Innovation Culture in Public Organizations: A Systematic Literature Review

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ABSTRACT

Purpose: This study sought to identify elements and factors that contribute to the development of an innovation-focused organizational culture, examining its construction and the challenges faced in its implementation.

Originality/Value: When discussing the culture of innovation, it is widely accepted that the topic is relevant, especially for addressing inefficiencies that managerialism, a post-bureaucratic movement, has not yet addressed. Therefore, this study systematically reviews the literature on innovation culture in the public sector, a topic that is still little explored in qualified literature.

Methods: The systematic review method utilized the Parsifal platform to investigate studies published between January 2018 and April 2023.

Results: The results indicate that behavioral factors such as leadership, creativity, knowledge sharing, and organizational climate are unanimous. The implementation process also acknowledges the multiplicity of challenges, emphasizing that managers cannot ignore the specificities of their employees in order to achieve institutional maturity.

Conclusions: In terms of future research agenda, use these findings to develop a more suitable instrument to measure the level of innovation culture developed in public institutions.

Keywords: Innovation culture. Innovation in the public sector. Organizational culture. Systematic literature review.

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CULTURA DE INOVAÇÃO EM ORGANIZAÇÕES PÚBLICAS: UMA REVISÃO SISTEMÁTICA DA LITERATURA

RESUMO

Objetivo: Este estudo buscou identificar elementos e fatores que contribuem para o desenvolvimento de uma cultura organizacional voltada para a inovação, examinando sua construção e os desafios enfrentados em sua implementação.

Originalidade/Valor: Ao discutir a cultura da inovação, é amplamente aceito que o tema é relevante, especialmente para abordar as ineficiências que o gerencialismo, um movimento pós-burocrático, ainda não abordou. Portanto, este estudo revisa sistematicamente a literatura sobre cultura de inovação no setor público, um tema ainda pouco explorado na literatura qualificada.

Métodos: O método de revisão sistemática utilizou a plataforma Parsifal para investigar estudos publicados entre janeiro de 2018 e abril de 2023.

Resultados: Os resultados indicam que os fatores comportamentais, como liderança, criatividade, compartilhamento de conhecimento e clima organizacional, são unânimes. O processo de implementação também reconhece a multiplicidade de desafios, enfatizando que os gestores não podem ignorar as especificidades de seus funcionários para alcançar a maturidade institucional.

Conclusões: Em termos de agenda de pesquisas futuras, utilizar esses resultados para desenvolver um instrumento mais adequado para medir o nível de cultura de inovação desenvolvida em instituições públicas.

Palavras-chave: Cultura de inovação. Inovação no setor público. Cultura organizacional. Revisão sistemática da literatura.

INTRODUCTION

Organizational culture directly influences job performance (Saad & Abbas, 2018). This reality is no different in the public sector. With the New Public Administration, a movement of transitioning from bureaucracy and aiming for efficiency, effectiveness, and productivity, positive effects have been observed in promoting innovation through managerial controls (Bolliger, 2014). Thus, the orientation of a culture focused on success, growth, and performance of government organizations has become a target pursued by public administration (Schein, 2009).

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Innovation culture is viewed from a contextual and multidimensional perspective, where various factors contribute to its existence: the characteristics of the support infrastructure and implementation environment, the intention to innovate, and the operational behavior necessary to maintain market orientation and value (Dobni, 2008). Monitoring the performance of this culture allows for strategic optimization of "where one wants to go," as it efficiently concentrates business results and can benefit public agencies that still need to overcome barriers marked by inefficient service delivery (Stříteská & Sein, 2021). Therefore, in seeking to overcome the sluggishness of the bureaucratic state, investments in innovation are key elements for economic and social development (Bresser-Pereira, 2006).

In the Brazilian context, there are laws that provide support for innovation practices. The Law No. 13,243, dated January 11, 2016, stands out as it encourages scientific development, scientific training, research, and technology, and among its principles, it emphasizes "the incentive to create innovation-friendly environments" (Brasil, 2016, Art. 2, VIII). Prior to this, it is worth mentioning Law No. 10,973, dated December 2, 2004, which addresses incentives for innovation and scientific and technological research in the productive environment. Therefore, it is understood that the work environment that fosters innovation cannot be ignored.

In the realm of private companies, innovation is highlighted as an invention that economically alters the commercial transaction of wealth generation (Schumpeter, 1961). Over time, consumers themselves are encouraged by these companies to no longer accept what was once considered normal consumption, as there are newer solutions in the market, thus rendering old propositions obsolete. This Schumpeterian phenomenon, known as "creative destruction," is easily perceived from the perspective of the private sector.

In the public sector, innovation is built through different logics, which can be categorized as service innovation, process innovation, administrative and organizational innovation, system innovation, and even radical changes in rationality (França, 2017). With the administrative reforms driven by the managerialism of New Public Management in the 1980s, innovations, although not necessarily novel, aimed to introduce new models of decentralization, partnership projects, and development of activities that counteracted the notion of a "dilapidated state" in order to modernize public agencies (Nohara, 2017). The culture of innovation in the context of public administration is therefore encompassed by the logic of experimentation by bringing in innovative approaches, embracing risk through startups or laboratories, and also strengthening Weberian bureaucracies to seek professionalism in practice for the social good (Cavalcante & Cunha, 2014).

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Building a culture of innovation is a challenging task. Although there have been systematic reviews on innovation in the public sector (Buchheim et al., 2020; De Vries et al., 2016), none have focused on investigating the three research questions addressed in this review, which aim to highlight: the elements identified in the literature on innovation culture (1); how a public institution implements this culture (2); and the challenges described by organizations that experience it (3).

By synthesizing the literature, this review provides updated knowledge for researchers who aim to recognize theoretical perspectives and determinants addressed in studies to guide empirical investigations when addressing issues of innovation culture in public sector organizations.

2 METHODOLOGICAL APPROACH

The collection of studies for use in this study was done through a systematic literature review, which was conducted using the Parsifal virtual environment (2021). This platform guides the research process by selecting databases and studies sources, determining the search term string, applying methodological screening criteria and practical criteria, as well as reviewing and synthesizing the findings. Another feature of Parsifal is that it was designed to meet the steps of the systematic review protocol proposed by Kitchenham and Charters (2007). Two indexed databases were selected: Scopus and Web of Science. The period covered from January 2018 to April 2023 and was limited to studies published in English, Portuguese, and Spanish. This five-year period is important to meet the criteria for the articles' currency. The following types of documents were accepted: article, review article, and conference paper.

The words and terms used to create the search string were defined using the acronym PICO, which means P: population; I: intervention/exposure; C: comparison group; and O: outcome (Petticrew & Roberts, 2008). The search string was ("administrative" OR "employee" OR "public server" OR "servant" OR "worker") AND ("cultur*" OR "innovat*") AND ("governance administration" OR "public governan*" OR "public manag*" OR "public sector" OR "public service") AND ("appraisal" OR "diagnosis" OR "evaluation" OR "investigation" OR "measurement" OR "performance"). The results totaled 1,530 studies, 692 from the Web of Science platform and 838 from the Scopus database.

From the studies found, an initial superficial reading was conducted, focusing only on titles and abstracts of each study. The criteria for non-exclusion were studies that had the expressions "culture," "innovation," and/or "innovation culture" in their titles or keywords.

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Additionally, studies were classified as rejected if they did not address innovation culture in their context, did not have content aligned with innovation culture, did not involve innovation in the aspect of organizational culture, or had an unavailable PDF for full reading. In addition to these, in Parsifal there is a criterion that was used for exclusion, removing "gray literature" studies. The stages and number of studies evaluated are identified in Figure 1.
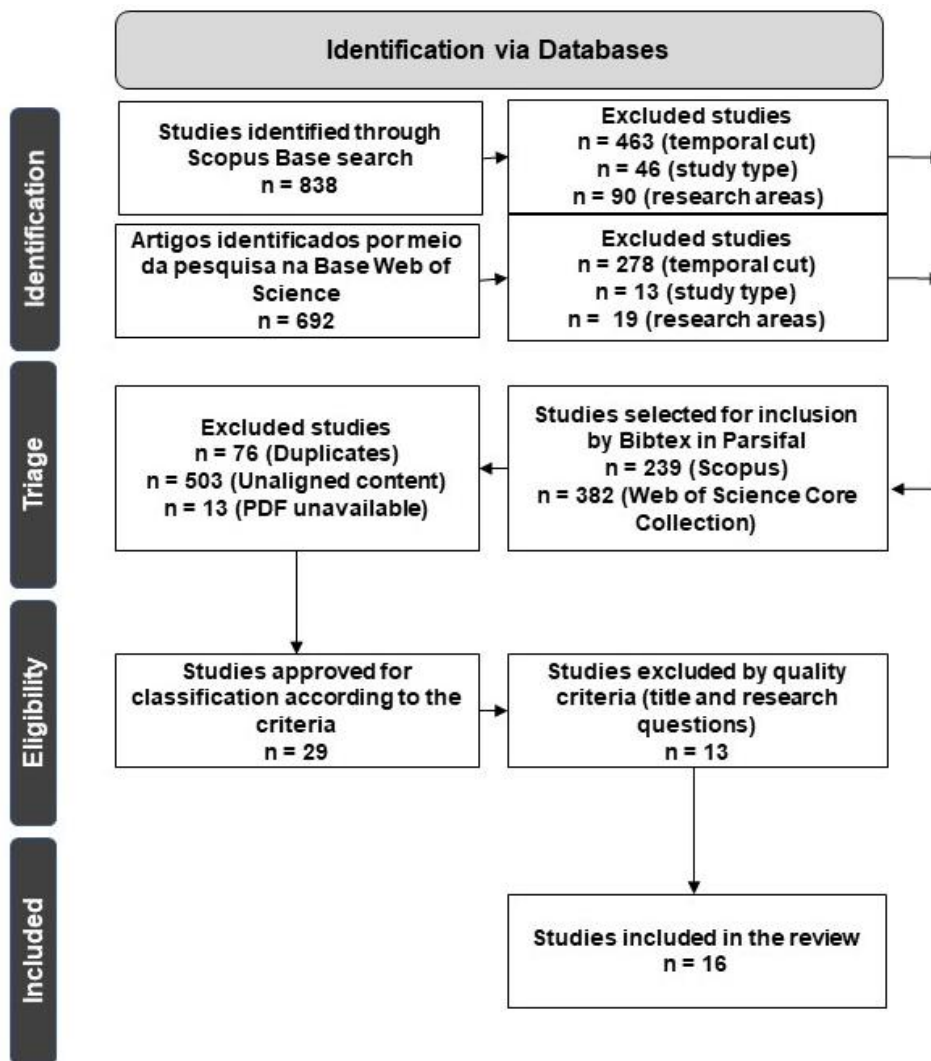

Figure 1: Portfolio studies selection flowchart
Source: Elaborated by the authors

In Figure 1, the flow of studies evaluation stages and the quantity excluded in each stage can be observed. In terms of eligibility, a ranking was conducted for the non-rejected studies. In this study selection stage, with a more detailed examination, the following questions were asked for each study: "Are elements of innovation culture identified?", "Is it demonstrated how the organization implements innovation culture?", "Are the challenges faced by the organization with traits of innovation culture addressed?", "Are the results of an institution that

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fosters innovation culture discussed?", "Are the research gaps/opportunities highlighted in the work?". The possible answers were "Yes," "Partially," and "No." Scores ranging from 0 to 5 were assigned based on the responses obtained. The authors adopted a cutoff score of 1.5 for better utilization of the studies.

3 RESULTS AND DISCUSSION

In this chapter, the results extracted from the studies that underwent selection, classification, and qualification will be presented.

3.1 Portfolio

Based on the established temporal cut, out of the 16 selected studies, there was a low consistency in addressing the topic, indicating that there is still much to be explored. No studies published after April 2023 were included. It can be observed that the observation of organizational culture and innovation has been a subject of debate for decades; however, the study of culture, i.e., how these innovative practices are experienced in the intangible aspects of the organization, still face barriers to overcome (Marques et al., 2020; Brandão & Bruno-Faria, 2017).

In terms of origin, most authors are from Europe. These researchers come from countries such as Switzerland, France, Spain, Denmark, Netherlands, Romania, Belgium, Norway, Ukraine, Lithuania, and Hungary. Exceptions to these are India, Ethiopia, Mexico, Brazil, South Korea, United States, and Saudi Arabia, which account for 5 out of the 16 studies. The result of the qualification of the studies is shown in Table 1.

Table 1: Result of studies qualification

#	Studies	Citations			Score	Objective
		Scopus	**WoS**	**Google**		
1	Hansen e Pihl-Thingvad (2019)	59	51	144	3,5	Examine how transformational and transactional leadership styles relate to employees' innovative behavior.
2	Sandor (2018)	0	5	15	3,5	Compare the topics covered in the Oslo Manual for innovation measurement with the requirements of public sector innovation surveys.

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3	Queyroi et al. (2022)	1	51	5	3,0	Analyze the impacts of public innovations implemented by local authorities in terms of perceived performance from a global and multidimensional perspective.
4	Dzvinchuk et al. (2021)	0	0	2	3,0	Define the opportunities for developing innovative design laboratories for the public sector in regions of Ukraine, using the case of the Intellectual Development Laboratory to Empower Regions.
5	Al-Asfour (2020)	1	0	4	3,0	Investigate the factors that stimulate creativity in the public sector in Oman.
6	Stříteská e Sein (2021)	5	4	10	2,5	Define a set of key characteristics of organizational culture that contribute to the effective measurement and management of performance in public sector organizations.
7	Tiganasu et al. (2019)	0	1	5	2,5	Develop a government performance index to assess the ability of EU member state governments to adopt a strategic vision on innovation and provide quality public services.
8	Van Acker e Bouckaert (2018)	0	0	61	2,5	Examine whether feedback loops, accountability mechanisms, and learning processes can explain the survival of public sector innovations.
9	Ferrarezi et al. (2021)	0	0	5	2,5	Present an initial assessment of the GNova laboratory, aiming to contribute to the literature on policy labs and the debate on the value generated by public sector innovation labs.
10	Mutonyi et al. (2020)	16	0	58	2,5	Examine the role of organizational climate in the creative performance of employees using the public sector as an empirical context. The creative performance of employees is divided into two entities and studied as two separate outcome variables: individual creativity and individual innovative behavior.
11	Park e Jo (2018)	49	0	94	2,5	Explore the factors affecting innovative behaviors in the government sector. It examines how proactivity, leader-member exchange, and climate for innovation impact employee innovative behavior in the Korean government sector.
12	Barrutia e Echebarria (2022)	0	45	3	2,0	Investigate the contribution of exploitative and exploratory innovation to the perceptions of economic and social value by local authorities responsible for sustainability-related innovation.

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13	Zandberg e Morales (2019)	11	8	20	2,0	Investigate whether, in a government setting, the intraorganizational network behavior of public managers has a similar positive influence on innovative work behavior.
14	Günzel-Jensen et al. (2018)	0	0	59	2,0	Examine the relationship between transformational leadership, transactional leadership, and the innovative behavior of employees in the public sector.
15	Korma et al. (2022)	0	0	0	2,0	Evaluate the role of organizational culture in the performance of employees in the education sector. It seeks to address: what type of organizational culture is contributing to organizational performance, how organizational learning can be enhanced, how team orientation can be encouraged, and how technical assistance and innovation can be promoted in developing economies.
16	Yamin (2020)	9	0	26	2,0	Investigate the influence of organizational innovation (innovation speed, innovation quality, and innovation quantity), extrinsic rewards, and intrinsic motivation on employee creativity and company performance.

Source: Elaborated by the authors.

Out of the 16 related studies, the highest score is 3.5, reflecting that the research questions were not fully addressed in only one study, and to answer them, we will have a shared construction of thoughts. Another point observed is that 94% of the collection, or 15 studies, have been cited previously by other research. Additionally, 75% of the publications (12 studies) were in journals with Brazilian Qualis Capes classification, A ranking, base date years 2017-2020, distributed as follows: 6 studies in A1, 3 studies in A2, and 3 in A3. The research base that received the most citations was Google Scholar.

Regarding the objectives, it is noted that the causes are explored, i.e., the factors that trigger innovation and consequently the successful trajectory of organizations. It is also observed that they start with the premise that the interaction of these factors influences the development of effective innovation management strategies and promotes better results. Only 3 out of the 16 studies focus on the consequences of these innovations by analyzing their impact, developing a performance index, and investigating the contributions of innovation.

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3.2 Elements that are identified in the literature on innovation culture

From the elements found in the collection, it is noted that although all listed items revolve around congruent aspects of leadership, creativity, knowledge sharing, and innovation-oriented organizational climate, no study mentioned exactly the same points. Table 2 provides an overview of the identified elements.

Table 2: Elements/factors that comprise an innovation culture.

#	Elements that make up the Culture of Innovation	Authors
1	Leadership; material rewards; verbal rewards and contingent sanctions.	Hansen e Pihl-Thingvad (2019)
2	"United government" and network governance; top-down decision-making on innovation, as well as bottom-up influences.	Sandor (2018)
3	Knowledge sharing; know-how and interpersonal skills.	Queyroi et al. (2022)
4	Laboratory	Dzvinchuk et al. (2021)
5	Individual experience (the reported desire to present an initiative; familiarity with tasks and knowledge).	Al-Asfour (2020)
6	Decentralization; cultural aspects; organizational leadership.	Stříteská e Sein (2021)
7	Governance items.	Tiganasu et al. (2019)
8	Learning; opinion and responsibility.	Van Acker e Bouckaert (2018)
9	Laboratory	Ferrarezi et al. (2021)
10	Organizational climate; individual creativity and individual innovative behavior.	Mutonyi et al. (2020)
11	Proactivity and innovation climate.	Park e Jo (2018)
12	Task engagement; deep feelings of attachment to employees.	Barrutia e Echebarria (2022)
13	Network behavior of public managers; career and networking motivations.	Zandberg e Morales (2019)
14	Empowering leadership; transformational leadership; transactional leadership.	Günzel-Jensen et al. (2018)
15	Technological assistance and other valuable types of knowledge; student-teacher relationship.	Korma et al. (2022)
16	Employee creativity; extrinsic rewards and intrinsic rewards.	Yamin (2020)

Source: Elaborated by the authors.

This review shows that the terms that appear most frequently are related to intrinsic aspects of each individual, as it pertains to behavioral and subjective aspects. Within this

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perspective, leadership was identified, with emphasis on transformational leadership, which, through individualized consideration, is capable of inspiring and influencing subordinates (Gunzel-Jansen et al., 2018; Jesper & Signe, 2019; Striteská & Sein, 2021); individual experience, which encompasses the acquired knowledge and skills throughout one's professional journey (Al-Asfour, 2020); proactivity, which refers to the spontaneous contribution of individuals; sense of responsibility (Barrutia & Echebarria, 2022), understood as valuing the work one does and assuming personal accountability for one's conduct (Korma et al., 2022; Acker & Bouckaert, 2018); knowledge sharing/learning (Queyroi et al., 2022; Zandberg & Morales, 2019), perceived through knowledge management that ensures not only one employee holds all the knowledge for a specific task. It is known that each individual naturally possesses their own interpersonal skills, and improvement depends on their willingness to develop them.

On the other hand, it is possible to point out that there are items within the institutional scope that depend on the organization to provide them as incentives for employees. These include: laboratories, which are risk-tolerant spaces (Ferrarezi et al., 2021; Dzvinchuk et al., 2021); extrinsic rewards, not only associated with financial incentives but also gratifications for experiences and achievements (Yamin, 2020); governance monitoring, complementary to performance systems (Sandor, 2018; Tiganasu et al., 2019; Zandberg & Morales, 2019); decentralization of hierarchical structures (Striteská & Sein, 2021), which breaks down the traditional pyramid-like chain of command; and organizational climate monitoring (Park & Jo, 2018; Mutonyi et al.; 2020).

3.3 Implementation of a culture of innovation in public institutions

The studies' contributions addressed different practices with emphasis on distinct ways. In a Spanish research, social identity was presented as an important ally in implementing a culture of innovation (Barrutia & Echebarria, 2022). The reaffirmed prestige generates social valence, meaning the individual's sense of belonging to that group (organization/sector/institution), consequently validating self-esteem through participation and contribution within the group. Thus, the effect of exploratory innovation is reinforced through rewarding interpersonal relationships, as they positively affect the value of attachment.

Another element that contributes to the implementation of a culture of innovation is a performance measurement system (Stříteská & Sein, 2021), which requires a strong leadership focus on overall institutional performance. To achieve this, there should be a reward or

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recognition structure for exceptional performance that allows for celebrating achieved goals. Additionally, the authors highlight the importance of issuing reports or communications regarding sector performance information, as well as participatory evaluation by employees. This involves cyclic feedback that is used to rethink the way actions were carried out. Cooperation, risk-taking, ownership of issues, creativity, and necessary change are projected in pursuit of optimal performance.

Another trait that contributes to building a culture of innovation is transformational leadership (Hansen & Pihl-Thingvad, 2019; Günzel-Jensen et al., 2018). It is understood that genuine individualized consideration, listening to the concerns of subordinates, building trust, inspiring a shared vision of the future, and providing intellectual stimulation to avoid complacency or the status quo are of utmost importance. It is worth noting that transformational leadership involves three dimensions: material rewards, verbal rewards, and contingent sanctions (Jensen et al., 2016).

Regarding leadership, in a comparative study of bureaucratic leadership, protective leadership, and participative leadership, none is considered ideal for implementing a culture of innovation. It is understood that it is necessary to intentionally attract professionals who are motivated and competent in introducing innovative practices (Dzvinchuk et al., 2021).

The implementation of such a culture also benefits from networked organizational arrangements that stimulate networking, within a competitive model and with training programs within the organization (Korma et al., 2020; Dzvinchuk et al., 2021; Zandberg & Morales, 2019). Two studies propose the establishment of laboratories (Korma et al., 2020; Dzvinchuk et al., 2021), where the focus is not on the infrastructure or technology involved, but on creating an environment for experimentation and embracing the possibility of making mistakes.

Having resources available doesn't always stimulate a culture of innovation. According to research conducted in Oman, there is an inversely proportional relationship between employees' effort level and the resources provided for creative initiatives (Al-Asfour, 2020). It is inferred that this occurs because the perception of innovative capacity is not necessarily related to the available means, but rather to how comfortable employees feel in achieving a particular goal, thus highlighting the intrinsic contribution of the organizational climate.

Furthermore, a study conducted in Saudi Arabia supports the idea that as extrinsic rewards are applied, the level of employee creativity also increases (Yamim, 2020). Therefore, it is understood that implementing a culture in the absence of available resources should be accompanied by providing relevant rewards that the group perceives as effective in reinforcing behavior and stimulating creativity.

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3.4 Challenges for a culture of innovation in organizations

Although not all research in the literature contributed to answering this question, a relevant focus that had not been addressed before was obtained. One of the findings regarding these challenges is the concept of irrecoverable costs, as in an innovation culture, errors are allowed due to the risk margin involved in innovative projects (Sandor, 2018). It is inferred from this understanding that an idea that is not successful can result in financial losses and damage to the institution's reputation, causing dissatisfaction and possible frustration among stakeholders.

In the studies consulted, there was no evidence of the existence of a systematic structure for implementing new ideas, which reinforces the internal resistance of the operational group, which feels misguided. It is pointed out that public sector managers, by tradition, were not taught to innovate, except in rare exceptions, with the design thinking methodology, as discussed by Cerezini and Silva (2017).

In this perspective, another point to be observed is that leaders in public sectors are directly subjected to political authority, and this exercise of leadership can present ambiguous conditions and multiple objectives without providing support to their subordinates (Günzel-Jensen et al., 2018). Depending on the level of complexity and radicalness of the innovation, it goes through approval from top management, thus having an inherently political component (Van Acker & Bouckaert, 2018).

The existence of a subjective approval filter is evident, which contradicts what is advocated in an innovation-driven environment, as it is expected that leadership will transparently convey their thoughts in an impartial manner when accepting or rejecting proposals (Al-Asfour, 2020). Therefore, it is understood that the approval of ideas involves a challenging process of persuasion, whether for political superiors or bureaucratic leaders (Hansen & Pihl-Thingvad, 2019). Transparency, a fundamental component for maintaining trust, exchanging information, and fostering collaboration, becomes compromised and consequently affects the pro-innovation organizational climate.

Furthermore, it is exposed that meeting targets or implementing public policies are not always a priority for politicians who prioritize self-promotion and career opportunities (Zandberg & Morales, 2019). It can be deduced that innovative projects tend to remain unfinished when they are not a priority for public managers with strategic thinking. It is understood that political transitions intensify the challenge of the innovation culture because within institutional agendas, budget constraints tend to disrupt partnerships. When there is a

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transition in public administration, these partnerships become compromised (Ferrarezi et al., 2021).

Institutions that fail to gather and maintain updated information negatively impact organizational performance, particularly in the improper allocation of resources, leading to insecurity among employees. To mitigate unnecessary conflicts, effective management is essential (Korma et al., 2022). It follows from this understanding that poorly designed budget planning hinders the execution of innovative practices, which, despite being "novel," should be envisioned and incorporated as institutional actions in medium and long-term planning. It is also acknowledged that public managers must monitor the organizational climate as a facilitator of innovation (Mutonyi et al., 2020), and the challenge lies in recognizing that what is valuable to one individual may not be to another. Therefore, it supports the assertion that managing creative talents involves providing feedback since avoiding dialogue and feedback can be interpreted as lack of interest, trust, or willingness; stress, peer pressure, social norms, among other factors (Al-Asfour, 2020).

Suggesting monitoring of the innovation culture reveals another challenge. It is observed that working on the innovation culture also means striving for better performance, and in public organizations, it involves monitoring governance indicators (Zandberg & Morales, 2019). Despite being official and consensual that transparency and open communication are necessary in public agencies, these numbers and indicators are often cautiously disclosed by sources, which hampers result comparability due to confidentiality requirements. Thus, providing comparability of results with indices indicating governments' capacity for achievement and integrating data structures poses a challenge (Tiganasu et al., 2019).

Still, as a challenging process in places that seek to foster a culture of innovation, there is a need for managing the "portfolio" of these innovations that the institution develops. This involves a series of actions such as evaluating learning, prioritizing projects, controlling visibility of innovations, aligning innovations with the organization's strategy, all under the constraints of a limited budget and predetermined planning (Queyroi et al., 2022). Another challenge in this context is establishing a performance reward system that public organizations struggle to implement (Stříteská & Sein, 2021).

Implementing a culture of innovation also involves overcoming barriers such as bureaucracy, employee resistance to change, lack of time, funding, and necessary knowledge and skills (Dzvinchuk et al., 2021). It is evident that the rigidity of rules and regulations hinders the progress of the innovation process. Undoubtedly, the flow of innovation depends on financial resources, which are affected by the use of effective instruments to combat corruption

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and budgetary deviations. This leads to a loss of enthusiasm, lack of trust, and discouragement, among other challenges.

4 LIMITATIONS

This review is considered as support and guidance for public managers who seek to implement an innovation culture. The systematic literature review was conducted thoroughly, screening over 1,500 studies to investigate advancements and limitations on the topic.

However, some limitations were found, and caution is required when interpreting the findings. Contrary to expectations, the research does not limit the identified factors exclusively to innovation culture, suggesting that these elements may vary according to each organization's specificity. Another question addressed in the study is how a public institution implements an innovation culture, and unsurprisingly, the studies show that there is no single way to do so.

One limitation of this study was the understanding that public organizations do not openly declare themselves as having an innovation culture. Each organization has its own peculiarities to be addressed within its administrative body. It is also evident that fostering innovation is an ongoing process rather than a final goal.

Future reviews should consider comparing entities of the same administrative category for possible comparisons. Furthermore, this study did not propose to analyze the countries studied separately. Public organizations in each country can be directly influenced by government guidelines and local culture, not just organizational culture. New studies with this level of comparison are also appropriate.

5 CONCLUSIONS

This study addressed the various perceptions of building an innovation culture. Several elements were found to contribute to a successful culture, such as leadership committed to innovation, a collaborative and creative work environment, encouragement of networking and continuous learning, performance indicators, and communication strategies that can be adopted as part of an innovation culture.

Among the challenges are the mindset change of employees and the need for financial and technological resources to enable implementation, overcoming resistance to change, excessive regulations and bureaucratic terms, among others. It is essential for public managers to understand the factors that positively influence innovation culture for the development of

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their organizations. It is observed that a single element alone is not enough for the performance of this dynamic, as if an organization encourages the training of its employees but does not contribute to the implementation of ideas, it is of no use, requiring constant improvement of conditions for the emergence and application of ideas.

Organizational culture is built by all employees, regardless of their role in the support or core areas. However, it is difficult to pinpoint innovation in the support areas as they involve adjustments to procedural steps and systems, as well as behavioral stimulation, such as inspiring group confidence and having a light demeanor, which shape a pro-innovation environment that makes a difference in building an innovation culture. It is noticed that these nuances are often overlooked in studies, possibly due to social interaction skills. To attempt innovation, it is assumed that proposals will not be disregarded, and respect in providing feedback reinforces whether participants in the organization believe it is worth contributing to improvement.

Regarding the limitations of this work, as the appropriation of the term "innovation culture" in public organizations is subtle, it is expected that future studies will investigate what is hindering this approach. It is understood that the elements identified in this study can be used as input for discussing an appropriate instrument for the reality of public organizations, as only through monitoring will it be possible to mature institutional governance and evolve innovative practices.

In summary, it is observed that public organizations can embrace an innovation culture to enhance their results and impact on society. It is estimated that society will benefit from the opportunities provided by this type of culture, as it allows for a more agile response to social demands and continuous improvement in service delivery.

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