Research Output Journal of Education 3(2):30-34, 2024

ROJE Publications **ISSN: 1115-6139**

https://rojournals.org/roj-education/

Exploring Agile Management Practices in Non-Tech Industries

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ABSTRACT

This paper investigates the applicability and benefits of agile management practices in non-tech industries. Agile methodologies, initially designed for the tech industry, focus on iterative progress, collaboration, and flexibility. By examining case studies from various non-tech sectors, this study highlights how agile principles can enhance efficiency, reduce production cycles, and improve customer satisfaction. The findings suggest that while challenges exist in adapting agile practices outside tech environments, the potential benefits make it a promising approach for industries seeking greater adaptability and innovation.

Keywords: Agile management, non-tech industries, iterative progress, collaboration, flexibility.

INTRODUCTION

Over the recent past, agile management principles and practices have been quite prevalent in the tech industry. Software developers, IT companies, and tech startups across the globe have been working in an increasingly agile manner. Nevertheless, the need for taking a closer look at the applicability of agile principles in non-tech industries cannot be overstated. Indeed, some academics and practitioners have recently engaged in debates on agile practices that began to take place in non-tech industries. In this setting, we aim to take an explorative look at whether non-tech industries can creatively use agile principles and practices [1, 2]. In the subsequent sections, a variety of agile definitions will be discussed, as well as insights into various companies' agile practices. It is important to map this contemporary field of discourse in order to situate the interest of the present explorative study. In this essay, we aim to address the critical question - if and how - non-tech industries have used agile management principles in creative ways. The potential benefits of such an approach are promising. Moreover, this study offers valuable insights into how non-tech industries might learn from the creative deployment of agile principles in related or technically affiliated fields as specific practices might inspire non-tech management [3, 4].

UNDERSTANDING AGILE MANAGEMENT

Despite it being seen as a pack of good principles and good project management practices, Agile is not restricted to software at the roots. Agile methods were created in the early 80s to improve early system delivery through small increments. The idea was "to solve many of the problems of existing development methods while enhancing communication between business and IT" and reduce effort returns, due date delays, and quality issues. Born from lightweight programming, Agile refers to a variety of approaches that promote iterative and incremental solutions, valued in Agile's first principle: Individuals and interactions over processes and tools [5, 6]. Agile is today the most effective strategic approach to improving processes. It is a solid and strategic approach to improving processes in the right way to address projects with high complexity, high rates of change, and high uncertainty. Being a business philosophy that sets out to manage change through effective communication, empathy with the customers, and trust, Agile does not focus itself only on Scrum or Lean or XP, etc. These are software development frameworks. The keywords in Agile are "welcome uncertainty" and "manage risks by managing change", which lead to the importance of learning continuously, to an incremental as well as

iterative approach, and to the rapid delivery of value to the stakeholders. This is based on "individuals and interactions" as well as "customer satisfaction". Agile is interested in individuals - the team, the lead user - and their interactions with each other and their understanding of requirements, not in generic "legals" or "payers" [7, 8].

Research in the field of management of non-tech industries that have tried to implement Agile methodologies did not find evidence of changes in organizational structure or changes with regard to hierarchical relationships within the company. It is concluded, therefore, that technologies, practices, and principles that have been developed within the software industry (like Lean, Agile, etc., collectively denominated "Agility") can be a source of good practice for traditional industries. Our main goal is to understand what Agile is and what can be useful for the non-tech industry. We are looking for concepts rather than practices, so we do not focus on how they have been implemented in manufacturing nor software industries. We are identifying how and why it works effectively [9, 10].

KEY PRINCIPLES OF AGILE MANAGEMENT

Agile management is the operational model that stresses adaptability, communication, and outcomes delivery. The individuals drawn in the Agile values and values include three crucial development techniques: Scrum, which is clearly transformation focused, Kanban, an approach to bank applying and unexpected abilities, and Nexus, which is the Scrum scaling below. The latest revelatory shift was the result of fresh professional values and ideals, understanding how much the team claimed not to be attentive to the outstanding of certain individual peculiarities. The Agile Manifesto finally demonstrates: Value of individuals and collaborations over procedures and instruments, Ricardian of contracts on Believer working on emphasis over thorough write-ups, developing usable apps over extensive, comprehensive trial. Proposals that benefit move consumers are given concerns require being accomplished [11, 12]. Persons may make better choices themselves. They can organize if the correct circumstances are accessible. An Agile plan provides individuals with everything they want, generates entire engagement and agreeableness, making decisions dependable for participants and businesses. Organizational alternatives in a Chief executive regime. It calls for team members, coordinated through the Product Proprietor, to generate the most impressive outcome-focused case and its users. Model performs "organize" and is helpful in identifying successful methods to broaden the range and minimize the threat of launching the result. Wolf also told himself "damage" by doing the project, which is a common notion in his Agile group's creative job [13, 14].

ADAPTING AGILE PRACTICES TO NON-TECH INDUSTRIES

Agile management practices in non-tech industries: New insights in the making. Adapting Agile practices in non-tech industries can be both challenging and equally rewarding. Compared to ICT projects or digital innovation, where the prevailing discourse on Agile is rather clear, straightforward, and well-explored, the application of Agile outside these sectors is still rather limited. Despite the appealing features associated with Agile, there is substantial resistance to its adoption in both practice and research. This reluctance is more pronounced in non-tech industries where practice tends to be more conservative. Traditional views on management practices linger and resist innovations that are, superficially at least, largely seen as part of a solely IT-related context. Agile practitioners in non-tech areas should thus pay serious attention to the context in which they are to operate. Unlike in many tech environments where ICT people use Agile with or without the executives' blessings in isolated pockets distributed around the organization, embarking upon Agile in infrastructure-rich sectors without management being involved (bottom-up) can potentially lead to extra resistance or outright lower levels of success. The benefits of employing infotech-based Agile elaboration into the non-tech constructs of sectors such as construction, the creative services, or the agribusiness, to name but a few, are clearly forthcoming in the literature. From a management viewpoint, the list most often referred to includes the limited cycle time, customer satisfaction, as well as the obvious enhanced ability to respond quickly to changing situations.

CHALLENGES AND OPPORTUNITIES

The recent growth in Agile practices has reinforced a renewed interest in alternatives to traditional management practices. As a result, there is an increasing tendency for organizations to adopt Agile management practices or principles as a way of becoming more flexible, adaptable, and able to deal with rapid technological change. Agile thinking has been embraced in a variety of industries, such as pizza deliveries, banking, construction, pharmaceuticals, and retail. However, the focus on technology as an enabler has often overshadowed the potential and importance of adopting an alternative logic, or even way of working with large groups or very diverse product development efforts in the non-tech industry [15, 16].

Managers in pharmaceuticals, for example, might be interested in customer-focused collaboration, results achieved in inches, a concern for both product and process, the ability to grow a sustainable business and innovation, as well. But they remain aware that the high-velocity, high-frequency development environment of software has nothing to offer to sensitize them towards adopting the values and principles in order to address those concerns. As soon as the logic of Agility is decoupled from which products or services allow an implementation, windows for opening it up towards the non-IT domains become apparent. The challenges and opportunities facing the application of Agile management practices or principles in non-tech industries are myriad [17, 18]. At the macro level, large numbers of customers are moving into the knowledge age, where they judge products and services on their ability to provide flexible functionality to meet changing needs. At the meso-level, executive boards are free falling into a reality where what was successful yesterday isn't guaranteed to be successful tomorrow, and where corporate strategy suddenly needs to change direction, reassessing the portfolio mix in favor of agility in the hopes of achieving greater chances of dynamic growth. In such an evolving Agile world, where concepts and perceived values change rapidly, there emerges a new market for identifying and nurturing seemingly outdated business platforms into completely reshaped industry models, thereby seeing the business one thinks they are in through "new-eyes" [19, 20] At the micro-level, the Agile management practices movement seeks approaches that rely more on inviting customer demand than it depends on predicting it. Whether these forces will flatten or entangle nevertheless will remain to be seen. For non-tech industries, industries like construction, mining, pharmaceuticals, automobile manufacturing, and health care, there are challenges seen in absorbing this newfound freedom of business parameters. However, in every challenge there is opportunity. This chapter explores what are the benefits as well as possible stumbling blocks for manufacturers [21, 22].

CASE STUDIES OF AGILE IMPLEMENTATION IN NON-TECH SECTORS

Case studies are excellent sources of real-world experiences and offer advice from the individuals who have experienced becoming Agile in a non-tech environment. Several articles exist that detail case studies of Agile implementation in non-tech industries. The following three case studies offer exceptional content and advice. The Finnish Forest Research Institute maintained that consultants "coaching and training affected behavior and provided a mutual understanding of experienced advantages." Shi and Sha maintain that investment in leadership is important and that employees should possess "the desire to go beyond their skill set, to learn to work on a team, and maximize productivity" (2009). Conaway and Jeff Sutherland emphasize the role of "continuous business engagement" in their case study, held in the automobile and credit industries. They underline the importance of creating a set of priority and acceptance parameters for projects that exist to assure engagement [23, 24]. Fitness Together, a private fitness and wellness company, applied a "scaled back" or "barrels" approach, in its own words, to implementing Scrum in a non-technology environment. The author of the paper holds a position as a corporate executive in the company. Blue Switch Factory applied the Scrum tool in a non-technology environment after this marketing company's leaders read the Agile Manifesto. Shannon Sexton, a consultant and service provider, served as coach and reviewer for their transition. WestJet, a national airline based in Canada, became the first non-technology company to adopt Agile or Scrum as an approach to project complexity on April 4, 2003, according to Ron Jeffries of XProgramming. According to conversations with Ron and Alistair Cockburn at XP Universe 2005, they provided a brief overview of this successful experience. The WestJet story is currently available in the second edition of "Agile Estimating and Planning" by Mike Cohn, which was published in 2004.

BENEFITS AND FUTURE TRENDS

Benefits derived from the introduction of agile management practices in non-tech companies can be estimated according to the content of the empirical research on this issue. The overall relevant research carried out in the industry has revealed manifold advantages. They result from the improved interactions between the teams and the management, which leads to some apparent changes in the organization's operations. Lower production costs and shorter product-to-market time have significant potential benefits for the companies. The increasingly popular co-creation approach, particularly in non-tech industries, is predicted to shape the future trends [25, 26].

The growing inclination for an incremental and iterative approach in the manufacturing environment is due to the perceived benefits in entering the market with a new product more effectively. An early attachment of the customer to the good or the service is not limited to high-tech innovations but is also presented as an attitude for organizational industrial development. Consequently, the immediate attachment of potential customers, which consequently means a competitive advantage, confronts iterations. In line with this literature, it is an attractive trend for the near future to focus on the

investigation of iterative incremental new product development in the shed of other non-tech fields [27, 28].

CONCLUSION

The exploration of agile management practices in non-tech industries reveals significant potential for enhancing organizational efficiency and adaptability. Despite initial resistance and challenges in implementation, the case studies demonstrate that agile principles can lead to shorter production cycles, lower costs, and improved customer satisfaction. Non-tech industries, such as pharmaceuticals, construction, and manufacturing, can benefit from adopting agile methodologies, which encourage continuous improvement and responsiveness to change. Future research should focus on tailored agile frameworks for specific non-tech sectors to maximize the benefits of this adaptive management approach.

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CITATION: Rubanza Nyeko M. Exploring Agile Management Practices in Non-Tech Industries. Research Output Journal of Education, 2024 3(2):30-34.