

A for Agile

Issues with Awareness and Adoption

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Abstract

Both managers and customers of software companies are often unfamiliar with emerging agile practices. This can cause agile companies difficulty in attracting business. In this paper we present some findings on what barriers agile practitioners in Wellington, New Zealand have encountered, and present some of the techniques they've used in an attempt to overcome awareness and adoption barriers. This is part of a larger research programme to identify best practices in agile adoption, and to identify the key issues facing agile project managers today.

1. Introduction

As agile methodologies gain popularity and acceptance in the software industry [1, 10], several issues have arisen. One such issue is the willingness of customers to adopt agile practices, which affects agile companies ability to attract business.

We have interviewed a number of agile practitioners in the New Zealand software industry, and in this paper we will present some initial findings and discussion points that have emerged from these interviews.

The research forms part of a larger programme of interviews and observations aimed at uncovering the practical considerations of agile adoption from the project managers perspective.

1.1 Overview

The initial phase of our research involved interviewing four agile practitioners from both private and public sectors in the local (Wellington, New Zealand) industry. Due to privacy and ethical considerations, we will limit our identification of the interviewees to the pseudo-names: P1, P2,

P3, and P4 for reference.

P1 is an agile coach and has also served in the role of product owner in several projects. They have experience in using XP and Scrum. P2 is a senior manager in an agile firm and is experienced in XP projects. P3 is a project manager, well versed in Scrum, XP, and combinations thereof, and also has experience as an agile developer. Finally, P4 is an agile coach active in introducing agile practices at their organisation, and has built their own agile framework with selective practices from Crystal, XP, Scrum, and Feature Driven Development (FDD).

2 Research Method

We are using the qualitative research method developed by Glaser and Strauss [2] called Grounded Theory. Strauss and Corbin define grounded theory in their book [3] as,

A grounded theory is one that is inductively derived from the study of the phenomenon it represents. That is, it is discovered, developed, and provisionally verified through systematic data collection and analysis of data pertaining to that phenomenon.

Our main research deals with the role of the project manager in Agile projects, the challenges they face, and the strategies they use to overcome these issues. We will achieve these objectives by gathering the experiences of agile experts in adopting and practising agile methodologies such as Scrum, XP, or their own version of Agile.

We have to carefully avoid any biases in gathering and interpreting data. As grounded theory suggests, we must not bind ourselves to any preconceived notions and allow important categories to emerge through the iterations of interviews. Therefore we conducted a pilot study where we asked more generalized questions about project management in an agile setting. From our initial coding, we could see some common categories emerging, such as awareness, adoption, transitioning etc. We framed questions to address

these categories more closely in the succeeding interviews.

3. Issues with Awareness and Adoption

Awareness and Adoption have been named as two main problems faced by software development firms that practice agile methodologies, as displayed by the preliminary results of our research.

"Its a more awareness issue really. I've never had anybody say know what we've done traditional before and we tried agile, assuming the agile was done properly, they never said Oh I much prefer traditional waterfall. No, no, no its never happened! So it really is an awareness issue." [P2]

It is sentiments such as these that resonate in all our research studies so far. Practitioners have named adoption as a primary issue and they also feel that it stems from the lack of awareness about agile frameworks in general. While some customers are well tuned into agile, others have little or no knowledge of the subject. What's worse are the preconceptions that clients harbour, which are often ill-founded or incomplete. This negatively affects the adoption of agile processes as well. One of the practitioners mentioned the following when asked about the level of awareness of agile frameworks,

"Its close to zero, but its close to zero in IT as well. If people hadn't actually had a go, they know virtually nothing. They've heard the word agile and then they've heard someone either love it or hate it and generally there are no facts behind it and a lot of process is clearing the misconceptions" [P4]

The lack of awareness leads to skepticism about the new practices. People are weary of using new processes for executing their projects because of the various risks and implications involved, such as financial risk of trying out something radically different. This is reflected in a quote from one of our research participants,

"Its like anything new. People are weary about new things. Agile is a new project methodology and why would I trust a new technology when I'm putting in 40,000 into this project." [P2]

As a consequence, agile companies sometimes incur loss of business and struggle to attract clients. The same practitioner continues to say,

"It's hard to get this adopted. We've lost business multiple times and continually because of the fact that we don't do traditional and that's something that we deal with. We try to find out early on if its gonna be a problem and if it is we say ok, lets go our separate ways. So adoption is probably the biggest problem." [P2]

The same company, however, has done remarkably well over the last few years and is now exclusively running agile projects only. This implies that while they faced undeniable

problems with adoption, they successfully overcame them in many situations. What are these solution strategies? How do agile companies continue to spread awareness and promote adoption of agile frameworks with customers? Let's have a look.

3.1 Solution Strategies

While companies representative of our interviewees have faced problems with adoption, they successfully overcome them in many situations. In this section, we discuss some possible solution strategies that tackle spreading awareness and promoting adoption.

3.1.1 Spreading Awareness

Agile practitioners use different strategies to overcome the issue of adoption. The first one is spreading awareness about agile practices and also clearing the misconceptions that often fog the minds of the customers. We witnessed one such effort in Wellington where many agile enthusiasts organised an AgileBarCamp [4], where agile gurus shared their knowledge and experiences with the wider community. The topics ranged from Introduction to Agile, Agile de-mystified, Succeeding with Agile, Culture of Agile Teams, to Agile Project Management and more. We got a chance to talk about our research effort and got many practitioners interested to help with our research.

Sometimes just spreading information by word of mouth helps in promoting agile. For instance, one of the participants mentioned the following,

"Talking about the success of agile projects to people, whether they are clients or industry or colleagues...there's this thing we've been doing with agile and how its solved all these problems." [P2]

Other successful ways of spreading awareness mentioned were user group forums, mailing lists, blogs, articles, journals, and agile events. The same practitioner had the following to say about these methods of spreading awareness,

"A lot of times, even if client has never done it before or they don't have any first hand or second hand experience, just the fact that they have heard about it, just the fact that they've read about it, a blog, or they trust a blog author...a lot of times that enough to break down enough of a barrier." [P2]

3.1.2 Communication

Communication with customers about the pros and cons of using agile was mentioned as another way used to convince them. One of our research participants, P4, said that they would sit down with the client with the list of agile manifesto's principles [5] and explain how each one could suit

their particular project requirements. By the end of the session, they would find most people agreeing with the principles and could plainly see the benefits of using them.

"The bit that works is that getting people into a room together and discussing the pros and cons, and discussing what they're gonna see and the reasons that it was established. And going through the actual manifesto and the principles that guide it. And when you talk through those principles, and you do them right...almost everyone in the room they're nodding at those." [P4]

Using effective communication agile practitioners focus on the client's interests and highlight the benefits of adopting agile methodologies. Some of the benefits sighted, include more involvement with their projects and better customer control over project via continuous and rapid feedback opportunities.

Referring to the successful communication strategies, P2 mentioned customers can also be wooed by explaining *"how they will have more control over their project, that's a good one as well."* [P2]

3.1.3 Prior Success

Some agile practitioners rely on their previous success with agile projects to convince new clients.

"The best way to convince somebody you are good is to show them you've done this before and so it's the same thing here. We talk about the successful projects we've had and we talk about projects that are similar to their's that we've done. That's the best thing we can do. We talk about the history of agile success and what it means for them." [P2]

Their track-record of executing successful agile projects lends trust to their brand name. Also, practitioners cite other successful projects that were completed using agile methods elsewhere in the world, and the history and success of agile frameworks in general.

Nothing succeeds like success. Another practitioner voiced the same opinion about the significance of prior successes in promoting agile, as follows,

"A major breakthrough would be a high profile project in New Zealand that succeeds." [P3]

Referring to an on-going project that ran strictly agile, P3 noted that its success would give a boost to agile adoption.

3.1.4 Problem Based Approach

While some companies take the conscious decision to tread the agile path, at other organisations its a more slow and subtle process. A renowned agile coach disclosed their first experience with agile was using small adoption steps and a problem based approach. They had evaluated the situation where they were having a problem tackling a given issue in the traditional way, then looked into their agile toolkit to find a solution to that particular problem.

We just started to do small adoption steps like we've got a real problem doing 'A' then we could use this technique and this is how it might help. so very much a problem based approach to doing agile. So when I started it was a very non-agile space, when I left it was agile kind of project [P1]

Therefore, by solving one problem at a time the team and management soon started to see the various benefits of using the agile solutions. This then led to a more complete transitioning into the agile framework. They also argued that Scrum was *"a nice small step to take, its not as rigorous as XP"* [P1] when trying to convince new clients to adopt agile.

3.1.5 Iterative Billing Cycles

Another interesting strategy used to help the adoption of agile is iterative billing procedures. As one of the participants disclosed,

"A lot of times what we do to get people more confident is to say we'll only bill you on iteration by iteration basis, so they know they only have to pay for this thing in chunks rather than sign off at the beginning to a much larger project. Money thing comes in as well in terms of features that they may want done." [P2]

Other practitioners when asked about the financial aspect of agile project management, agreed that iterative billing cycles is a proven way of building trust with the customers. The customers come to realize that if they want more functionality built into their system, all they have to do is buy another iteration (or sprint, in case of Scrum specifically). It makes them more confident of the new process to know that their financial risks are covered in this way.

4. Related Work

Many experienced practitioners have suggested maintaining a checklist to assess an organisation's readiness for embracing the agile framework. A paper by Nerur et al. from the University of Arlington, Texas [6] throws light on various issues related to transitioning into an agile environment. They broadly divide them into technological, people-related, and process-related issues.

Ahmed Sidky [7] has compiled an adoption framework in his recently completed doctoral thesis. The framework consists of an agile measurement index and a 4-stage process. Misra et al. also propose a framework that can be used in the transition of traditional software development processes into agile ones [8].

Korkala et al. [9] present empirical evidence to show that effective customer communication and feedback are critical in agile software development. Communication has also been mentioned as an important solution strategy to promote the adoption of agile frameworks used by our research

participants.

In a paper on introducing lean principles with agile practices in a Fortune 500 company, Parnell-Klabo describes various difficulties in securing a buy-in for a pilot project [10]. Some of these included obtaining facility space for collocation, gaining executive support, and influencing the change curve. The pilot project produced remarkable results which was echoed in the customer's feedback favoring adoption of the lean and agile methodology.

Exploring the agile scene in India, we came across societies such as Agile Software Community of India or ASCI [11] that are working to support and propagate agile practices in the Indian software industry and academia. ASCI user group and mailing list has also proved to be a useful tool in keeping abreast of agile events and developments in India, as well as finding interested research participants.

5. Future Work

We intend to follow up our initial interviews by finding more agile adopters in New Zealand. We also intend to extend our research into agile adoption by Indian companies. The long term goal is to build a set of practitioners and companies that can be representative of the larger agile community. However, we do acknowledge that our representative set is confined to those that choose to participate in our research.

Other important aspects of agile project management that participants discussed were the advantages and disadvantages of using agile frameworks and their roles as managers, coaches, or leaders and how it differed from the traditional project manager roles. We intend to explore these and other issues, as they emerge from our future collection and analysis of data.

6. Conclusion

In order to sustain the interest and growth of agile methodologies, we must develop deeper knowledge and comprehension of critical issues such as awareness and adoption [12]. These are the building blocks on which a solid agile structure can be founded. We hope that practitioners find our initial results interesting and helpful. It is through the study of real life agile project management that we can bring such important issues and their solution strategies to the forefront. Our research hopes to uncover more interesting topics and areas of concerns within the agile space in the future.

Our research has further documented the issues (and some possible solutions) to the adoption of agile practices from the perspective of agile project management. We have begun to gather information regarding the day to day prob-

lems faced by agile practitioners and their strategies of overcoming them.

7. References

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