper insight into individual and team performance. (NAO, 2012)

Article II.   British Airways & the Agile Approach

The Agile approach can not only be useful for the public sector but also for the private sector due to it being a popular set of principles and practices which can provide businesses with a number of benefits, for example early releases of products and services due to its incremental and iterative nature, as well as high quality products and services due to regular testing, heavy user involvement and its flexible approach to change. (Waters, 2007)

Like the public sector BA were used to working with traditional methods, such as the waterfall method when it came to IT development. However the need for handling change as a pose to being predictable became too important, due to the market conditions constantly fluctuating. (Swabey, 2010) British Airways (BA) IT department decided they needed to experiment with other approaches and deployed Agile methodologies back in 2006 in order to ensure their systems were meeting staff expectations, and their products and services were rapidly hitting the market. (NAO, 2012)

BA liked the fact that the Agile approach allowed for the continual addition of requirements, as well as the reality to stop a project at any given time, whilst remaining with a usable product or service. (NAO, 2012) Whilst the continual addition of requirements may seem like a benefit, it is also important to consider this as a potential threat. If the scope of the project is not controlled, scope creep can occur which can result in a delayed, or even failed project. (Techopedia, 2016)

Like any new thing, Agile takes time to learn and time to get used to, for example BA rushed straight into an Agile project which was initiated to develop better functionality for their website but due to the lack of knowledge of Agile principles, the lack of customer engagement, the lack of focus on business value and a traditional mindset, this project did not go to plan, although it was considered a learning curve in preparation for their next Agile project. (Swabey, 2010)

A project BA initiated was to provide aircrew with computer tablets to replace the flight manifest, as well as providing timetables, safety information and detailed profiles of passengers onboard, in order to lift service standards. (Millward, 2011) With the use of Agile methodologies this project was in-service within 3 months and additional requirements and functionality was later implemented at regular intervals. After reaping the benefits of their success, in 2009 BA decided to utilise the Agile methodology not only on their technical projects, but also on their non-technical projects. (NAO, 2012)

A non-technical project that BA utilised the Agile methodology on was 'Revenue Labs' which was initiated to create value propositions and generate revenue quickly. This project consisted of Agile teams trained by an experienced scrum master and involved management participating in numerous meetings throughout the process to view the raw materials as a pose to just the final polished presentation. (Swabey, 2010)

A weakness in using the Agile approach is the elimination of documentation, although cost and value estimates are still made, along with proposed methods to track progress, this is a very small document as a pose to the business case which is usually prepared at the start of a project containing the rationale for the project along with the aim, objectives, benefits, risks and assumptions. (NAO, 2012)

However, BA has come up with a suitability matrix that determines how suitable the Agile methodology is for a project, during this process BA defines the project objectives, decides how permanent the solution will be and considers the project risks. If the Agile methodology is then chosen, a lot of the missing documentation that wouldn't usually be produced will have already been noted and discussed. (NAO, 2012)

In the process of deciding whether to implement an Agile solution BA investigates how other businesses use Agile methods in order to determine whether the IT department's recommendations are realistic. (NAO, 2012) Agile business analysts investigate possible risk areas early, in order to minimise issues and delays in the later stages of implementation; although the outcomes may be something that the

delivery team are already aware of, they may be able to help suggest a possible solution to the known problem. (Cooke, 2013)

Organisations like BA use their own information for analysis to look at financial patterns and trends in order to make future predictions, they use competitor's data to see how they are performing against their competitors and they use collaborators contracts and data to enhance value and profits, as collaborative reinvention can not only provide extra income but also provide access to a wider range of clientele. (Nair and Favaro, 2015)

Performance metrics are key for BA's continual growth and success rate in Agile delivery. Due to the enforcement of delivery teams to be disciplined, BA believe it is important to measure how quickly the team realise the benefits of a product or service, as a pose to how it compares to the proposed aim and objectives. (NAO, 2012)

Due to fast-delivery being one of Agile's best selling assets; the proposed delivery date is a very important constraints and BA like to measure what value was lost through the number of requirements that were not met in time. (NAO, 2012)   The main aim of the delivery team is to identify the high priority requirements that would offer the business the most value and focus on delivering these first so that the project can still be deemed a success even if all requirements are not met. (Thomas, 2008)

Agile's principle of continual testing ensures any bugs and errors are found early which avoids a hefty testing period at the end of the project which can often result in a lot of re-coding, (NAO, 2012) however because of the lack of planning and architecture, re-coding is likely to be required anyway due to developers being out of sync with each other and the separate components not fitting together when combined. (Shubh and Gandhi, 2014)

BA uses a popular Agile framework called Scrum which includes a number of guidelines written to help teams in the transition to the Agile methodology; they also provide half-day Agile workshops and professional Agile coaches in order to support

their teams. BA likes to increase accountability with the use of daily stand up meetings and the addition of a stakeholder as a key member of the team. (NAO, 2012)

However the Scrum methodology has a number of weaknesses for example, it's unstructured process of working, it's unsuitability for large scale organisations, it's lack of accurate documentation and artefacts, it's absence of the problem solving phase, it's non-architectural based approach and it's zero tolerance to building prototypes and conceptual models. (Morampudi and Raj, 2013)

Although research would suggest BA have the correct practices in place, many believe that true Agile is rarely practised as it has a solid structure with a number of formal rules that must be followed and very few people know the true meaning and principles of the Agile methodology. (Cedar Point Consulting, 2015) This statement has proven to be true, as BA stated that they include the production of artefacts as part of their iteration plan which doesn't follow the Scrum guidelines. (NAO, 2012)

However even when outsourcing BA like to ensure they select a company which follows the Agile methodology, last year they made the decision to employ Juniper Networks to develop an Agile and secure, intelligent network architecture, in order to strengthen customer-facing operations, with this in place, this will mean BA can set up cloud applications and services though the use of an easily-to-manage and easy-to-use platform. (Scroxton, 2015)

As well as whether the outsourced companies follow the Agile methodology, BA might want to consider the impact their outsourcing is causing the UK economy. The trade union has met with MPs in a battle to stop BA outsourcing because not only is it a security risk to the UK, but up to 900 UK IT jobs will disappear to IT companies based in India due to their low-cost labour. (Flinders, 2016)

Article III. Bibliography

Bracken, M (2015) **Government Digital Service: You Can't Be Half Agile**. [Online] Available from: <https://gds.blog.gov.uk/2015/07/10/you-cant-be-half-agile/> [Accessed 10th April 2016].

Cedar Point Consulting (2015) **Before you make the leap to Agile – ten weaknesses of Agile**. [Online] Available from: <http://www.cedarpointconsulting.com/delivery/articles/before-making-the-leap-to-agile > [Accessed 8th March 2016].

Cooke, J.L (2013) **The Power of the Agile Business Analyst**. 30 surprising ways a business analyst can add value to your Agile development team. Cambridgeshire, IT Governance Publishing.

Crown (2011) **Government ICT Strategy**. [Online] Available from: <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/85968/uk-government-government-ict-strategy_0.pdf> [Accessed 21st March 2016].

Fichtner, A (2016) **Agile Vs. Lean: Yeah Yeah, What's The Difference?** [Online] Available from: <http://hackerchick.com/agile-vs-lean-yeah-yeah-whats-the-difference/> [Accessed 21st March 2016].

Flinders, K (2016) **GMB takes concerns over British Airways IT outsourcing to MPs**. [Online] Available from: <http://www.computerweekly.com/news/4500270832/GMB-takes-concerns-over-British-Airways-IT-outsourcing-to-MPs> [Accessed 10th April 2016].

Galorath, D (2013) **Is Agile Software Development Cheaper? Depends on What "Cheaper" is?** [Online] Available from: <http://galorath.com/wp/is-agile-cheaper/> [Accessed 9th April 2016].

GOV (2014) **Government draws the line on bloated and wasteful IT contracts**. [Online] Available from: <https://www.gov.uk/government/news/government-draws-the-line-on-bloated-and-wasteful-it-contracts> [Accessed 21st March 2016].

GOV (2016) **Government efficiency, transparency and accountability**. [Online] Available from: <https://www.gov.uk/government/topics/government-efficiency-transparency-and-accountability> [Accessed 21st March 2016].

Janjic, W, Hummel, O and Atkinson, C (2009) **Accelerating Agile Development through Software Reuse**. [Online] Available from: <https://www.agileconnection.com/article/accelerating-agile-development-through-software-reuse> [Accessed 21st March 2016].

Kotze, N (2014) **Security Testing in Agile Software Development**. [Online] Available from: < http://www.agilerecord.com/security-testing-in-agile-software-development/ > [Accessed 9th April 2016].

Leeds Beckett (2016) **Strategic Management**. [Online] Available from: <https://my.leedsbeckett.ac.uk/bbcswebdav/pid-1169335-dt-content-rid-3505301_1/courses/18939-1516/Strategic%20Management%20part%201%20week%201%20handout.pdf> [Accessed 10th April 2016].

Lomas, E (2010) **Information Governance: information security and access within a UK context**. Records Management Journal, Vol.20 Iss: 2, pp.182-198

McInerney, R and Barrows, D (2000) **Management Tools for Creating Government Responsiveness: The Liquor Control Board of Ontario as a Context for Creating Change.** [Online] Available from: <http://www.innovation.cc/case-studies/barrows-ed.pdf> [Accessed 10th April, 2016].

Millward, D (2011) **BA equips flight crew with iPads**. [Online] Available from: <http://www.telegraph.co.uk/technology/apple/8709288/BA-equips-flight-crew-with-iPads.html> [Accessed 8th March 2016].

Morampudi, N.S and Raj, G (2013) **Evaluating Strengths and Weaknesses of Agile Scrum Framework using Knowledge Management**. [Online] Available from: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.303.141&rep=rep1&type=pdf > [Accessed 8th March 2016].

Nail, R and Favaro, K (2015) **Mutually Assured Disruption**. [Online] Available from: <http://www.strategy-business.com/article/Mutually-Assured-Disruption?gko=ff0d8> [Accessed 10th April 2016].

NAO (2012) **Governance for Agile delivery**. [Online] Available from: <https://www.nao.org.uk/wp-content/uploads/2012/07/governance_Agile_delivery.pdf > [Accessed 8th March 2016].
Scroxton, A (2015) **British Airways picks Juniper Networks to build out cloud, core network**. [Online] Available from: <http://www.computerweekly.com/news/4500254373/British-Airways-picks-Juniper-Networks-to-build-out-cloud-core-network> [Accessed 10th April 2016].

Shubh, A and Gandhi, P (2014) SWOT Analysis of Agile Methodologies. **UACEE International Journal of Computer Science and its Applications**, Volume 2, Issue 1 [ISSN 2250 - 3765] pp.79-83.

Swabey, P (2010) **How BA uses Agile**. [Online] Available from: <http://www.information-age.com/technology/applications-and-development/1282033/how-ba-uses-agile> [Accessed 10th April 2016].

Techopedia (2016) **Scope Creep**. [Online] Available from: <https://www.techopedia.com/definition/24779/scope-creep> [Accessed 8th March 2016].

Thomas, S (2008) **Agile Change Management**. [Online] Available from: <http://itsadeliverything.com/agile-change-management> [Accessed 8th March 2016].

Waters, K (2007) **10 Good Reasons To Do Agile Development**. [Online] Available from: <http://www.allaboutAgile.com/10-good-reasons-to-do-Agile-development/> [Accessed 8th March 2016].

Weiss, M (2014) **How to Reduce Costs While Staying Agile**. [Online] Available from: <http://www.cioinsight.com/it-management/expert-voices/how-to-reduce-costs-while-staying-agile.html> [Accessed 10th April. 2016].