

The impacts of Agile Methodologies on the motivation within a team across a projects.

COMP150 - Agile Development Practice

Student Number - 1507729

November 24, 2016

The Agile development methodology is the most prominent within the software development. It is at it's core designed to be Agile and to be adaptable for any and every team following it's guidelines. However that can also lead teams failing to fully utilise the Agile methodology. This paper will explore how the Agile method can impact the motivation of teams and the impact it has had on some existing teams.

1 Introduction

Motivation as described in the Oxford dictionary 1.1, is the "Desire or willingness to do something; enthusiasm:". It is this enthusiasm, the desire to work, that I would like to address.

In this paper the definiton of team will be the one suggested by Hackman, but further expanded. [1] To simplify it, it states that "A team is a collection of individuals who are interdependent in their tasks, who share responsibility for outcomes"

This paper will outline the motivational impacts of the Agile methodology [2] within a team by using case studies and other research that has been conducted around this topic. This paper will be excluding motivational factors like career prospects and job security where possible, though this are also areas to consider for any team they should be excluded for the sake of maintaining the integrity of the paper.

2 The research

One of the central idea's suggested by Cockburn and Highsmith [3] is that Agile helps to improve motivation and morale, by implementing increased communication and reduced documentation. This helps to build a sense of community within the team which then in turn improves their morale.

Looking at the work of Asproni [4] he explores the key motivational factors for software developers. Drawing the conclusion that a developer is more interested in the work being interesting, than being paid more. It's not difficult to assume that people working within the games industry being interested in their work is a huge benefit and will help to improve their enthusiasm for the project.

Research carried out by McHugh, Conboy and Lang [5] shows some interesting results in which they spoke with already established teams, allowing them skip over as Tuckman [6] suggests in his work the initial stages of Forming, Norming, etc. Reducing the possible effects on the teams motivations that can occur. In their research they found that many of the people who had experience from a more traditional management style, had little desire to work on a team that did not use an Agile approach.

The research from various authors shows that the key to productive teams is: to make sure you build a sense of community, to make sure that the team

are involved in work they find interesting and to let them experience other types of management so they can decide which is best.

3 Agile in the Gaming Industry

The adaptive nature of Agile means that it's well suited for software development. Some of the reflective work from software development industry its self [7], leads credence to the above research. However when looking within the gaming industry not all aspect of Agile can be considered the best option [8] a reflective look at Agile development mainly on Scrum revealed that Agile was very useful at the initial stages of development, but as time progressed the need for a more structured or linear approach was necessary to ensure that deadlines were met. Though later expands on this point to say that being able to change to a different style of development could also be considered Agile in it's own way.

There are many useful studies which have taken place for both the software and management side of using Agile, however the gaming industry combines several disciplines which need to co-operate. I have been unable to find much in the way of quantified research upon the topic of motivation and morale within a game development company and the effects Agile has had upon them. I believe a further study into the subject matter would be prudent, especially considering the huge implications of motivation on a teams productivity.

4 Conclusion

In conclusion using the information from within this paper, it's safe to assume that Agile as a management system can be effective in software and games

development. It's also important to note that there has been little research on management styles and their effects on motivation within the games industry exclusively. Though it is a topic that has been quite deeply explored in other works. [9, 10, 11, 12, 13, 14, 15] Many of these works have excellent research into the subject matter however they also focus on other factors to motivation as proposed by Asproni.

Overall the it would appear that Agile is the ultimate methodology, however as proposed by Patrick Payne not all situations are suitable for the Agile methodology. He proposed that assessing your situation is an important part of making a successful project, and that Agile is about being adaptive. The example he gave was "I wouldn't use a hammer to cut a piece of paper." The research I have done has often spoken about Agile as the only method and the greatest thing, it's important however to also recognize that every group is different and people need to have different team setting in order to reach their full potential

References

- [1] S. G. Cohen and D. E. Bailey, "What makes teams work: Group effectiveness research from the shop floor to the executive suite," *Journal of management*, vol. 23, no. 3, pp. 239–290, 1997.
- [2] Kent Beck, Mike Beedle, Arie van Bennekum, Alistair Cockburn, Ward Cunningham, Martin Fowler, James Grenning, Jim Highsmith, Andrew Hunt, Ron Jeffries, Jon Kern, Brian Marick, Robert C. Martin, Steve Mellor, Ken Schwaber, Jeff Sutherland, Dave Thomas, "Principles behind the agile manifesto," [Online]. Available: <http://agilemanifesto.org/principles.html>, [Accessed: 22-Nov-2016].

- [3] A. Cockburn and J. Highsmith, “Agile software development, the people factor,” *Computer*, vol. 34, no. 11, pp. 131–133, 2001.
- [4] S. Beecham, N. Baddoo, T. Hall, H. Robinson, and H. Sharp, “Motivation in software engineering: A systematic literature review,” *Information and software technology*, vol. 50, no. 9, pp. 860–878, 2008.
- [5] O. McHugh, K. Conboy, and M. Lang, “Using agile practices to influence motivation within it project teams,” 2011.
- [6] B. W. Tuckman, “Developmental sequence in small groups.” *Psychological bulletin*, vol. 63, no. 6, p. 384, 1965.
- [7] J. D. Procaccino, J. M. Verner, K. M. Shelfer, and D. Gefen, “What do software practitioners really think about project success: an exploratory study,” *Journal of Systems and Software*, vol. 78, no. 2, pp. 194–203, 2005.
- [8] P. Payne, “Agile lessons from ryse and crysis 3,” [Online]. Available: <http://www.gdcvault.com.ezproxy.falmouth.ac.uk/play/1020790/Agile-Lessons-from-Ryse-and>.
- [9] S. Nevo and I. Chengalur-Smith, “Enhancing the performance of software development virtual teams through the use of agile methods: a pilot study,” in *System Sciences (HICSS), 2011 44th Hawaii International Conference on*. IEEE, 2011, pp. 1–10.
- [10] O. Salo, “Improving software process in agile software development projects: results from two xp case studies,” in *Euromicro Conference, 2004. Proceedings. 30th*. IEEE, 2004, pp. 310–317.
- [11] T. Kahkonen, “Agile methods for large organizations-building communities of practice,” in *Agile Development Conference, 2004*. IEEE, 2004, pp. 2–10.
- [12] L. Williams, G. Brown, A. Meltzer, and N. Nagappan, “Scrum+

- engineering practices: Experiences of three microsoft teams,” in *2011 International Symposium on Empirical Software Engineering and Measurement*. IEEE, 2011, pp. 463–471.
- [13] S. Beecham, J. Noll, and I. Richardson, “Using agile practices to solve global software development problems—a case study,” in *2014 IEEE International Conference on Global Software Engineering Workshops*. IEEE, 2014, pp. 5–10.
- [14] L. Vijayasarathy and D. Turk, “Agile software development: A survey of early adopters,” *Journal of Information Technology Management*, vol. 19, no. 2, pp. 1–8, 2008.
- [15] G. Asproni, “Motivation, teamwork, and agile development,” *Agile Times*, vol. 4, no. 1, pp. 8–15, 2004.