The Contribution Of Agile Culture To Process Improvement In The Procurement Area

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Abstract:
Background: *Implementing an agile culture, despite its numerous benefits, presents challenges as it requires substantial organizational and individual realignment. The process involves navigating changes and aligning principles and values, posing a complex management task. Leaders, in particular, play a crucial role in fostering this culture by leading transparently, prioritizing employees, and empowering teams to instill confidence.*
Materials and Methods: *This research employed a qualitative exploratory approach. The methodology involved an in-depth review of scientific articles, monographs, theses, and other relevant sources. The researcher referenced statements from authors addressing the chosen theme to support the arguments and opinions presented in the study.*
Results: *The primary objective of this research is to illustrate the contribution of implementing an agile culture in the procurement area. The study emphasizes significant enhancements in the procurement process when agile methodologies are applied. These improvements include rapid response to changes, efficient prioritization, continuous delivery of value, enhanced collaboration, continuous feedback, reduction of waste and rework, transparency, continuous improvement, increased customer satisfaction, and faster and more efficient adaptation to complex scenarios.*
Conclusion: *In conclusion, the findings of this study underscore the substantial positive impact of implementing an agile culture in the procurement area. The observed improvements in various aspects of the procurement process validate the effectiveness of agile methodologies. The study emphasizes the importance of leadership commitment, transparency, and empowerment in successfully fostering an agile culture within an organization.*
Keywords: *Agile Methodologies; Challenging Management; Agile Culture; Improved Collaboration.*

I. Introduction

In recent years, the conception of innovation has solidified its status as a guiding principle in achieving institutional success, owing to a multifaceted set of technological, cultural, and economic variables inherent to contemporary society. A competitively adept business entity needs to incorporate devices and tools into its strategies capable of instilling archetypes of renewal into its organizational structure. In this context, innovation is frequently subjected to analysis and delineation across various editorial domains, transcending the boundaries of scientific discourse.

One of the strategies that large companies are implementing, thereby achieving success in financial results, productive efficiency, customer and employee satisfaction, is the agile methodology, which relates to adaptation and culture transformation. However, before making changes in the realm of innovation and agility within the organization, it is paramount to address organizational culture, ensuring that the vision, values, and principles align with those of agile culture.

This theme has sparked an opportunity for research and sharing the idea of agile culture in the procurement area, aiming at personnel development, process improvement, and the commitment of all stakeholders to achieve the goals of the organization and its employees.

For the development of this work, a qualitative exploratory approach was employed, conducted through bibliographic research of scientific articles, monographs, theses, and any other sources of scientific research

supporting the arguments and opinions presented by the researcher in accordance with statements from authors addressing the chosen theme.

The overall objective of this research is to demonstrate the contribution of implementing an agile culture in the procurement area. Specific objectives include elaborating on agile methodology in procurement processes and researching improvements in procurement processes in the concept of innovation.

This article is structured into four sections. The first is reserved for the introduction, highlighting the objectives of this research. In the second, the theoretical foundation is developed, ensuring a broad exchange of theoretical and practical experience among the consulted authors and the researchers. The third section explains the methodology used for the development of this research, and finally, the fourth section presents the concluding remarks.

II. Material And Methods

For the development of this present work, a qualitative exploratory approach was employed, conducted through bibliographic research of scientific articles, monographs, theses, and any other sources of scientific research that supported the arguments and opinions presented by the researcher in accordance with the statements of authors addressing the chosen theme.

As stated by Brito, Oliveira, and Silva (2021, p. 03, 04),

[...] qualitative research is fundamentally interpretative, meaning the researcher interprets the data based on a holistic view of social phenomena. This explains why qualitative research studies appear as broad views rather than micro-analyses. The more complex, interactive, and comprehensive the narrative, the better the qualitative study[2].

According to Vergara (2000, cited in Oliveira, 2011, p. 40), "Bibliographic research is developed from already elaborated material, mainly consisting of books and scientific articles, and is important for gathering basic information about aspects directly and indirectly related to our theme[10]."

Therefore, the positions adopted throughout the elaboration of this work were assisted by the stances of the consulted authors, serving as a reference for the formation of the corpus of this text[6]. Considering the authors researched, notable contributions to the progress of this work come from Moraes (2005), Silva and Castro (2021), Santos et al. (2022), Costa Júnior and Nunes (2023).

III. Literature Review

For the realization of this research, a better understanding of the purchasing sector and agile methodologies was sought, highlighting their importance within other business sectors, especially when adopting procedures such as purchasing within the deadline, in the necessary quantity, at a low cost, and with quality to achieve better profits for the company.

To achieve these objectives, it is considered necessary to implement the three pillars of agile culture, which are methodologies, structure, and agile collaborators. This is the tripod that will support the creation of innovative actions promoting efficient processes with constant delivery of quality and value to the customer.

The concept of agility stems from the Agile Manifesto created at a software developer convention in 2021 in Utah (USA). Currently, it has been implemented in various business sectors as the manifesto values more dynamic processes with less bureaucracy[3].

The aforementioned manifesto has four main values that serve as the foundation for project implementation. These values prioritize individuals and interactions over processes and tools, working software over comprehensive documentation, collaboration with the customer over contract negotiation, and responding to changes over following a plan[12].

Agile Methodology in Procurement Processes

The procurement sector faces significant challenges, such as the complexity of the supply chain, varying needs of internal clients, constantly changing regulations, and pressure for efficiency and cost reduction. Traditionally, these processes are characterized by a rigid structure, which can result in delays, lack of adaptability, and difficulties in meeting constantly evolving demands.

Agile methodologies play a significant role in optimizing procurement processes, providing a flexible and adaptive approach to deal with the complex and ever-changing dynamics that characterize the modern procurement environment. Originally developed for the software development industry, these methodologies have been widely adopted in various business areas due to their ability to promote efficiency, collaboration, and agility.

To efficiently meet the demands of an increasingly demanding and digitally evolving society, companies need to adapt to changes and develop more agile teams and processes. This requires starting with a deep analysis of organizational culture to ensure that the current vision, values, and principles are aligned with agile values and principles.

It is crucial for organizations to understand that selling a quality product at a low cost is not the only differentiator in today's market. To be a competitive advantage, the focus should be on developing innovative products and services that add value to customers and stakeholders.

The implementation of an agile culture is recommended, becoming a part of everyone's daily routine in the organization. According to Santos et al. (2022, p.17), "the creation of an innovation culture aligned with corporate culture is the true driver of employee behavior and performance. Any company willing to foster creativity and innovation must build a culture that promotes bold, unconventional, and creative thinking[13]".

In the context of procurement, agile methodologies offer several advantages: responsiveness to changes, intensified collaboration, iterative delivery, focus on value, continuous feedback, transparency and visibility, and risk reduction. Silva and Castro (2021, p. 06) state that:

In a context of fierce competition outlined by rivalry, rapid changes, technological advances, and dynamism, the distinction of the organization in the market panorama is of extreme importance. Within this framework, the administration of agile methodologies combines competencies, proficiencies, other methodologies, and tools with the purpose of maximizing the performance derived from the invested contributions[17].

In summary, agile methodologies offer a highly adaptable and customer-centric framework to enhance procurement processes. By incorporating these principles, organizations can gain a competitive advantage by maximizing efficiency, flexibility, and responsiveness in an ever-evolving procurement environment. This aligns with Denning's (2018, p. 35) assertion: "To be agile is to be able to generate twice the value in half the work[5]."

It is worth noting that these methodologies also serve to improve the results of procurement processes through practices developed for team time optimization, supplier qualification, simplification of negotiation techniques, precise contract management, as well as influencing the company's budget.

Improvements in Procurement Processes in the Concept of Innovation

The management of procurement—the well-known purchasing function—plays a strategic role in today's businesses, especially financial ones, increasingly leaving behind the prejudiced view that it was a bureaucratic and repetitive activity, a cost center rather than a profit center[9].

For visionary executives, the positive influence of the procurement area on business is evident, leading them to invest heavily in innovation, including equipment, software, e-commerce platforms, and intellectual capital. It is understood that a well-structured procurement management generates significant financial contributions, such as covering the cost center's maintenance through savings captured in negotiations. After a restructuring through change management, which is the first step in development and the growth of the company and its employees, the focus should shift to process improvement by incorporating agile methods such as Lean, Scrum, Kanban, and OKR. This aims to identify bottlenecks and implement corrective actions during the process, efficiently achieving the desired objectives.

According to Costa Júnior and Nunes (2023, p. 06):

[...] Agile approaches and agile methods are terms that encompass a variety of methods, frameworks, and practices that satisfy the values and principles of the Agile Manifesto (PMI, 2017b). Among the most used, according to Version One's survey (2020), are Scrum, Kanban, and, finally, Extreme Programming (XP)[3].

Lean, Scrum, Kanban, and OKR are just a few of the agile methodologies that can provide exponential gains to the procurement sector. These methodologies are already applied in various areas with the purpose of developing strategies and practices for continuous process improvement, adaptive planning, performance optimization, waste reduction, and agile deliveries. To implement or adapt one or more agile methodologies to the procurement process, with a focus on improving efficiency and responsiveness, it is important to carefully plan and evaluate all steps. This involves defining clear objectives, identifying the appropriate methodology, supporting employees with training and clear communication, making continuous adjustments, establishing metrics and performance evaluation, and finally, aligning the organizational culture to maintain a rhythm and achieve success. The following are some contributions of agile methodologies frequently integrated into the procurement process[8].

SCRUM

SCRUM is an agile project management methodology structured in short cycles of distinct but interconnected phases for one or more projects. This method is grounded in transparency and inspection during the execution and progress of each project, along with adaptation to both values—focus, commitment, openness, respect, and courage—and changes. Consequently, these characteristics yield processes with greater adaptive flexibility and enhanced planning optimization. The methodology prioritizes gradually defining the sequence of activity execution throughout the project with short deadlines, ensuring constant value deliveries to clients.

Figure 1 – Scrum Agile Methodology
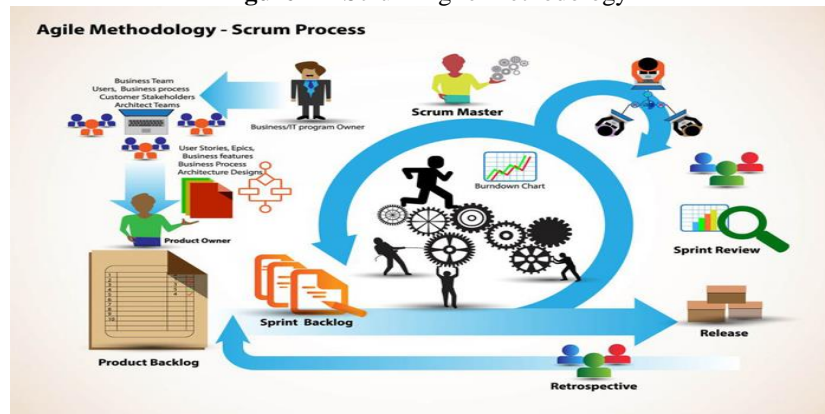
Source: AGILE TRENDS (2023) [1]

According to Schwaber and Sutherland (2020, p. 05),

Scrum is a framework that assists individuals, teams, and organizations in generating value through adaptive solutions to complex problems. The successful use of Scrum depends on the development of individuals in five values: commitment, focus, openness, respect, and courage. A Scrum Team is a group consisting of a Scrum Master (responsible for maintaining the Scrum process structure by aiding in theory and practice), a Product Owner (responsible for maximizing product value and representing stakeholder needs), and developers. In this team, there are no subgroups or hierarchies; it is a cohesive unit of professionals focused on one goal at a time and on the product[15].

The structure of SCRUM comprises roles in project management, namely: Product Owner (PO), a business domain expert and developer of the Product Backlog, the sole authority to modify the Product Backlog; Scrum Master, a leader guiding both the PO in understanding Scrum, indicating priorities and advantages, and the Development Team, acting as a conflict resolver, guiding and monitoring Scrum guidelines with a focus on productivity; the Development Team, specialized and self-managed employees, knowledgeable in Scrum, responsible for project task execution. SCRUM also involves ceremonies – sprint planning, daily stand-up, sprint review, sprint retrospective – and artifacts – product backlog, sprint backlog, and burndown.

According to Schwaber and Sutherland (2020), after the Sprint review meeting, the Scrum Team and the Scrum Master conduct a meeting called the Sprint Retrospective. In this meeting, the work model and process practices related to Scrum are reviewed to enhance Scrum efficiency in upcoming Sprints, identifying key items that, if executed differently, would improve team performance[15].

KANBAN

KANBAN is an agile methodology whose visual approach serves as a tool in managing workflow to optimize efficiency and organization of activities. In the procurement process, it is used to monitor the progress of purchase order indicators, from request to delivery, identifying bottlenecks, enabling feedback, actions, in other words, swift adjustments in the process flow.

Figure 2 – Kanban Agile Methodology

Source: SEBRAE (2021) [16]

Practices grounded by KANBAN for efficient and productive management:

1. Visualize the process and understand the flow to organize it in an orderly and visual manner[11].

2. Limit WIP (Work in Progress), which means defining the maximum number of tasks that can be executed at once, managing the flow of tasks by monitoring delivery efficiency and assessing activity development performance[11].

3. Establish and clarify policies, defining the roles and work agreements of each collaborator to optimize execution[11].

4. Define moments for reflection on processes and, based on feedback, work towards improvements[11].

The Kanban method, when associated with the Scrum method, forms a combination of these two methods (Scrumban), which work well for project management. This method is widely used in project development, updating and maintenance, with the support of IT and agile teams focused on product development.

According to Stopa and Rachid (2019, p. 11),

Scrumban encompasses the best characteristics of both techniques, using the prescriptive processes of Scrum and the typical improvement process of Kanban, contributing to the continuous improvement of the team, enhancing quality, reducing delivery time, and avoiding rework in project tasks[19].

It is already evident that agile methodologies can operate independently but can also function in an interdisciplinary manner, thereby adding greater efforts to problem-solving and strengthening decision-making in business organizations.

LEAN MANUFACTURING

Lean Manufacturing methodology focuses on the customer; therefore, its main objective is to eliminate/reduce waste throughout the value stream of a product/service. This value stream extends across all production networks and supply chains involved in adding value to the product/service[18]. The application of Lean Methodology in companies is a healthy procedure with excellent results because by reducing waste, defects, and rework, costs decrease, improving the institution's accounting and financial results. By passing on part of these savings to products, through pricing or bonus policies, the company strengthens itself against the competition, increasing its market share. Customers also benefit from better prices and higher product quality[18].

Figure 3 – Lean Manufacturing Methodology
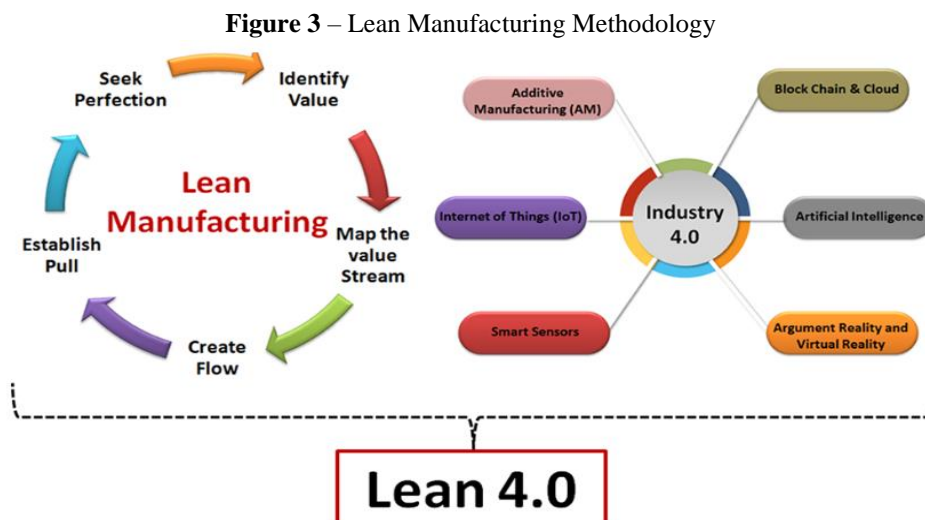
Source: Gohil (2023) [7]

Gohil (2023) emphasizes that one of the significant differences between Lean Manufacturing and Smart Manufacturing lies in the role of data. In Lean Manufacturing, data is used retrospectively to identify waste and inefficiencies. In contrast, Smart Manufacturing uses real-time data to continuously optimize the production process[7].

Smart Manufacturing integrates Internet of Things (IoT) sensors, data analytics, and machine learning algorithms to collect and analyze data, providing insights into machine performance, product quality, and production efficiency[7].
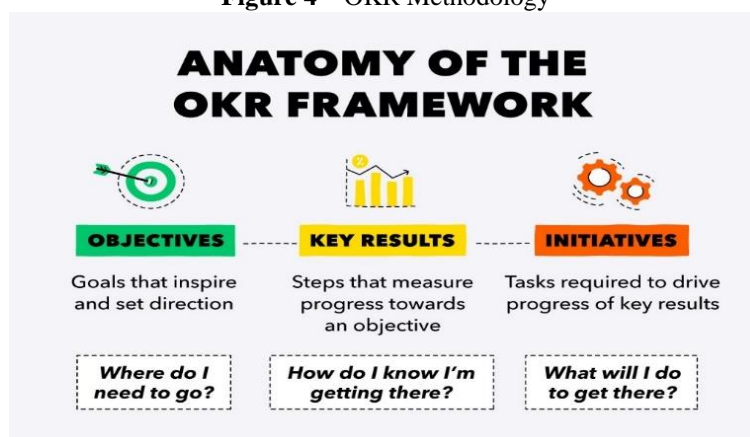
OKR Methodology

The OKR methodology, or Objectives and Key Results, is a goal management system that has gained popularity in the corporate world due to its ability to enhance organizational performance and align teams. Originating from Silicon Valley, this approach aims to create strategic clarity and focus within an organization by

establishing specific and measurable objectives, referred to as "Objectives," and key results associated with each objective, known as "Key Results[14]."

Objectives are ambitious statements that define the direction the organization intends to pursue. Key Results, on the other hand, are quantifiable and measurable indicators that assess the organization's progress toward these objectives[14].

The OKR methodology is advantageous because it is user-friendly and applicable at various organizational levels, from corporate goals to individual objectives, promoting transparency and collaboration among teams. Since OKR methodology sets goals for relatively short periods, typically quarterly, it fosters a culture of continuous learning and adaptation[14].

Figure 4 – OKR Methodology

Source: Christopher (2023)[4]

Companies can quickly assess performance, learn from the results, and adjust their strategies accordingly. By implementing the OKR methodology, businesses can enhance agility, innovation, and results orientation, becoming more agile and efficient in a dynamic business environment[14].

This agile method is used to align individuals within teams with specific objectives defined by the organization. Its main contributions include team alignment, strategic communication, increased focus on results, and greater autonomy.

IV. Conclusion

Through the research, it was found that the implementation of agile culture contributes to the procurement area by being a strategic differentiator, allowing operational efficiency with quick responses to market changes, and promoting a flexible and collaborative mindset that provides a more effective positioning of teams. However, despite the benefits, it is not always easy to implement and develop because it involves changes and alignment of organizational and individual principles and values.

The study highlighted the need for leaders and stakeholders to have detailed knowledge and understanding of procurement processes to identify bottlenecks, assess the situation, set objectives and goals, and create improvement strategies by defining the agile methodology that best suits their needs. However, it is essential for the engagement and understanding of the entire procurement team, and concurrently, companies should provide training and resources to effectively implement the methodology, generating the expected results.

Finally, it is recommended that for future work, a field study be implemented in a procurement department or related areas, applying one or more methodologies studied in this article to effectively verify and validate the results.

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