

Information Management in Public Administration: A Systematic Review from a Technological Perspective

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This study shows the review of different scientific articles from the last 5 years on importance of information management in public management, consulting different academic search engines, including articles from Peru and other countries where there is also interest in this issue. The following question was asked: What is the importance of information management in public management? The objective of this research is to carry out a systematic review of articles related to information management in public management. Then, the information in the scientific network has been used, that is, all the documents reviewed are from indexed academic journals, from national to international studies, in order to rescue the different approaches to this problem with the different points of view, their approach, the problem, the solutions and their recommendations. The importance of information management in public administration is concluded, being crucial for modernization and efficiency of public administration globally and in Peru. Digitization and effective information management are essential to address today's challenges and build more agile and adaptive governments. In the Peruvian context, the implementation of digital tools and promotion of citizen participation are essential to improve transparency and efficiency in public administration. Considering information management as an essential pillar to build a modern, efficient and transparent government, both globally and in Peru.

Keywords: Information management, public management.

1. Introduction

Information management constitutes an indispensable element of contemporary public administration. In an increasingly digitized world, the ability to manage and use information efficiently has become a determining factor for effectiveness and transparency of public institutions. Information management encompasses collection, storage, processing, and distribution of pertinent data for the purpose of decision-making and delivery of public services. This process not only enhances operational efficiency but also reinforces accountability and citizen participation (Criado, 2019). The modernization of public

management has been driven by adoption of information and communication technologies (ICTs) on a global scale. These technologies have transformed the manner in which governments interact with citizens and manage their resources. The implementation of e-government systems, for instance, has permitted greater transparency and accessibility to public information, thereby facilitating citizen participation and improving administrative efficiency (Castro & Simon, 2020).

In Latin America, and particularly in Peru, the management of information in public administration has assumed a growing significance in recent years. The National Policy for Modernization of Public Management to 2030, approved in 2022, establishes a roadmap for transforming Peru into a modern, efficient, transparent, and decentralized state (Government of Peru, 2022). This policy places a premium on reliability of information underpinning public policies and their responsiveness to needs and expectations of the population. It also aims to enhance internal management of public entities and to foster innovation and continuous improvement.

The digital transformation in Peru has been accelerated by the global pandemic, which has compelled public institutions to adapt expeditiously to novel methodologies for operationalizing and delivering services. The digitalization of public services has permitted the continuity of essential services to be maintained, while simultaneously opening up new avenues for enhancing efficiency and transparency in public management (Blas Ghiggo et al., 2022). Nevertheless, it has also revealed significant challenges, such as digital divide and necessity for continuous training for public servants (Uribe-Hernández et al., 2022). In this context, this article presents a systematic review of recent literature on information management in public management in Peru. The objective of this review is to conduct a systematic analysis of articles related to information management in public management, with a focus on identifying advances, challenges, and opportunities in this field. It is anticipated findings of this review will facilitate development of more efficacious policies and strategies for the modernization of public management in Peru.

2. Methodology

Systematic reviews (SR) are secondary studies that seek to answer a research question for which they carry out exhaustive searches of the available evidence (studies that have answered said research question) and synthesize the results found in said research (Fernández, et al. . 2019). An investigation was carried out at a bibliographic level, taking different scientific articles oriented to the study variables. Articles from the last five years, that is, from the period 2019-2024, have been searched for updated data collection based on the topic in question. The search sites for the systematic review have been the main academic search engines such as: Google Academic, Scielo, ProQuest, Dialnet and Redalyc. It is here where articles from scientific journals related to the importance of information management in public management have been obtained. The search terms were “Information management” and “Public management”.

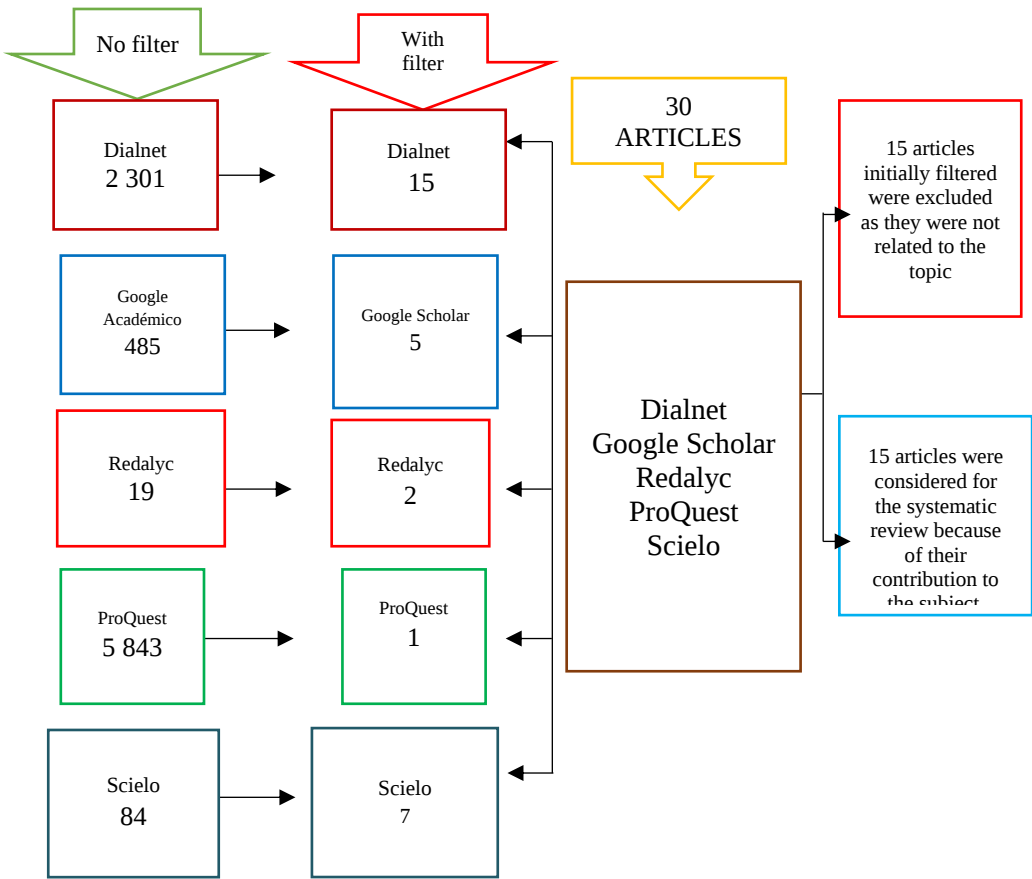


Figure 1. Flowchart of the inclusion and exclusion criteria used for the systematic review.

Note: Dialnet, Google Scholar, Redalyc, Proquest and Scielo databases.

3. Results

The findings of the research are presented in following section. The bibliographic analysis was conducted via academic network, utilizing reliable virtual resources for scientific searches. The following search engines were employed: The following databases were consulted in the order listed: Dialnet, Google Scholar, Redalyc, Proquest, and Scielo. The articles were found to be current, with no less than five years old. In addition, a number of important articles in Spanish were identified. The search terms employed were "information management" and "public management," which yielded results that were highly pertinent to the research problem.

Figure 1 depicts information search process. At the outset, the search terms were entered without any filters, resulting in display of a considerable number of articles. The number of results obtained from each database is as follows: Dialnet (2,301), Google Scholar (485), Redalyc (19), Proquest (5,843), and Scielo (84). Applying filters based on language (Spanish),

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age (at least five years), and specifying that they are only articles from scientific journals yielded a smaller number of articles. It is also noteworthy that the initial search yielded a considerable number of articles that were not directly relevant to the topic under investigation, namely the application of the subject matter in the context of regular basic education. Consequently, a further selection process was initiated, whereby articles that did not meet the specified criteria were excluded. Accordingly, the search is conducted as follows: The results yielded 15 articles from Dialnet, 5 from Google Scholar, 2 from Redalyc, 1 from Proquest, and 7 from Scielo.

In conducting this study, an effort was made to gather articles from a range of academic search engines with aim of obtaining a diverse set of results. It is notable that, as illustrated in Figure 2, the presence of articles pertaining to the topic is more prevalent in academic search engine "Dialnet." This is an intriguing observation, particularly when we consider that the majority of articles, as shown in Figure 1, originate from the search engine "ProQuest." It is important to note that, in the aforementioned search engine, the use of the filter resulted in elimination of a significant number of results, in addition to those identified through personal selection. This highlights the fact that, although search terms were precise, results with little relation to the research topic were also identified. Conversely, in the "Dialnet" database, articles on similar topics were identified, offering the potential for the retrieval of several pertinent articles.

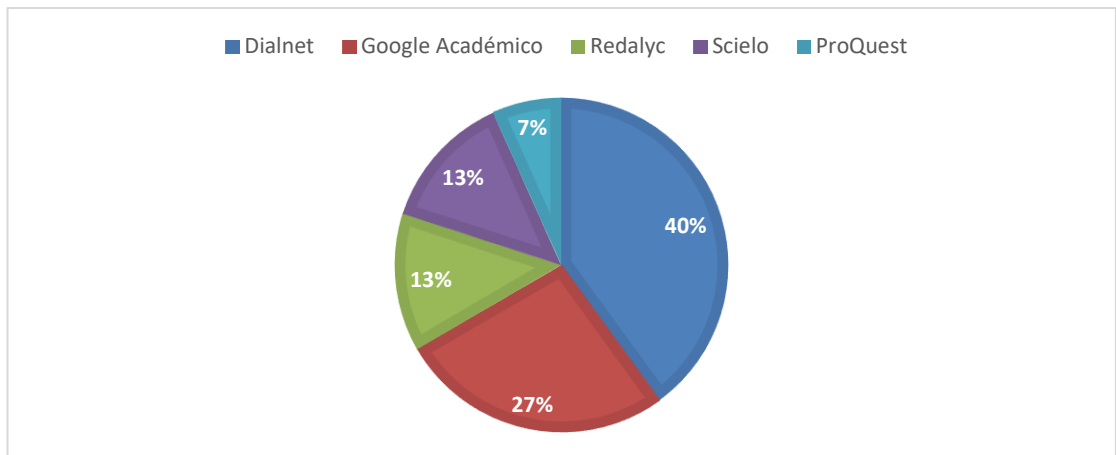


Figure 2. Percentage distribution of articles by academic search engine.

Note: Dialnet, Google Scholar, Redalyc, Proquest and Scielo databases.

On the other hand, the origin of the research has been rescued in order to make a comparison in terms of the countries that have studied the problem raised. Venezuela and Ecuador stand out in this opportunity, in this research 53.84% are Venezuelan articles and another 23.09% are Ecuadorian.

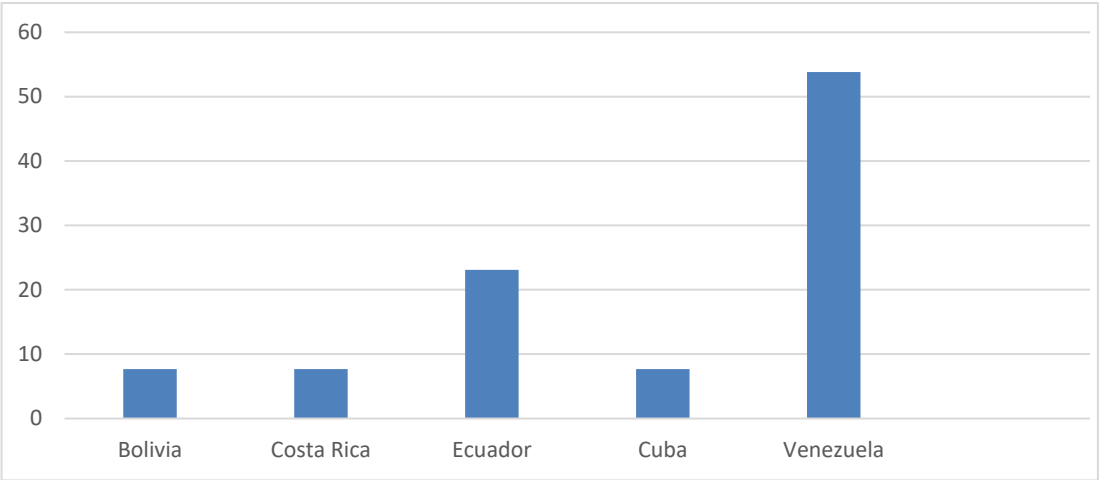


Figure 3: Percentage distribution of items by country.

Note: Dialnet, Google Scholar, Redalyc, Proquest and Scielo databases.

Among the articles selected in review, some provide more general results. For example, Barragán Martínez, X. (2022), highlights the importance of ICTs and public ethics to create an intelligent public management. He emphasizes how public organizations can benefit from accessing, using and taking advantage of ICTs to face contemporary challenges, which is essential for information management in public management.

Ghiggo, F. G. B., et al (2022), a study that addresses modernization of public management in Peru, highlighting the need for digital tools to improve transparency and accountability. The discussion on corruption and inefficiency in Peruvian public management highlights the importance of effective information management to overcome these challenges.

Among all this, the following table (Table 1) shows most important contributions of each research to solve the question posed about the importance of information management in public management:

Table 1: Articles by author and contribution

N°	Authors	Contribution to the study
1	Barragán Martínez, X. (2022).	Public organizations open to learning, with new paradigms of thought and oriented towards organic-systemic management, can face an environment of competition, instability, risk, speed, discontinuity, short planning horizons, conflicts, imbalances (economic, social), opportunities, mobility, ideas and new values, as occurs in post-modernity. This generates an intelligent public management based on access, use and exploitation of ICTs, as well as on public ethics, quality and continuous innovation.
2	Ghiggo, F. G. B., Hernández, Y. C. U., Revilla, A. C., & Oxolón, J. M. V. (2022).	Modernization in Peru is progressing very slowly due to the existence of widespread corruption, the fight against corruption requires construction, as well as the establishment of more and better levels of transparency and accountability of the government in office, digital tools are basic to carry out the processes of modernization.

		Likewise, the modernization of public management is hindered by the oversizing of public institutions, the services they provide to citizens are inefficient, the recommendation and political affinity prevails in job performance.
3	Sordini, M. V. (2019).	Observing the experiences of the interviews in perspective allows us to think that talking about food policies in the current context and in the workplace conditions a particular discourse on hunger, defining the act of eating as marginal or secondary in the interventions. However, the continued relevance of the programs offers indications of an unresolved problem that currently presents a critical debate.
4	Macas, R. A. A., & Poveda, J. E. G. (2019).	It can be understood how tools such as ICTs are essential to improve the efficiency of the various entities that make up the State, with the proper use of ICTs it is possible to improve public management, as well as the way it relates to citizens and businesses. Another relevant aspect is the investments made in relation to projects involving ICTs related to the GE, analyzing possible failures, as well as the urgency of the involvement of the business units affected with the information technology part, not only to know the technical part but also the interrelation with other strategic aspects of the business.
5	Barzaga-Sablón, O. S., Pincay, H. J. J. V., Nevárez-Barberán, J. V., & Cobeña, M. V. A. (2019).	Organizational information and knowledge in the context of education are vital for decision making in educational management, related to the set of actions aimed at achieving maximum rationality in the decision-making process linked to the organization, planning, monitoring, evaluation, improvement and quality of education. Decision-making transforms information into knowledge, where information and knowledge play a vital role in educational organizational management.
6	Morales, H. Á., Pinto, G. B. P., De la Cruz Rios, H. A., & Auqui, J. A. O. (2022).	A public management focused on social development requires strategic decision making that allows the construction of action plans and effective operational routes, capable of knowing in depth the needs and potential of the affected populations, with the possibility of quantifying the shortcomings and achievements, thus building the structural pillars for overcoming the social difficulties that afflict the region.
7	Rodríguez, X. E. S., Barahona, C. A. Z., & Villacreses, K. L. S. (2020).	The new public administration must be more efficient in solving society's problems, as well as in eliminating bureaucratic obstacles in administrative and operational areas. The effectiveness in the application of the mechanisms for the transformation of public administration will depend on the society, its culture and the customs of each country.
8	Artieda Rojas, J. R., Guarnizo Ponce, W. J., Caiza Vega, M. D. R., & Vayas Castro, G. S. (2021).	The new public management seeks to move from a bureaucratic culture to a culture of service to citizens, with flexible and adaptable structures to the continuous change demanded by the conditions of the external organizational environment. In recent years, public institutions have been facing processes of change and institutional reform through the modernization of their structures. These

		changes respond to the new paradigm of public administration, which began to spread worldwide in the early eighties, seeking people with specific and indispensable skills and competencies to occupy public positions.
9	Machín Hernández, M. M., Sánchez Vignau, B. S., López Rodríguez, M. L., & Puentes Alvarez, P. L. (2019).	It is essential to create mechanisms that renew and open new spaces and forms of citizen participation in the government process, the design and promotion of accountability spaces that take into account the interests of citizens, together with the promotion of an organizational culture focused on dialogue and presentation of management results. Consequently, the information provided must be proactive and aimed at simplifying, eliminating and automating formalities and other administrative procedures to facilitate citizens' access to their rights and the fulfillment of their obligations. Integration of systems, services and information sources are elements to be taken into account through the establishment of internal processes that facilitate management.
10	Briones, M. A. F. (2019).	Evidence that, the implications of public administration modernization for accountability have the subsequent confidence of the causal mechanism, increased up to 98.8%, so we can say that the entities exposed in the operationalization of the theory existed in the Ecuadorian case, therefore, the modernization of public administration in the Ecuadorian case contributed to improve the conditions for accountability. As a result, the need to modernize public administration was positioned from the beginning in the political agenda, which led to the formulation of a policy, evidencing several instruments that allow its implementation.
11	Pinto, G. B. P., Estrada, G. C. T., Mitma, J. L. I., & Mancesidor, J. M. G. (2022).	Citizen participation opens the door to the possibility of improving the quality of public policies, from the moment of diagnosis of social problems, during the various stages of the process and finally, the evaluation. This is understood as a fundamental right recognized in the Political Constitution of Peru, laws, electoral laws, which is why it has very little social legitimacy among the population, facilitating accusations of corruption, embezzlement of funds, among others. In cases such as these, for example, the figure of revocation of authorities can be activated, which has never been executed in Peru. Therefore, it is important that this and other tools for citizen participation be promoted and modified in order to facilitate their activation and use by the population, thus increasing the efficiency of the State.
12	Rangel, M. D. J. H., & Hernández, M. L. M. (2019).	It concludes that every organization, regardless of the sector to which it belongs, is fed by a flow of information that moves from end to end, nourishing each unit, processes, strategies, actions and decisions, which is why it is considered a valuable resource that deserves to be processed for its systematization and management, so that it can fulfill its mission. In the case of public sector organizations, it is necessary to program actions that lead

		to its strengthening, represented in a constant dynamism, through reliable, safe and adequate means, for the circulation of systematized information, arranged for its management, from an integrating perspective.
13	Santa María, B. C., Aguilar, C. E. V., & Sotomayor, R. A. M. (2020).	The human rights, territorial, gender, intercultural, sustainable development and social inclusion approaches play important roles in Peru's national agrarian policy, but for various reasons they are not being implemented by agrarian institutions. The increase in rural poverty, the highest rates of which are found in the highlands and jungle, generates a risk to food security.

Note: Dialnet, Google Scholar, Redalyc, Proquest and Scielo databases.

The 13 articles presented herein serve to demonstrate importance of information management in public management. Each study has contributed to the elucidation of a specific aspect of the topic, thus providing a robust foundation for the comprehension of the challenges and opportunities inherent to information management in Peruvian public administration. Nevertheless, there is a necessity to integrate more profoundly the technical, social, and political dimensions of digitization, and to provide practical solutions and illustrative examples of success to overcome the identified barriers. As previously stated by Machín Hernández (2019), it is of paramount importance to devise mechanisms that facilitate the renewal and opening of new avenues for citizen participation in the governmental process, the design and promotion of accountability spaces that consider the interests of citizens, coupled with the promotion of an organizational culture that is focused on dialogue and the disclosure of the results of its management.

4. Discussion

Upon review of the results, it becomes evident that there is a necessity for a sustained and precise implementation of training in information management in public management for those in charge and future generations. There is discussion of processes to be followed, but in certain areas, the necessary tools or knowledge are lacking, and the time required is not being met. While significant progress has been made in the management of information in Peruvian public management, significant challenges remain. The digital divide and necessity for continuous training represent significant obstacles that must be addressed in order to maximize the benefits of digitization. The integration of information and communication technologies (ICTs) and knowledge management are crucial for more efficient and transparent public management. Future research and policy should concentrate on the development of practical solutions and the identification of success stories with a view to overcoming the aforementioned barriers and promoting the effective modernisation of public management in Peru. In this context, the consequences of failing to prioritize information management in public management become evident.

Rodriguez, et al. (2020) emphasizes the necessity for enhanced efficiency in public management and removal of bureaucratic impediments. He emphasizes significance of modernization and the incorporation of novel technologies to enhance public management. This approach is of paramount importance for information management, as it underscores the

necessity for more agile and efficient processes, supported by modern technologies. Conversely, Morales, et al. (2022) advocate for a public management approach that prioritizes social development, which enables the formulation of effective action plans. They emphasize the significance of understanding needs and potential of populations in order to effectively address social challenges. They posit information management is a relevant topic in context of public policy, as it underscores significance of accurate data and well-informed strategies for the planning and implementation of public policies.

This can be further elucidated by insights of Barragán Martínez, X. (2022), which underscore necessity for public organizations to embrace novel paradigms of thought and to be oriented towards an organic-systemic management approach. He emphasizes the crucial role of ICTs and public ethics in addressing the challenges of postmodernity, advocating for intelligent public management based on quality and continuous innovation. This approach is pertinent to the field of information management in public administration, as it underscores necessity for adaptability and strategic utilization of ICTs to enhance efficiency and transparency.

In conclusion, Machín Hernández, et al. (2019) emphasize the creation of mechanisms for citizen participation and accountability, promoting an organizational culture based on dialogue and transparency. The integration of systems and the simplification of administrative procedures are of paramount importance in facilitating citizens' access to their rights.

5. Conclusions

The purpose of the review was to raise awareness of the importance of information management in public management. The objective has been achieved, highlighting each contribution of research reviewed, whose results have been able to demonstrate not only the importance, but also need to apply a training model for information management in public management. Among theoretical studies, based on systematic reviews and empirical studies on the variable of "Information Management", it can be seen that the adoption of information and communication technologies (ICT) has transformed the way in which governments operate, improving transparency, accountability and citizen participation. In the Peruvian context, the implementation of the National Policy for the Modernization of Public Management to 2030 and various e-government initiatives have been crucial steps to address challenges such as corruption and excessive bureaucracy.

Public management modernization has been driven by need to improve efficiency and transparency in public administration. Countries around world have adopted various strategies to achieve these objectives, including the digitization of services, the implementation of e-government systems and promotion of citizen participation. In the Peruvian context, the modernization of public management has been a constant challenge due to structural problems such as corruption, excessive bureaucracy and lack of resources. However, the country has taken important steps towards modernization and improvement of public management.

Finally, it should be noted that, in a globalized context, information management in public management is fundamental for modernization and efficiency of government institutions. At the global level, the adoption of ICTs, transparency and citizen participation are key elements for building an efficient and citizen-oriented government. Effective information management

enables public institutions to make informed decisions, optimize processes and offer more accessible and efficient services to citizens. It also facilitates the creation of mechanisms for citizen participation and accountability, strengthening trust in public institutions.

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