

AGILE PRINCIPLES APPLICABLE TO NEW BUSINESS DEVELOPMENT - EXECUTIVE SUMMARY

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Resumo

O objetivo do trabalho é elencar quais são os princípios ágeis que mais agregam valor no desenvolvimento de novos negócios. Para isso, utilizou-se uma metodologia de investigação baseada em pesquisa bibliográfica e exploratória, com uso da pesquisa de campo, por meio de entrevistas em profundidade. As pesquisas bibliográficas tiveram como objetivo investigar conceitos das metodologias ágeis, que são incrementais e/ou diferenciais, compreender qual é a definição de sucesso, e mapear os casos práticos de uso. A pesquisa exploratória se baseou em onze entrevistas qualitativas realizadas com um grupo de executivos de 4 grandes empresas no Brasil de diversos segmentos, permitindo identificar quais são os princípios ágeis que se destacam e/ou são incrementais nas empresas. Como forma de contribuir aos executivos em suas análises sobre utilizar ou não as metodologias ágeis, o artigo apresenta um infográfico com a orientação de 'quando' as empresas deveriam utilizar as metodologias, de 'quais' são os 5 princípios que mais agregam valor e quais são os benefícios da implementação, sendo os principais encontrados: foco no cliente, time multifuncionais capacitados, entregas menores e de forma incremental, testes e envolvimento dos clientes durante o projeto, e desenvolvimento de processos de reavaliação.

Palavras-chave: metodologias ágeis, novos negócios, princípios ágeis.**Abstract**

This paper aims to provide a list of agile principles that most add value for the development of new businesses. The bibliographic research was developed to investigate concepts of agile methodologies of what is incremental and/or differential, understand what the definition of success is, and map practical use cases. The exploratory research was based on eleven qualitative interviews developed with a group of executives from 4 large companies in Brazil and different segments, allowing the identification which are the agile principles that stand out and/or are incremental in companies when comparing them to the waterfall methodology, considered as a traditional methodology for development of new businesses. In a way to offer a contribution for executives in their evaluation on whether or not to use agile methodologies for current and new businesses, the article presents an infographic with the guidance on 'when' companies should use agile methodologies, on 'which' are the 5 principles that most add value and 'what' are the benefits of implementation for the development of new businesses such as: focus on consumer, trained-cross-functional team, smaller and incremental deliveries, testing and developing with customers involved during the project, and development of a reassessment process.

Keywords: Agile methodologies; New business; Agile principles.

AGILE PRINCIPLES APPLICABLE TO NEW BUSINESS DEVELOPMENT

Abstract

Purpose: This paper aims to enumerate five agile principles that hold significant value for the advancement of new businesses. Instead of adhering to the ten agile principles originally formulated for software development, understanding the primary ones can aid corporations in fostering an agile culture and achieving enhanced innovation.

Design/Methodology/Approach: This study employs an investigative methodology encompassing bibliographic research and exploratory research conducted through field work and in-depth interviews. The bibliographic research delves into agile methodology concepts and identifies distinctive features, including artifacts, learning meetings, consumer focus, project team competencies, and demo sessions/tests with consumers. The exploratory research comprises qualitative interviews with executives from various sectors in Brazil, which helps pinpoint standout agile principles. The field research validates most distinctive features, excluding artifact usage, which is universally prevalent. Additionally, the study reveals that breaking down substantial deliveries into small, incremental ones (fractionation) is perceived as challenging yet rewarding.

Findings: The bibliographic research highlights the significant distinctive elements mentioned above, while field research corroborates these findings, with the exception of artifact usage. Moreover, fractionating extensive deliverables into incremental ones is identified by most interviewees as a demanding yet highly beneficial practice.

Originality/Value: This study holds relevance in providing clear guidance on when, how, and why companies should opt for agile methodologies to enhance the value of new business development initiatives.

Keywords: Agile methodologies; New business; Agile principles.

Paper Type: Research paper

1. Introduction

The imperative for companies to innovate and offer superior value propositions in the face of dynamic, globalized markets with intense competition is widely acknowledged. The realms of technology and innovation, driven by advancements in technology, have introduced novel work approaches to address the need for both speed and innovation, collectively termed agile methodologies (Lemay, 2019).

The term "agile" has gained widespread recognition. Organizations have begun engaging consultants to facilitate the formation of Squads (agile terminology for work groups), defining short-term work objectives (Sprints), and implementing the Scrum project model (a continuous activity cycle). Consequently, the traditional waterfall methodology, which involves sequential, unidirectional activity execution, has often been supplanted (Casteren, 2017).

Furthermore, agile methodologies have emerged as potent tools for improvement. A 2017 global survey by PricewaterhouseCoopers (PwC) involving over two thousand executives revealed that 22% of the most profitable companies from 2014 to 2016 employed agile methodologies in their projects.

Nonetheless, questions linger regarding the suitability of agile methodologies for new business development (Amaral et al., 2011). The characterization of projects as the "development of a new business" encompasses innovative aspects of the business model itself (Andreassi, 2007; Fortuin, 2006; Osterwalder, 2004). Moreover, these projects result from the fusion of one or more innovations, as outlined by Schumpeter (1982), encompassing the creation of new products, entry into new markets, introduction of novel production methods, acquisition of fresh raw material sources, and establishment of innovative organizational structures within specific sectors.

Despite increasing industry and academic interest in extending the scope of agile methodologies beyond technology and software sectors, unanswered questions persist regarding their applicability (Ribeiro et al., 2019).

Given these considerations, this research seeks to address the following inquiries: Beyond the technological context, should companies employ agile methodologies for new business development? What constitutes distinctive or incremental elements in terms of processes and behaviors that encourage companies to invest in agile methodologies?

This article presents the research outcomes in a descriptive manner, offering guidance to companies on when, how, and why they should adopt agile methodologies for successful new business development.

2. Methodology

In pursuit of addressing the aforementioned inquiries, an investigative methodology was devised that combined bibliographic research and exploratory approaches (Krakauer et al., 2018), complemented by in-depth interviews (Duarte & Barros, 2006). The research objectives were oriented towards enhancing comprehension of the subject matter and/or the research quandary. This involved elucidating pertinent concepts, facilitating the identification of potential research quandaries, and consequently, characterizing it as exploratory research (Mattar, 2014). This mode of research draws upon bibliographical investigations, public information, documents, published statistics, and market research as primary and secondary sources.

Bibliographical research facilitated an examination of researchers' findings, encompassing both successful and unsuccessful instances. This investigation aimed to ascertain optimal circumstances for the application of agile methodologies within companies and to define criteria for gauging success in their utilization.

Furthermore, to delve into companies' planning and practical implementation processes, a qualitative research approach centered around interrogative techniques (interviews) was adopted. This approach is consistent with Neves's (1996) conceptualization of qualitative studies. As outlined by Neves, such studies eschew numerical enumeration and measurement of events, and typically abstain from employing statistical instruments for data analysis. Instead, the emphasis lies on descriptive analysis, rooted in direct, interactive engagement between the researcher and the research subject, with the objective of comprehending phenomena and their contextual interpretations.

Echoing Duarte and Barros (2006), interviews were considered a pivotal information source for qualitative research. This technique finds widespread acceptance in the realms of sociology,

communication, administration, and psychology. The utilization of in-depth interviews, specifically, serves to discern varying perceptions and descriptions of phenomena.

Thus, the present study adopts the method of in-depth interviews involving executives from prominent Brazilian enterprises. This approach seeks not only to capture their perspectives on agile methodology implementation but also to glean insights from their past experiences. Additionally, the study aims to compile a catalogue of agile principles that hold the utmost significance in fostering the development of new businesses.

The interview strategy was constructed around identifying instances of success and failure in the context of both agile and waterfall methodologies. This alignment adheres to the five perspectives endorsed by Khoza and Marvevick (2020): process, management, deliverables, business success, and strategy.

In total, 11 executives from four Brazilian corporations participated in these interviews. The selection criteria were predicated on three factors: 1) the researchers' network and market familiarity; 2) diversified stages and levels of maturity concerning agile implementation; and 3) inclusion of companies and executives external to the researchers' affiliations to introduce essential counterpoints.

3. Theoretical Framework

The theoretical framework serves a dual purpose: to develop an understanding of the themes slated for exploration during fact-finding sessions with company executives and to contribute to the consolidation of research findings. It is organized into four sections: (1) Establishing and Historicizing the Notion of Agile Methodologies—Surveying Core Fundamentals, Traits, and Principles; (2) Comprehending Distinctions between Agile and Waterfall Methodologies; (3) Reviewing Multiple Authors' Perspectives on the Conceptualization and Attainment of Success in Implementing these Methodologies; and (4) Analyzing and Gaining Insight into the Real-world Adoption of Agile Methodologies.

3.1. Agile methodologies: historical formation of the concept, fundamentals, characteristics, and principles

The Agile Manifesto and its accompanying methodologies were conceived by seventeen signatories with the objective of enhancing software development for their own use and for the benefit of like-minded individuals (Agile Manifesto, 2001). This manifesto underscored several central values: prioritizing individuals and relationships over procedures and tools; valuing functional software over exhaustive documentation; advocating collaboration with clients over contractual formalities; and endorsing adaptability to change as the cornerstone for planning (Agile Manifesto, 2001).

Moreover, the manifesto articulated twelve guiding principles for agile software development, encapsulating the aforementioned values. These principles encompassed placing customer satisfaction at the forefront (centering on the client's vision and needs); embracing change as an integral aspect (facilitating gradual, incremental progress); promoting swift, compact deliverables (through iterative Sprints); fostering multifaceted teamwork (within cross-functional Squads); encouraging synergy between business and technology stakeholders (within cross-functional teams); and infusing motivation and support into the process,

complemented by visual tools such as a large whiteboard—a nod to Kanban, a Japanese term denoting a card or signboard.

Amaral et al. (2011) defined 'agile' as the capacity to effectively respond to changes in order to achieve profitability in a volatile business environment. They extensively examined varied definitions of agile and project frameworks, ultimately summarizing them as a novel approach (diverging from tradition) with a renewed focus on self-management, adaptability, and customer-centricity.

According to Sutherland (2014), a co-creator of agile methodologies, founder of Scrum Inc., and co-author of the Agile Manifesto, the methodologies' foundational principles evolved from a compilation of best practices originating as far back as World War II. The innovative aspect of agile methodologies was the amalgamation and application of these practices. The key paradigm shift was the emphasis on studying how people actually work, as opposed to how they describe their work.

The Scrum methodology, designed as a perpetual cycle of activities, initiates with cataloging all tasks, organizing them according to the client's vision (Backlog), followed by iterative and time-bound deliverables referred to as 'Sprints' (typically spanning 15 days). At the conclusion of each Sprint, reflective learning sessions ensue, involving an evaluation of achievements and identification of areas for improvement. This process is succeeded by projecting future developments based on a comparison between initial plans and actual outcomes, culminating in a product presentation to elicit feedback from primary users (Sutherland, 2014).

3.2. Agile versus waterfall methodologies

To comprehend the distinctions between the agile methodology and the conventional 'waterfall' methodology, focusing on incremental aspects and unique management and execution points in new business projects, it was essential to undertake bibliographic research. The primary objectives encompassed exploring agile methodology concepts, their application, behaviors, processes, values, and outcomes. The primary methodology for comparison is the "waterfall" methodology, which, as identified by Branco and Kelling (2019), falls under the purview of predictive project management. In this context, comprehensive knowledge exists regarding the development and all related requirements, resulting in minimal change. Consequently, planning can be executed in entirety, with limited ambiguity concerning delivery scope and methodology (Branco & Kelling, 2019). This stands in contrast to agile methodologies that anticipate changes and prioritize incremental deliveries for user benefit.

Following an analysis of various authors (Agile Manifesto, 2001; Casteren, 2017; Amaral et al., 2011; Lewis, 2021; Sutherland, 2014; Branco & Kelling, 2019; Rigby et al., 2020), a comparative listing was formulated between agile and waterfall methodologies, identifying unclear comparison points between both.

Table 1.

List of values from Agile Methodology that wasn't possible to identify clear comparison between Waterfall Methodology

Category	Agile Methodology	Waterfall Methodology	Source
Process	Learning sessions at the end of sprints with a review of what went well and what could be improved (reassessment)	Not comparable found	Sutherland, 2014

Process	Definition of the delivery forecast for future developments based on a comparison of what was planned and what was accomplished	Not comparable found	Sutherland, 2014
Result	Better team hiring by understanding which profiles are missing within a multidisciplinary group	Not comparable found	Rigby, 2018
Result	Self-managed teams are more motivated	Not comparable found	Rigby, 2018

Source: designed by the author

Other scholars (Almeida et al., 2016; Serrador & Pinto, 2015; Tam et al., 2018) also undertook methodology comparisons, concluding that aspects such as iterative planning, use of visual tools for management, clear project vision shared with the team, team competencies, and direct consumer involvement were correlated with improved agile application outcomes.

3.3. Practical cases of methodology use within companies

Another research initiative involved examining previously published cases of agile methodology utilization to elucidate the circumstances necessitating their adoption and the preparatory steps for such implementation. Sherman (2015) identifies several misconceptions guiding executives toward specific methodologies, such as the belief that a singular approach applies universally or that a single methodology should be chosen exclusively by a company. Insights from Sherman (2015) and Amaral et al. (2011) uncovered situations in which agile methodologies should not be employed (Table 2).

Table 2.

When not to use agile methodologies

Situations in which the company should not use agile methodologies
The project has closed documentation
The focus of the work is on executing the plan and not on customer satisfaction
There is a need for standardization of the company and/or project
It is not possible to “break” the project into small deliveries and incremental deliveries
It is not possible to work with frequent changes depending on the culture and/or stakeholders involved
Projects considered highly critical
Projects with high operational risks
When the project's main stakeholder does not know or agree with agile methods
The organization is unable to work with partial and frequent deliveries due to capacity and/or mentality

Source: designed by author based on Amaral et al. (p. 113, 2011), Thesing, Feldman, e Burchardt (p. 751, 2020).

Consequently, when one or more criteria from Table 2 apply, the adoption of agile methodologies might not be suitable. Nonetheless, hybrid methodologies are possible. According to Papadakis and Tsironis (2018), 71% of organizations employ agile methodologies, with one in five utilizing a hybrid model—combining agile with non-agile approaches. Implementation challenges include limited team knowledge about methodologies, insufficient training and expertise, incomplete acculturation processes, leadership readiness deficits, absence of a product owner, insufficient risk management, and static documentation (Patanakul & Rufo-Mccarron, 2018; Berkani et al., 2019; Sommer et al., 2015; Amaral et al., 2011).

4. Data analysis and results

In qualitative research, according to Bardin (2016), the exploration transitions from mere description to inference. This involves analyzing messages to unveil their underlying causes and potential consequences. This process can be facilitated through the category method, which involves compartmentalizing the constituents of message meaning into distinct "drawers" for analysis.

In the present study, the content analysis adheres to Bardin's methodology (2016), encompassing three principal steps: (1) Organizational analysis, beginning with pre-analysis of materials, document selection, hypothesis formulation, and material preparation; (2) Material coding, involving segmentation, contextual definition, unit enumeration, and registration; (3) Categorization, wherein materials are segmented based on predefined coding criteria, followed by a verification of category quality.

During the organizational phase, subsequent to an initial review of the transcripts, research categories are formulated and aligned with the study's propositions. These research categories are also tethered to theory, establishing a connection between interview data and theoretical constructs (Bardin, 2016). The classification process involved identifying shared elements between interviews, comments from interviewees, and the topic of each category.

Six major categories were delineated:

Category A – Understanding respondent activities and scope: assessing respondents' familiarity with agile methodologies and their prior experiences.

Category B - Grasping interviewee and company challenges: comprehending the principal challenges faced and correlating them with potential need for agile methodologies.

Category C – Assessing company utilization of agile methodologies: mapping the prevalence of different agile methodologies in new business development.

Category D - Investigating the implementation process of agile methodologies: identifying primary difficulties and barriers to inform actionable insights.

Category E - Exploring interviewee perspectives on the agile vs. waterfall comparison: capturing interviewees' opinions on distinctive features and factors contributing to successful new business development.

Category F- Respondent perceptions of agile methodology assumptions: examining the feasibility of commonly asserted agile methodology statements within practical company settings.

Analysis of Category A data revealed that over 91% of participants possessed experience with agile methodologies, projects, and new business development. Additionally, 82% of respondents reported facing challenges that led them to explore alternative work methods—
Category B.

Regarding the adoption of agile methodologies by companies for new business development—
Category C—certain processes emerged as more prominent, such as the use of Squads and control tools like Scrum and Kanban.

Among the least frequently employed processes, the challenging practice of breaking down product/service value and delivering incremental units was highlighted. Moreover, the cyclical reassessment process, cited by only 36% of respondents, emerged as an aspect requiring more attention.

While 82% of participants acknowledged incorporating customer vision and needs into activities for added value, the implementation process was perceived as cumbersome.

Despite 100% of respondents indicating the existence of cross-functional teams, 82% pointed out the need for structural and resource adjustments to accommodate this new working paradigm, aligning with the theoretical framework's emphasis on the structural impact of new business development.

Within the implementation process—Category D—91% of participants emphasized the necessity of alignment with leadership and sponsors.

Category E findings indicated that the majority of executives (over 90%) considered Agile superior in terms of 'Time', 'Customer Satisfaction', and 'Business Impact'. However, 65% of respondents found Waterfall methodologies more favorable concerning investment, strategy, deliverables, and documentation.

Lastly, recurrent themes emerged that were previously uncharted or underrepresented in interviews. Ownership/autonomy in decision-making was raised by 55% of respondents, along with the importance of a culture and mindset that embraces learning from mistakes and adapting to changes. Additionally, the use of third-party assistance for implementing agile methodologies within companies was cited by 45% of respondents.

5. Discussion

Aligned with the theoretical framework, distinctive elements of agile methodologies are identified: (A) communication and visibility tools (artifacts); (B) learning meetings; (C) customer focus; (D) cross-functional team competencies; and (E) consumer demo sessions and tests. However, when applied research is juxtaposed against the theoretical framework, certain observations arise:

A) Artifacts are widely adopted by companies (100% reported using control tools). Nonetheless, executives highlight that differentiation lies not in the tools themselves, but in the behaviors and processes they facilitate. B) Learning meetings are not uniformly implemented (36% mentioned). Remarkably, the market's innovation reference—the sole consistent practitioner of reassessment—illustrates the implementation of this process. C) Customer focus, a key driver, impacts activities prioritization. Leadership acknowledges its significance, yet practical implementation faces challenges and lacks clarity and alignment. D) Cross-functional team skills are highly valued (73% affirmed), but their recruitment and training pose significant challenges (64% cited). E) Consumer demo sessions and tests were mentioned by only 45% of participants, indicating potential for improvement.

The research thus validates key distinctive features of agile methodologies from the theoretical framework concerning items (B), (C), (D), and (E). These principles stand out as essential factors for new business development, answering 'HOW' companies should employ the methodologies. The sole unconfirmed aspect was the use of artifacts (A). Additionally, a new principle surfaces—breaking value into small deliveries—when assessing the twelve agile principles (Agile Manifesto, 2001).

Understanding 'WHY' to adopt agile methodologies hinges on the ensuing benefits of these principles:

Customer-centricity enhances value addition, aligning with strategy and promoting autonomy, reducing approvals, escalating engagement, and motivation.

Incremental deliveries foster error reduction and potential revenue generation pre-finalization. Team organization around work groups and customer perception fosters transformational product vision and positively correlates with project success.

Cyclical evaluation prevents recurring errors.

Customer testing leads to refined, high-value products.

Applied research introduces additional points (unaddressed by the theoretical framework) relevant to new business development:

Ownership links to autonomy and decision-making, positively correlating with successful deliveries.

Third-party agile methodology implementation, when integrated with companies, yields benefits through shared work culture and processes.

Embracing mistakes/changes develops a capacity within teams.

Regarding 'WHEN' to utilize agile methodologies, the theoretical framework is the primary reference -Table 2 serves as the main data source.

Based on these analyses, this work proposes conveying conclusions through an infographic. As per Ribeiro (2008), this proposal utilizes the infographic model, combining "information + graphic," typically presenting imagery accompanied by text.

Infographic

Agile and New * * Businesses

WHEN, HOW and WHY companies should use agile methodologies for new businesses development



Source: designed by the author

6. Conclusion

The utilization of bibliographic research effectively highlighted the incremental and distinct aspects of agile methodologies in executing new business projects, encompassing behaviors, processes, values, and outcomes, when compared to the waterfall methodology. Furthermore, the research sought to comprehend the notion of success in employing agile methodologies

within companies, as articulated by researchers. This endeavor aimed to address the question of WHEN companies should embrace agile methodologies, and conversely, when they should refrain, along with the strategies to plan and prepare for such endeavors.

The comprehensive interviews unveiled the practical applications of methodologies in new business development, successfully addressing HOW and WHY companies should integrate agile methodologies. The concluding infographic succinctly encapsulates the five key agile principles.

From this study, novel avenues of inquiry surface. These encompass the optimal structuring of teams for agile work methodologies, effective methods of breaking down product value to facilitate incremental deliveries, the challenges behind the 'customer focus' principle, and the cultivation of risk management within projects conducted through agile methodologies.

Nonetheless, this research encountered certain limitations. Acquiring a substantial number of executives for in-depth interviews, particularly those with desired experiences and critical perspectives on agile methodology application, posed considerable difficulty. Additionally, despite meticulous bibliographic research, certain scientific domains appeared extensively explored by prior studies.

These limitations primarily stem from the studied companies' profile—larger corporations rather than a blend of small and large entities—the interviewees' leadership-centric orientation, and the research's scope—focused on the Brazilian innovation and entrepreneurship context.

In conclusion, companies adopting the proposed approach can make informed decisions regarding methodology implementation based on contextual project attributes. This facilitates better preparedness through method selection, accentuating the principles that deliver maximum value. Moreover, companies can extend training.

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