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INNOVATION PROJECTS MANAGEMENT: A SYSTEMATIC LITERATURE REVIEW

GESTÃO EM PROJETOS DE INOVAÇÃO: UMA REVISÃO SISTEMÁTICA DE LITERATURA

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ABSTRACT

Purpose: To highlight how the theme innovation unfolds within the scope of project management and how both have been addressed in scientific literature in the last two decades
Methodology: This research is a Systematic Literature Review, where procedures were applied in the selection of articles in Scopus and Web of Science databases, for the identification and interpretation of the main publications on the topic in the scientific literature, seeking to understand its relevance and evolution the last twenty years.
Findings: The obtained sample, based on the Web of Science (WoS) and Scopus databases, totaled 13 articles from different sectors and areas of knowledge, with a predominance of publications linked mainly to the research and development area, with greater progress in innovation projects.
Practical Implications: This research contributes to improving the understanding of the benefits of the practice of managing innovation projects.
Social implications: The findings of this research will contribute to the understanding of how the management of innovation projects can contribute to maximize success in the dealings practiced in these projects. And due to the particular characteristics of innovation, focus on management efficiency and focus on results.
Originality: This research addresses current and very broad themes - project management and innovation - involving several disciplines (human and social capital, teams, strategy, conflict management, knowledge management, governance, innovation, integration, research and development, intellectual property, behavioral theory), in an unprecedented way and seeks to define the new paradigm of development called Innovation Project Management.

Keywords: Project Management, Project Strategy, Innovation.

RESUMO

Finalidade: Evidenciar como o tema inovação se desdobra no âmbito da gestão de projetos e como ambos têm sido abordados na literatura científica nas últimas duas décadas
Metodologia: Este trabalho é uma Revisão Sistemática de Literatura, onde procedimentos foram aplicados na seleção de artigos nas bases de dados Scopus e Web of Science, para a identificação e interpretação das principais publicações acerca do tema na literatura científica buscando compreender sua relevância e evolução nos últimos vinte anos.
Constatações: A amostra obtida totalizou 13 artigos oriundos de setores e áreas de conhecimento variados, com predominância de publicações ligadas principalmente à área de pesquisa e desenvolvimento, com maior avanço em projetos de inovação.
Implicações Práticas: Esse trabalho contribui para a melhoria no entendimento dos benefícios da prática do gerenciamento de projetos de inovação.
Implicações sociais: Os achados desta pesquisa contribuirão para o entendimento de como a gestão de projetos de inovação pode contribuir para maximizar o sucesso nas tratativas praticadas nestes projetos. E devido às particulares características da inovação, focar na eficiência da gestão e foco nos resultados.
Originalidade: Esta pesquisa aborda temas atuais e bastante abrangentes – gestão de projetos e inovação - envolvendo diversas disciplinas (capital humano e social, equipes, estratégia, gestão de conflitos, gestão do conhecimento, governança, inovação, integração, pesquisa e desenvolvimento, propriedade intelectual, teoria comportamental), de uma forma inédita e busca definir o novo paradigma do desenvolvimento chamado Gestão de Projetos de Inovação.

Palavras-chave: Gerenciamento de Projetos, Estratégia de Projetos, Inovação.

1 INTRODUCTION

The theme of research on strategic project management has been marked, in the last decade, by a substantial increase in scientific and technological production in the field of innovation. Examples of thematic axes in the field of innovation research include: a) innovation as a strategic management process for transforming resources and capabilities into new products, services and business models (Adams, Bessant, & Phelps, 2006); b) new methodologies, metrics and advanced technological tools for innovation research (Keupp, Palmié, & Gassmann, 2012). Seeking to form a scientific database for the most contemporary publications (2000 to 2019), the universe of research interests in innovation has been constantly growing, internationalizing and consequently presenting new themes and scientific frontiers (Rosseto, Bernardes, Borini, & Gattaz, 2018).

In this context, we set out to search the Web of Science (WoS) and Scopus databases in order to find journals that can represent the state of the art in the areas of project management and innovation. Both bases were chosen because they are the main global scientific bases, especially WoS (Motta, Garcia, & Quintella, 2015).

This work aims to show how the theme management in innovation projects has been approached in the scientific literature in the last two decades. To this end, this Systematic Literature Review aims to identify published articles, with relevance and scope, on the themes of project management and innovation, and to analyze the main approaches, trends and gaps. The question to be answered by the Systematic Literature Review is: What are the relationships between Project Management, Innovation, and Innovation Project Management?

This work is structured in four sections. In the first section, we present the research methodology, with the approach and criteria for selecting the sample and the workflow for analyzing publications. The next section shows the results of the research, identifying the analyzes of publications based on the concept of innovation and representative areas within the theme. Finally, we have the

discussion and conclusion sections, where the main study contributions, limitations and suggestions for future studies are presented.

2 METODOLOGY

The systematic literature review was adopted as a research strategy for the construction of this article, through a qualitative approach, with an exploratory objective and aimed to identify, evaluate and interpret relevant research for a given subject (Kitchenham & Charters, 2007).

According to Tranfield, Deyer and Smart (2003), a systematic assessment develops reliable knowledge from a set of knowledge dispersed across a wide range of studies. The use of systematic review allows the researcher to map and evaluate the available intellectual territory in order to make the content found more consistent and adherent to the research question, however, in order to carry out the academic investigation of a specific research problem, it is necessary to follow a rigid work structure (Tranfield et al., 2003).

According to Van Maanen (1979) qualitative research comprises a set of different interpretative techniques that aim to describe and decode the components of a complex system by meanings. It aims to translate and express the meaning of the phenomena of the social world; it is a question of reducing the distance between indicator and indicated, between theory and data, between context and action (Van Maanen, 1979). To extract conclusions from the analysis, it is necessary to position the subjects in a historical and social context. According to Fonseca (2002), a qualitative report is created, going from the private to the general, only when completing this interpretive movement. Qualitative research will probably contribute less to academic reflection without this context.

The exploratory study aims to enable greater familiarity with the problem, with a view to making it clearer, assisting in the development of facts to be measured, verifying whether similar research has already been carried out, ascertaining human behavior problems, pointing out concepts or variables suggest verifiable hypotheses (Richardson, 1985; Mattar, 1999; Malhorta, 1993; Sampieri, Collado & Lucio, 1998).. The improvement of ideas and the discovery of intuitions is the main objective. The researcher starts with an idea or hypothesis and makes the exploration with the objective of expanding his knowledge around an established problem, thus the researcher deepens his study in the boundaries of a specific reality (Selltiz, 1967; Trivinos, 1987).

For the systematic review of the literature, a structured process was used, covering planning, execution and analysis of the researched data, as it is a review designed to answer a specific question and which uses explicit and systematic methods (Castro, 2006; Silva, Senna, Senna & Junior, 2014). In a developed field of research, systematic review can provide a greater contribution to researchers than conceptual review (Stake, 2011).

2.1 Information Repository

The following sequences of activities were carried out, in phases, in this research: (1) the choice of keywords and the search string; (2) the choice of Scopus and Web of Science databases for the selection of articles; (3) generation of the extracted files in each database in the BibTeX format; (4) use of the RStudio 3.6.1 tool with Biblioshiny for Bibliometrix, to load each of the BibTeX files from the databases separately in RStudio, in the menu “Data”, Import or Load, Import raw file (s), Database WoS and then Scopus, Start Conversion and Save As Excel; (5) use of the Excel tool to open the generated files and assist in the analysis of the data, identifying the repeated articles that were eliminated, leaving a single file in Excel format; (6) new use of RStudio 3.6.1 for analysis of the remaining documents; (7) searching for documents to be read in the research databases; (8) macro

validation of objectives, research methods and results; (9) grouping of themes, content and conclusions; (10) writing of the article. A structured protocol was used in this scientific research process, specifically for this purpose.

2.1 Research Protocol

In this research, the qualitative analysis of the articles was prioritized, aiming at constituting a matrix that could represent the evolution of the theme of innovation project management that is currently being used by the project managers.

In phase 1, the first stage of the research was carried out in the databases WoS and Scopus. For the beginning of the searches, the search string was defined containing the keywords "project management" or "project strategy", added to "patent" and "innovation". The string used was (((project management) OR (project strategy)) AND (patent) AND (innovation)), whose search logic and keywords were analyzed and evaluated by 2 doctors and 2 specialists.

In phase 2, as a result of the search with that string, 445 works were found, 282 in the WoS database and 163 in the Scopus database. To meet the research objective, some exclusion criteria were established as filters for the selection of relevant results, focusing on the areas of interest: Business, Education Educational Research, Engineering Industrial, Engineering Mechanical, Engineering Multidisciplinary, Engineering Manufacturing, Management, Metallurgy Metallurgical Engineering, Multidisciplinary Sciences, Material Sciences Multidisciplinary and Mechanics for the WoS base and similar areas in the Scopus base. The selected languages were: English, as it is the universally accepted language for writing scientific papers and found in all databases searched, and Portuguese. Documents such as patents and books were also excluded, keeping only published articles. Still as an exclusion criterion, the period of publication of articles between the years 2000 and 2019 was defined. Thus, the number of publications was reduced from 445 to 74, 53 from Scopus and 21 from WoS.

Regarding the source, only as an expository record because it was not an exclusion criterion, the publications resulting from this research come from journals (Journals). The sample of articles comes from a variety of vehicles, with 13 different journals, with a greater presence of publications from the project management sector. An extract from these publications can be seen in Table 1.

Table 1: Distribution of journals in relation to articles

Authors	Titles	Journal
Bahemia, Squire e Cousins (2017)	A multi-dimensional approach for managing open innovation in NPD	International Journal of Operations & Production Management
Bendoly e Chao (2016)	How excessive stage time reduction in NPD negatively impacts market value	Production and Operations Management
Bican, Guderian e Ringbeck (2017)	Managing knowledge in open innovation processes: an intellectual property perspective	Journal of Knowledge Management
Bruce, Figueiredo e Silverman (2019)	Public contracting for private innovation: Government capabilities, decision rights, and performance outcomes	Strategic Management Journal
Carmeli e Dothan (2017)	Generative work relationships as a source of direct and indirect learning from experiences of failure: Implications for innovation agility and product innovation	Technological Forecasting and Social Change
Cassiman e Valentini (2009)	Strategic organization of R&D: the choice of basicness and openness	Strategic Organization
Chaudhuri (2013)	Simultaneous improvement in development time, cost and quality: a practical framework for generic pharmaceuticals industry	R&D Management
Lee, Wong e Chong (2005)	Human and social capital explanations for R&D outcomes	IEEE Transactions on Engineering Management
Schulze, Stade e Netzel (2014)	Conflict and conflict management in innovation processes in the life sciences	Creativity and Innovation Management
Stadler (2011)	Process innovation and integration in process-oriented settings: The case of the oil industry	Journal of Product Innovation Management
Szutowski e Szułczyńska (2017)	Exploring Companies' Innovation Policies in the Industrial Sector in Central and Eastern Europe	Journal of Management and Business Administration
Yan e Wagner (2017)	Do what and with whom? Value creation and appropriation in inter-organizational new product development projects	International Journal of Production Economics
Teece (2010)	Business models, business strategy and innovation	Long range planning

Source: Elaborated by the author

In phase 3, the files generated from the two databases were exported in BibTex format and in phase 4 they were imported separately in the RStudio program, in the installed version 3.6.1 of the R software, through the Load / Browse menu, as being Import or Load, Import raw file (s), Database WoS and then Scopus.

Then, in phase 5, each file was exported in Excel format, where they could be opened individually and consolidated into a third file in Excel, aiming to adjust the columns (predominantly the order of the WoS file, as it contains more columns / items than the Scopus archive, contributing more options for subsequent analyzes).

In phase 6, RStudio 3.6.1 was used again to evaluate the selection of articles, authors, keywords, most relevant sources, most cited sources and most relevant authors, among other analyzes.

In phase 7, we searched for the documents to be read in the research databases. After analyzing the data, all the titles and abstracts were read, and the articles that answered the RSL questions and addressed some relationship between project management and innovation were selected. The number of publications was reduced from 74 to 32 works.

In the next phase, 8, we validate the objectives of each document, the research methods and the results, with a complete reading of the 32 publications, checking if the documents are relevant to the research in question. The number of publications was reduced from 32 to 13 works.

In phase 9, the themes were grouped by content and conclusions, and it was checked whether the publications had references to project innovation and the management of innovation projects and whether they presented any tools or models for these practices.

For the last phase of the review, 10, the article was written, checking the performance of the various project actors and/or another stakeholder, the environment and / or context in which these projects occurred as well as the use or not of the best project management, specifically targeting the environment of project innovation and its management.

3 PRESENTATION AND ANALYSIS OF RESULTS

In this section of the study, we will present the result of an in-depth analysis of the articles whose main objects of investigation are the themes of project management and innovation. In this sense, 13 articles were analyzed to demonstrate the panorama of publications on the subject of the study, being further detailed below.

The first article is by Bahemia, Squire and Cousins (2017), which explore the concept of open innovation in new product development projects (NPD). This study examines the impact of the breadth, depth and novelty of partners or suppliers on the innovation and competitive advantage of the product developed. They also examined the contingent effects of the appropriability regime on projects. The authors used a structured research instrument that produces an empirical analysis of 205 NPD projects in the UK manufacturing sector. Developed and tested a new measurement scale where an ordinary least squares regression model (OLS) was used to test hypothetical relationships between openness (breadth, depth and novelty of the partner), product innovation, product competitive advantage and appropriability regime. The amplitude has a positive effect, but only in the presence of a strong appropriability regime, a profound negative effect and the novelty generated by the partnerships has a direct positive effect. They also found that product innovation has a direct positive relationship to the product's competitive advantage. Any research project has its limitations and this was no exception. First, it was accepted that there may be a national or cultural bias in our sample. Second, this study is cross-sectional and the results are based on unique respondents. While the approach provides strong insights into the direct and contingent effects of an open approach to NPD, future studies can complement and extend the findings through a longitudinal case study methodology. The authors encourage future studies in order to seek other contingencies. They also suggest that future research examines the risks of using the open innovation concept in more detail and the extent to which a contingent approach can reduce possible disadvantages.

Another study was that of Bendoly and Chao (2016), who empirically investigated how the reductions in the stage of development of new products affect the market value for a group of companies. In addition to considering the reduction in cycle time for the NPD process as a whole, they considered the impact of time reductions at individual stages of the process. This approach was a significant contribution to the literature, since most of the existing empirical studies on the subject consider cycle time as a single variable or aggregate construct. This study was focused on one facet of NPD that is central to a company's innovation efforts and market value: cycle time. The results presented have important implications for the practice, highlighting which stages provide managers with the greatest return on investment in terms of time-saving practices or technologies. Instead of leaving this insight as a theoretical statement, the authors conducted an extensive post-hoc analysis

with a number of companies to find out how they would invest in reducing the internship time. As a further analysis, the authors point out that some companies are probably investing too much in reductions in internship time and destroying potential opportunities for gains in market value. NPD performance can be highly time sensitive and therefore can benefit from extended time frames for analysis. As a suggestion for future studies, the authors indicate that they should focus on considerations of long-term impacts of reductions in internship time and implementations of technical systems in product life cycle processes. Given the nascent state of practice in the use of processes, as well as the evolutionary nature of these technical systems, fortunately there is ample room for this examination to proceed. The constantly changing innovation landscape requires, in fact, a continuous review, so that previous assumptions that no longer apply to practice do not prejudice the applicability of the contribution of operations management in the field.

The authors Bican, Guderian and Ringbeck (2017), following a mixed methods approach, reviewed the relevant literature at the intersection between knowledge management, intellectual property rights, strategic management of intellectual property rights and the open innovation process. It was identified that as companies turn their innovation activities towards collaboration with external partners, they face additional challenges in managing their knowledge. Although different modes of intellectual property rights regimes are applied in closed innovation systems, there seems to be tension between the concepts of "open innovation" and "intellectual property rights". In this study, the authors investigated how companies better manage knowledge through intellectual property rights in open innovation processes and brought four main contributions. First, the existing literature produces inconclusive results on the function of enabling or disabling intellectual property rights in processes of open innovation, but most scholars detect an ambivalent relationship. Second, they identify and classify the success factors of successful knowledge management through intellectual property rights in open innovation processes. Third, they advance the literature on open innovation beyond their modus operandi, including three stages and three levels. Fourth, they test their findings in a case study and show how management leverages knowledge by properly using intellectual property rights in open innovation. This study identified successful motivators through the lens - but not limited to - of intellectual property rights and classified them into five distinct groups (planning, partnership, governance, competence, culture and mentality, and competitive scenario). Expanding the vision of open innovation beyond its modus operandi, the authors develop the Life Cycle of Open Innovation. The findings support companies in knowledge management through intellectual property rights in open innovation processes. Management must take into account the peculiarities of preparing open innovation and ending open innovation to avoid unintentional knowledge drainage. The authors applied their findings to a case study in the pharmaceutical industry, and for that, the success factors, their integration in the life cycle of open innovation and their classification at different levels and stages could be empirically tested. This opens up a plethora of opportunities for future research to validate discoveries in other sectors, discrete or complex, as well as in other geographic regions or in emerging markets. All of these relationships can be moderated by the divergent forces of the appropriability regimes that belong to different legislative regulations and environmental circumstances, opening up additional matrices for future research.

From an empirical study, Bruce, Figueiredo and Silverman (2019), examined how the US Federal Government selects governance structures in its administrative body for Research and Development (R&D) contracts with private sector companies. In this article, the contracting theory is extended to the public-private sphere in a specific scenario: public contracting for private innovation. Using new data, both in R&D contracts and in the technical experience available in specific government agencies, the authors tested implications of the literature on economics and organiza-

tional resources. The authors concluded that cooperation agreements are more likely to be used in projects at an early stage and when the local government administrative body has relevant technical knowledge. In turn, cooperative agreements generate greater innovative production, measured by patents and citations, controlling the endogeneity of the form of the contract. The results presented are consistent with agency approaches and transaction costs with multiple tasks that emphasize decision rights and monitoring. In addition, during the production of empirical work, the authors developed human capital measures of the government's technological capabilities by discipline and geography. As an opportunity for future work, the authors believe that exploring applications of the theory in other countries would be a fruitful path for research. There are several other unexplored issues in this regard. Does government funding allow a company to deepen its current experience or expand its portfolio and technological capabilities? How do the government's human capital capabilities affect the effectiveness of private sector research beyond patents? These questions are part of an expressive path for future research on the creation and appropriation of value in the nexus of government and R&D of private companies.

In their article, Carmeli and Dothan (2017), show us that organizations generally experience failures when managing complex innovation projects. While failure experiences can lead to frustration and create a downward spiral, they are also a vital source for organizations to develop new knowledge and improve innovation. However, this depends on the ability of each organization to learn from these experiences, since revisited research has indicated that organizations do not learn everything they can from their defects. Using this research, the authors studied the micro relational perspective and examined “if” and “why” generative work relationships help to facilitate the direct and indirect learning of failure experiences and how these learning modes influence innovation small organizations. The implications for a micro relational view of organizational learning and innovation are discussed in this study. In doing so, the authors shed light on the generating mechanisms that can explain the learning processes and innovation in organizations, thus contributing to a procedural theoretical approach to the study of change and innovation. In conclusion, the authors show us that although organizations can learn from failure experiences, they do not always realize all the benefits of being involved in such activities. Data collected from 63 softwares companies in the IT sector show that working relationships facilitate both ways of learning from defects. However, only learning from direct failure experiences facilitates innovation agility, while indirect failure learning improves the results of the product's (patent) innovation. Still according to the authors, these findings indicate that each learning mode facilitates a different facet of innovation. And in doing so, they invite more research on micro-foundations of learning resources and organizational innovation.

Through a stylized model of R&D process, the authors Cassiman and Valentini (2009), present in this article how the strategic R&D organization must simultaneously consider the choice of the type of R&D to be carried out and the organization of R&D, where the choice of exposing knowledge to the external environment is also considered. The authors identify how each of these decisions affects the expected benefits and costs (production, transaction and coordination costs) of R&D projects and how they formally derive, and ultimately, how these two decisions interact. Through this simple theoretical model, the authors examine and expose the consequences of delegating the decision on the R&D organization to project managers when the objectives of senior management and project managers are not perfectly aligned. They also show that, under certain parsimonious and realistic assumptions, the company can optimally decide to adjust its R&D strategy and undertake a different type of research to affect the project manager's organizational decision. Although it is a moderate formalization, the presented model contributes to the understanding of the R&D process and provides new implications for the theory and future empirical exercises related to the strategic

R&D organization.

Chaudhuri (2013) proposes in his research to understand the different organizational work processes that influence the cost and time of development, and also proposes to develop a structure and a process that will help generic pharmaceutical companies to simultaneously reduce the cost and time of development, maintaining the desired quality. The specific research questions that the author tries to address in this research are as follows: How does the experience and the structure of the team, the sharing of knowledge and information affect the cost, time and quality of development? How are standardization, optimization and overlapping of processes and reduced iteration related to development cost, time and quality? Why do standardized and optimized processes lead to reduced development time and costs while maintaining quality? Through this research, the author seeks answers to the questions above that will help to fill the gap in the literature, providing and validating a practical framework to improve the product development process and to meet the multiple objectives of cost, time and quality of development. The benefits obtained using a redesigned process based on the proposed structure are demonstrated for a generic pharmaceutical manufacturer. The results show that products with varying levels of complexity benefit from different degrees of standardization, optimization and collaboration to meet the multiple objectives associated with development. The research also points to future directions of research in understanding the impact of the intensity of product and process development in determining the competitiveness of innovative and generic pharmaceutical companies.

Lee, Wong and Chong (2005), assess in this article the extent to which human capital (education, professional experience and training) and social capital (level of interconnectivity, relationship and expectations shared with others) impact on research and development results. Guided by the parameters of gender and type of industry, the logistic regression analyzes carried out by the authors, indicate that the level of education of an individual has a positive impact on the patents / copyrights obtained, on published / presented articles and on product improvements / process. Analyzes of hierarchical logistic regression show that the level of interconnection of an individual with others has an incremental impact on human capital in completed projects, internal technical reports generated, product / process improvements made and products sold. The contribution of this article is to show clearly that social capital is the contextual complement of human capital. In trying to provoke the effects of human and social capital on R&D performance, we show that human and social capital complement each other, as each has unique and distinct impacts on R&D results, providing a contribution to the existing literature.

In this study, Schulze, Stade and Netzel (2014) examine innovation and the success variables of innovation in the life sciences. The author tests a conflict management model and examines the impact of conflict type and conflict management style on innovation performance. This study interviewed 152 “basic” and “applied” researchers about their conflict management style through a multi-method approach, incorporating qualitative and research methods. The substantive aspects and the relational effectiveness of conflict management styles were compared, considering the number of publications and patents, the quality of problem solving, the novelty of the project, the reduction of scale and communication. The "applied" researchers showed significantly more dominance than the "basic" researchers, and a dominant conflict management style was significantly related to the novelty of the project. In addition, problem solving has not always been the most successful conflict management style. These findings have important practical implications for conflict management training and can help managers and researchers to strengthen their cooperation and improve productivity. Research on social conflicts in innovation processes has been rare, leaving an important research gap, as conflicts generally arise in innovation processes and are part of a researcher's daily

life. This gap is highlighted and suggested by the authors as a theme for future studies.

Stadler (2011), proposes in his article to study whether in process-oriented industries, integrated innovation processes could replace sequentially organized processes due to the change in capacities, integration of knowledge and the importance of market orientation, in the same way that it occurs in the process of developing new products, as is widely argued in the current specialized literature. Based on five inductive case studies for large projects, the author presents us that the integration occurs in configurations processed by the processor, but for reasons different from those of the product oriented. Integration arises from an innovation mode characterized by: (1) trial and error (not R&D) as the main mode of innovation; (2) the cooperation of specialists from different sources of knowledge; (3) the development of Information and Communication Technology (ICT), which facilitates this cooperation between disciplines and projects; and (4) the need to increase efficiency as demand exceeds supply. It is understood in this way that demand shapes reward systems and determines whether new inputs are used. In addition to contributing to the innovation literature, the author also offers interesting ideas for managers in this study: to promote innovation in process-oriented environments, managers need to provide specialists with space to experiment for long periods of time, encourage cooperation between disciplines and create incentives and systems to facilitate this process. Finally, managers need to consider the team's ability to cooperate from the start when they establish their recruitment process. As a suggestion for future research, the author points out that they should explain in more detail how innovation occurs in process-oriented environments, testing the generalization of their findings in a broader research, developing scales to measure trial and error, knowledge integration, demand, and then quantitative tests can be done to test whether the results presented by the author are universally applicable.

In their qualitative study, Szutowski and Szułczyńska (2017) explore the main elements of company innovation policies in the search for successful innovation. The study is based on 24 semi-structured interviews conducted with management and project leaders and R&D specialists, employed in companies operating in the industrial sector of Central and Eastern Europe. The study was conducted during the period of the fourth quarter of 2016 and the first quarter of 2017. The authors found that the management of failures and interruptions consists of focusing on the initial stage of innovation development and making the innovation try to meet the needs of the Marketplace. With regard to policy integration, obtaining a competitive advantage through internal research is common among technological leaders, while market competitors resort to external cooperation. In addition, the incorporation of conflict management principles into the concept of innovation policy seems to be a necessity. The research proved that an innovation policy guarantees an ongoing process of generating small improvements, which leads to successful innovation.

The authors Yan and Wagner (2017), carried out a study that aims to examine the effects of two factors that induce uncertainty, product novelty and technological interdependence, on the creation of value in inter-organizational NPD projects. Adopting a behavioral view of the company, the authors propose how two types of conflicts (task conflicts and relationship conflicts), could explain how the task context influences the creation of value in the project and the appropriation of value. This concept is so comprehensive and goes beyond tangible and short-term financial results, also including intangible and long-term gains (such as know-how and patents). The analysis of 272 inter-organizational NPD projects indicates that the novelty of the product and technological interdependence are associated with conflicts and, finally, value its creation and the appropriation of knowledge. The results presented by the authors help managers understand which types of NPD tasks have the greatest potential for creating value, and also that the role of the project manager as a conflict mediator helps to resolve task conflicts in a more productive and to avoid turning task conflicts into relationship conflicts.

Teece (2010), brings in his article the proposal to understand the importance of business models and explore their connections with business strategy, innovation management and economic theory. The essence of a business model is to define the way in which the company adds value to customers, encourages customers to pay for value and converts those payments into profit. Thus, the author reflects the management's hypothesis about what customers want, how they want and how the company can organize itself to better meet these needs, get paid for it and make a profit. The main conclusion of this analysis is that, to be a source of competitive advantage, a business model must be something more than just a good logical way of doing business.

All of the aforementioned works used the themes of project management and innovation as a reference, and from these analyzes it was possible to identify how they relate and their contributions.

4 DISCUSSION

Analyzing the sample articles in relation to project management and innovation, it can be seen that the most relevant disciplines or concepts were: human and social capital, teams, strategy, conflict management, knowledge management, governance, innovation, integration, research & development, intellectual property, behavioral theory. It is possible to notice that the more traditional concepts related to development and / or innovation - new product development and research & development - are present in this sample, where, of the total of 13 articles, 10 bring at least one of these concepts as an object related to the focus publication.

Among the authors who explore in their studies the themes human and social capital, teams and integration associated with project management and / or innovation (Bahemia, 2017; Bican, 2017; Bruce, 2019; Chaudhuri, 2013; Lee, 2005; Schulze, 2014; Stadler, 2011; Yan & Wagner, 2017), Lee et al. (2005) shows us that when trying to provoke the effects of human and social capital on the performance of research and development, both complement each other, as each has unique and distinct impacts on the results of research and development. Stadler (2011) mentions that managers need to consider the team's ability to cooperate from the start, when they establish their recruitment process. Bruce et al. (2019), complements the quote by Stadler (2011), when it shows that cooperation agreements are more likely to be used in projects at an early stage and when the work team has relevant technical knowledge.

Publications that bring discussions around project strategy and governance ((Bahemia, 2017; Bendoly & Chao, 2016; Bican, 2017; Bruce, 2019; Carmeli & Dothan, 2017; Cassiman & Valentini, 2009; Chaudhuri, 2013; Lee, 2005; Schulze, 2014; Stadler, 2011; Szutowski & Szułczyńska, 2017; Yan & Wagner, 2017; Teece, 2010) encourage us to think about their influence in project management as well as in the generation of new innovation creations. Bahemia et al. (2017) demonstrate that product innovation has a direct positive relationship with the product's competitive advantage. Bendoly and Chao (2016) warn of the fact that some companies invest too much in reductions in development time as a strategy, ultimately destroying potential opportunities for gains in market value. Cassiman and Valentini (2009) corroborate the opinion of both authors noting that, under certain premises, the company may decide to adjust its R&D strategy and commit to a different type of research to affect the organizational decision of the projects. These authors also expose the consequences of delegating the decision on the R&D organization to project managers when the objectives of senior management and project managers are not perfectly aligned. We ended this argument with the reflection of Teece (2010), who defends the management's hypothesis about what customers want, how they want and how the company can organize itself to better meet these

needs, be paid for it and make a profit. The main conclusion of this analysis is that, to be a source of competitive advantage, a business model must be something more than just a good logical way of doing business.

About the sampling of the research body that reflects on conflict management and behavioral theory (Carmeli & Dothan, 2017; Lee, 2005; Schulze, 2014; Stadler, 2011; Yan & Wagner, 2017). Schulze et al. (2014) shows us that problem solving has not always been the most successful conflict management style. And that this has important practical implications for conflict management training and can help managers and researchers to strengthen their cooperation and improve their productivity. The results presented by Yan and Wagner (2017) help managers to understand that the role of the project manager as a conflict mediator, helps to resolve task conflicts in a more productive way and to avoid transforming task conflicts into conflict of interests relationship.

Knowledge management is still a challenge for many organizations. Among the authors contemplating the theme in this study (Bahemia., 2017; Bendoly & Chao, 2016; Bican, 2017; Bruce, 2019; Cassiman & Valentini, 2009; Lee, 2005; Schulze, 2014), Carmeli and Dothan (2017) show us that although organizations can learn from failure experiences, they do not always realize all the benefits of being involved in such activities. Depending on this exposure, Bican et al. (2017), developed the Life Cycle of Open Innovation, expanding the vision on the theme and supporting companies in knowledge management through intellectual property rights in open innovation processes.

Among the publications where research & development, innovation and intellectual property are concentrated (Bahemia, 2017; Bendoly & Chao, 2016; Bican, 2017; Bruce, 2019; Carmeli & Dothan, 2017; Cassiman & Valentini, 2009; Chaudhuri, 2013; Lee, 2005; Stadler, 2011; Szutowski & Szułczyńska, 2017; Teece, 2010; Yan & Wagner, 2017), we have as an exhibition the research by Szutowski and Szułczyńska (2017) which proved that an innovation policy guarantees a continuous process of generating small improvements, which leads to successful innovation. Bahemia et al. (2017), developed and tested a measurement scale to test hypothetical relationships between openness, product innovation, product competitive advantage and appropriability regime. This author concluded that product innovation has a direct positive relationship with the product's competitive advantage. The results presented by Chaudhuri (2013) show that products with varying levels of complexity benefit from different degrees of standardization, optimization and collaboration to meet the multiple objectives associated with development. Stadler (2011), on the other hand, recommends that managers provide specialists with space to experiment for long periods of time, encourage cooperation between disciplines and create incentives and systems to facilitate the process of promoting innovation, while the study by Yan and Wagner (2017), helps managers understand what types of new product development tasks have the greatest potential for creating value. Concluding the debate, Bruce et al. (2019), states that cooperative agreements generate greater innovative production, which can be measured by patents and citations, controlling the endogeneity of the form of a contract when this is the case.

5 CONCLUSION

The Systematic Literature Review made it possible to analyze the main bibliographic references on the themes of project management and innovation and brought a theoretical basis for the creation of a conceptual structure of the selected relationships. Still through the Systematic Literature Review, it was possible to identify practices that support these relationships and to infer about managerial implications and benefits generated by the use of practices. As can be seen in the analysis of the results, the bibliographic references that contained knowledge about connections be-

tween project management and innovation and were distributed over more than two decades. The Systematic Literature Review allowed the gathering of this information and also made it possible to verify the importance of the sources in which these articles were published, proving the importance of the researched topic and allowing future researchers to direct the source of their research and future publications.

The theme management of innovation projects can be considered as emerging in the scientific literature, due to the small number of articles found. Consolidating the observations of the analyzes presented throughout this study, some qualitative trends can be proposed in the light of this survey and an immense field of opportunities can and should be explored. In the opposite direction, the themes project management and innovation are reflected in a large number of publications and allowed us to reach articles that contributed as a basis for carrying out the study presented here.

Thus, this study, meeting the proposed objectives, is an initial contribution to the construction of knowledge on the theme of innovation project management. It is worth recognizing as a limitation, that this study is only exploratory and in a way, allows subjective analysis in the qualitative interpretations of the articles found. The set of observations presented throughout this study confirms that considering the dimensions of the theme of innovation in a complete and effective way in project management constitutes a major valid challenge to advance in the frontiers of knowledge in management of innovation projects, which may be a relevant theme for future research, meeting an increasingly present demand for project actors in the area of new product development and innovation.

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Every author should account for at least one component of the work. Paper approved for publication need to specify the contribution of every single author.

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1. Definition of research problem	√	√
2. Development of hypotheses or research questions (empirical studies)	√	√
3. Development of theoretical propositions (theoretical work)		
4. Theoretical foundation / Literature review	√	
5. Definition of methodological procedures	√	√
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