

RELATIONSHIP BETWEEN PROJECT MANAGEMENT METHODOLOGICAL ELEMENTS AND EFFICIENCY IN THE BUSINESS STRATEGY IMPLEMENTATION PROCESS

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Abstract: This article discussed important aspects related to project management practices and their education tools for project management and strategies that involve investments in Capex projects for the strategic positioning of society's demands in relation to the circular economy and sustainable development. The study highlights the management interaction between larger methodological projects that enable efficiency in the use of resources during the sustainability implementation stages of projects provided for in a strategic portfolio, in organizations and opportunities to reconcile socioeconomic advances and planning practices.

Keywords: Circular Economy; Projects, Portfolio, FEL Methodology, Technical Review.

RELAÇÃO ENTRE ELEMENTOS METODOLÓGICOS DE GESTÃO DE PROJETOS E A EFICIÊNCIA NO PROCESSO DE IMPLANTAÇÃO DE ESTRATÉGIAS EMPRESARIAIS

Resumo: Esse artigo discute aspectos importantes relacionados às práticas de gestão de projetos e suas ferramentas de revisão técnica para maior eficiência na implantação de projetos, em cenário contributivo para preparação e adequação das empresas em suas estratégias que envolvam investimentos de projetos do tipo Capex para posicionamento estratégico às demandas da sociedade em relação a economia circular e desenvolvimento sustentável. O estudo destaca a interação entre elementos metodológicos de gestão de projetos que possibilitam maior eficiência no aproveitamento dos recursos durante as etapas de implantação de projetos previstos em um portfólio estratégico, nas organizações e as oportunidades em conciliar avanços socioeconômicos e práticas de sustentabilidade.

Palavras-chave: Economia Circular; Projetos, Portfólio, Metodologia FEL, Revisão Técnica

1. INTRODUCTION

The industrial operation of some companies requires significant amounts of capital intensive compared to others to continue operating and can be riskier than demanding fewer resources to operate. Industrial corporations create their capital assets primarily through projects. Without them, modern society as we know it could not exist, and the success or failure of these projects is often critical for the societies in which they are developed [1].

Capital intensive refers to business processes or industries that require large investments to produce a good or service [2]. Industrial activity must be efficient and effective enough to meet business needs. At the same time, these activities must not violate the carrying capacity of ecosystems [3]. In this context, in 2015, the UN (United Nations) agreed on sustainable development goals (Environmental, Social and Governance – ESG). These goals represent a multilateral effort to make the world more sustainable and with paths of resilience [4].

The current scenario, which includes the movement of society and companies in search of a circular economy model, has intensified the urgency of effective and immediate solutions. This analysis contributes to strengthening the application of the approval process of the technical review of projects, as a significant variable, to execute the volume of investments approved by the companies, mainly when the implementation of projects constitutes a strategic activity for the organizations to adjust their strategy, in the pursuit of competitive advantage.

This article addresses the importance of the topic, aiming to detail the approval process at each of the technical review gates, in the stages of project phase advancement, to improve project maturity and assertiveness in the execution of the project portfolio during the development phases, where the definitions in the initial stages decisively influence the total cost.

1.1. PROJECTS INDUCING STRATEGIES AND CHANGES IN BUSINESS.

The process of implementing projects and undertakings, technically called “capital projects”, has been the object of a great deal of attention by large companies. Special emphasis has been given to methods of managing the design process of these projects, and even more to the initial stages, in which strategic studies are carried out and the definition of the viability and attractiveness of the business, the preliminary definition of costs and Capital Expenditure (-CapEx-), risk management and preliminary analysis of engineering alternatives for these projects. [5]

The survival and growth of organizations in the current environment suggests the administration of all its areas more effectively and with equal priority to optimize the use of all its resources. Five pillars support organizational excellence: process management, project management, change management, knowledge management and resource management. However, since the current environment is extremely

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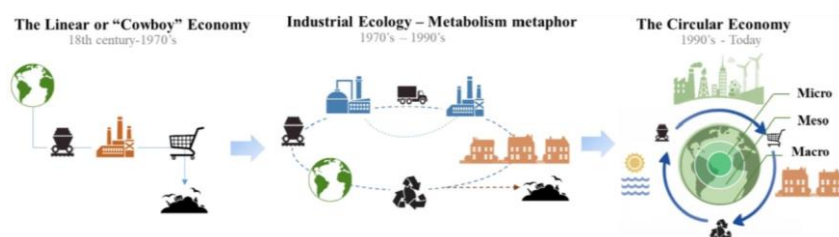
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dynamic and these pillars move simultaneously, changing the scenarios in which companies operate, the secret is to manage them concurrently [5]

Project portfolio management has received much attention in recent years, as organizations are treating their activities and work considering the existence of a relationship between strategy, project portfolio management and organizational performance. [5]

A much-discussed approach lately, which connects with the need for a more assertive implementation of Capex-type investments, is the circular economy, which can be expressed as an economic model aimed at the efficient use of resources supported by their prolonged use, reduction of waste and primary resources, incentive to closed product cycles, socioeconomic benefits, environmentally adapted production processes and systems. The path in search of the circular economy can be divided into three major stages (Figure 1), going from the first stage of the linear economy, which began with the industrial revolution and the overexploitation of resources, with the postulation that the Earth could function as an ecological system, recirculating limited resources and making them unlimited. The circular economy is believed to have the potential to decouple economic growth from the negative consequences of exploitative resource use and environmental degradation [6][7].

Figure 1. circular economy



Source: Adapted from [8]

It is possible to see that good portfolio management is, therefore, a key competence for organizations that need to develop numerous projects simultaneously. Meeting the objectives of this management is not a trivial task, as it involves market and technology uncertainties, resource negotiation and changes related to market turmoil [5]. By defining organizational goals and strategies aimed at economic development in parallel with sustainable performance, it is possible to make the organization highly competitive and, yet, engage the entire corporate environment toward a sustainable agenda [8].

1.2.PROJECT MANAGEMENT METHODOLOGIES

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Project management is the planning, organization, command and control of a company's resources, set for relatively short-term goals, to achieve specific goals and objectives. A successful project can then be as achieving the project objectives on time and on cost, using allocated resources efficiently and being accepted by the customer, based on the required technology/performance level [9].

This approach includes all major activities from development, and budgeting, to approval and authorization. That is, they show that the time and resources available in preprojective planning will determine future conditions [10].

1.3. FEL METHODOLOGIES AND TECHNICAL REVIEW DURING FEL GATE GATES

The FEL method was created by DuPont and is widely used in large capital projects, in which 3 planning stages are established, where the project can only proceed to the next stage after approval at the gate between stages.

The FEL released globally by the American Institute Independent Project Analysis Inc. (IPA), seeks to minimize risks and maximize investor confidence in the success of the enterprise, becoming an effective decision-making tool insofar as it provides predictability, transparency and competitiveness to enterprises. This creates conditions for projects to be in a shorter time, lower cost, greater safety and good operational reliability.

At the end of each phase, there are moments in which the definitions, assumptions and restrictions considered for the decision to proceed or not proceed to the next phase are considered. The work process without the doors starts out business-oriented, and only acquires technical and engineering focus along the way [1].

2. METHODOLOGY

The research methodology of this article aims at a bibliographic review of modern contents based on the social and economic sciences. Data were collected on open source platforms such as Google Scholar and SciELO, as well as portals/sites and publications by authors specializing in project management. The keywords used to search for the state of the art were: Circular Economy; Projects, Portfolio, FEL Methodology, Technical Review.

Additionally, the nature of the research is classified as basic, and its approach is qualitative, allowing the analysis of specific characteristics in a given circumstantial context [11].

The research included information on the analysis of aspects related to project management practices with the potential to contribute to improving efficiency in the implementation of CAPEX-type projects, necessary to maintain and expand a

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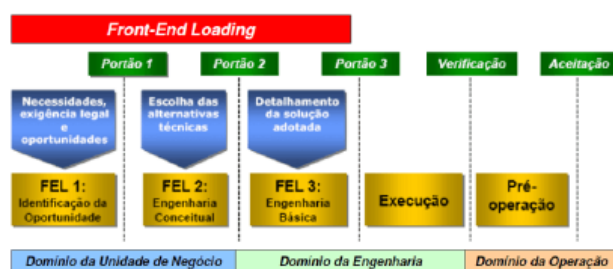
company's operations; in a scenario for companies to adapt to the demands of the clean economy society.

There were 15 articles searched between the months of May and June 2022, and 09 were used for the results presented in this work.

3. RESULTS AND DISCUSSION

Formal technical reviews at the gates between each phase aim to validate the direction of the proposed solutions; and the alignment of the project with the strategies. The expected pace of its implementation seeks to ensure that deliverables are completed with the utmost rigor. In this process, a complex project was analyzed from three basic approval stages, called FEL1, FEL2, FEL3, and at each gate critical issues presented during technical reviews, which may have some impact on the objective of that phase.—[12]. The illustration (Figure 2) in the project life cycle, dividing it into phases/processes: Front End Loading; Execution; Operation.

Figure 2. Project life cycle

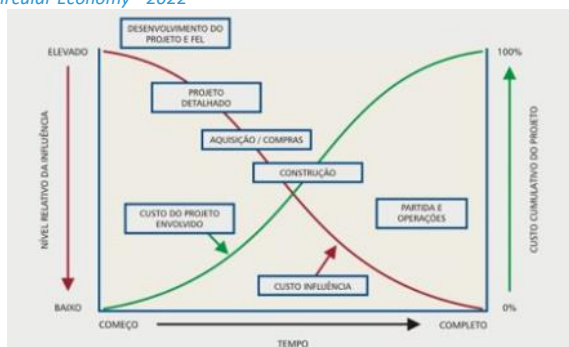


Source: Adapted from [12]

For advancement in the FEL phases, a formal review of the FEL gate is needed, where the gatekeepers, called gatekeepers, evaluate the status and readiness of the project to proceed to the next phase. The project team seeks to assess whether the project deliverables meet the minimum quality requirements for each FEL phase.

Thus, the advantages of using the FEL methodology are to provide a detailed view of the project before starting its execution, aligning activities to the project's objectives, promoting greater efficiency when monitoring and controlling complex projects, allowing managers and projects an early view of risks and a more accurate preliminary analysis of time and costs [12]. The illustration in Figure 3 indicates that most important decisions occur at the beginning. During the development phases, expenditures are between 5 and 10% of the total project value, and their influence on the total cost is greater than 90%, as the definitions formulate at this stage [1].

Figure 3. Curve of Influence on Costs



Source: Adapted from [1]

The technical review of the gate is listed in the standard technical review forms, which propose reflections capable of assisting teams in deciding the maturity of projects for phase change. At the end of each FEL Gate review, gatekeepers can decide to move the project to the next phase, not allow the project to proceed to the next phase, and may request additional definition and re-examination of the project after the review, remain on hold, or decide that the project is no longer viable and cancel the project completely without further study.

The FEL methodology succeeds when, by ensuring the quality of decision support deliveries, it enables high-quality investment decisions at every gate. The most important gate is FEL3, where full funding is committed and goals that define success are set. If the information in the investment approval document is not complete and correct, the quality of decisions may be compromised, and the intended project may fail. [13]

4. CONCLUSION

It was possible, through this study, to highlight that we experience socioenvironmental scenarios that impel companies to constantly monitor and adjust strategies to maintain competitiveness and include processes and products in society scenarios that demand more carbon neutral and sustainable companies.

Project management techniques, especially the technical review stages, are practical for enhancing efficiency in the implementation of Capex-type projects. The approval process at each of the technical review gates, in the stages of project phase advancement, supports the quality of decisions to improve project maturity and assertiveness in the execution of the project portfolio during the development phases, and its potential contribution to the total cost of projects.

Another functionality is the possibility of developing it to support project teams in challenges such as project acceleration, cost optimization, and the development of new technologies that contribute to companies in project implementation, which are

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necessary for the implementation of strategies that reconcile the results and image of companies with the environmental demands of today's society.

It is suggested that the result can be evaluated positively within the process of project management and portfolio of companies, adhering to the business strategy. The effective capture of benefits depends on the discipline of how professionals deepen the use of the best practices available in the implementation of projects for the preparation and adaptation of companies in their strategies that involve investments in Capex-type projects in support of processes and results adhering to the circular economy and sustainable development.

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