E-government with a transformational approach in public Management. A systematic review

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Abstract

In public management, it is possible to influence technological progress in public entities through the planning, administration and management of resources, organizing new technological forms for a better government, streamlining, optimizing and transparenting new processes in the public system, according to the needs of each government. The objective is to analyze public management and the electronic government as a transformational approach, which aims to improve operations and services in a transparent manner with the participation of the citizenry, through the use of ICTs. The research methodology is descriptive research considering 46 articles selected from reliable databases. In the results, we have found mechanisms of electronic government such as the use of the internet, websites, blockchain, big data, artificial intelligence, digital identity, microdata, information systems, which have been implemented within their electronic government in such a way that they processes are more efficient, saving time and cost and minimizing acts of corruption. Finally, it is concluded that the development of information and communication technologies increases productivity, through the efforts of public sector employees and improving their quality and demonstrating how the use of technology can facilitate the development of a new public management through an electronic government.

Keywords: Public management, information technologies, governance, public entities, efficiency, quality, internet use, productivity, e-government, public services.

1. Introduction

Information technologies are the tools that bring about the most fundamental changes in public administration and, paradoxically, they are tools that escape the understanding or training of the vast majority of management reformers or the financing of large public computerization projects. Medina (2020), Large technology projects around the world face immense difficulties, high rates of total or partial failure, resistance to change, and lack of strategic direction by authorities or superiors, which they often see as a problem for IT leaders. De Grande (2020) is unaware of the needs of the public and political tensions in favor of new reforms, improved services and transparency, demanding that the government get online to induce new changes in access to information to citizens and favor the evolution of public institutions. Rachmawati (2021), also mentions that the problem of access to public services such as electronic stations are hindered by digital gaps, regulations, labor and infrastructure that has led to losses in local governments whose solution is framed in ICT to improve services as part of an e-government in Indonesia. Hariguna et al (2021), in Switzerland, e-government seeks the

intercommunication of people with the state through online services, mobile service, e-participation of services, analyzing the results of the person's behavior and seeking strong relationships of citizens with the state through the quality of e-government and quality connection to overcome gaps. Abramitov & Dneprovskaya (2021), technology is established as an instrument, as a political, economic, cultural and social space within public institutions, finding ourselves immersed in an information society and new knowledge planting new uses and challenges that can contribute to the ordering of governments that place their citizens at the core, mediating the use of technology, calling as an electronic government that proposes greater effectiveness and efficiency in the use and management of public resources and better public management. Vidiasov & Vidiasova (2021), shows the efficiency of public service correspondence systems in St. Petersburg, the digital signature and electronic signature were validated, but the administrative procedure was not modified, but in some provinces they were very eager to establish the principles and the creation of new bases for electronic management, digital identity, digital file, remote management, electronic signature and government interoperability.Stoica & Bogdan (2020), in Romania to achieve all this it is necessary to have a coordination between the entities, which is vital through established policies improving the quality of service to users towards an online model. SA, et al (2021), government deficiencies within its services provided by local governments in Portugal have allowed the development of databases as an e-government mechanism that impact on well-performing e-services, while Saleh et al (2021). The function of an electronic government is to facilitate equal access to information, the increase of production, the elimination of time and the limiting barriers to communication. García & Plasencia (2020), Likewise, the phases of an electronic government are included through interaction, presence, transaction and transformation. (Blanco, 2020), on the contrary, the lack of ethics in e-government procedures and absent democratic values have led governments to consolidate their power, there is no democracy and citizenship is manipulated, which is why the proper application of information technologies in the collaborators of institutions and citizens, will allow for better

governance. Rodríguez (2020), before the deficiencies of the old way public management was administered, transformational processes have arisen in the new transformational public management allowing an interlinear nation of communication-information-society as part of an electronic government, information management, technological management, open government focused within the sustainable development objectives, allowing to connect the various levels of national and international governance according to their basic needs, implementing the universal approach, at home, work and universities, in the educational institutions of each community, collaborating with solutions among political allies for digital transformation through leadership people and organization for change the way we can do government. Vera & Martínez (2020), states that electronic management has been characterized by promoting the path to information, monitoring of public entities and clear accountability, which indicates that the advances of electronic government have not positively impacted the decrease in corruption in Mexico, therefore, the complementation of other elements is needed for the realization and administrative planning of e-government before public policies. Kapsa & Musial (2020), in Poland the economic deficiency and the communist system have led to a delay in the technological digital insertion within the public administration, but its progress with respect to electronic government has been developing with great impact manifesting itself in the use of electronic administration services by its citizens and public institutions. Backer et al (2020), Tells us that principles are required to guide good electronic management in China, having access, friendliness, security, renewal, convenient, responsible, transparent and the participation of the private sector in the face of the new transformational electronic services of traditional paper services. Ziyadin et al (2020), to achieve good e-government, it is necessary that public servants can increase their productivity through the use of technologies, change attitudes and be endowed with the skills and abilities necessary to implement solutions with a well-designed and reliable infrastructure to give electronic support to the government and make optimal public management. Niknezhad et al (2020), Iran as part of its e-government employs the blockchain as a storage platform and exchange electronic notes in a decentralized

framework and carry out security and transparency transactions, the sketch of a series of delimited blocks and an electronic money system lighten administrative procedures and reduce in costs, depending on their operations, payments and revenues of electronic management, in order to streamline the assistance of public services to the user and increase their satisfaction with the state. Zhang (2020), in the face of new forms of e-government in China, traditional forms do not yet adapt to new technological innovations, so the management focused on cloud computing will provide new mechanisms for transforming governance management, allowing them to improve efficiency in their work, as well as the ability to provide good public value to society. Electronic management turns organizations into intelligent administrations by adjusting the social, political and economic insertion, in addition to the well-being of individuals, and these intelligent tools have great potential to improve the provision of public services, being able to process natural language, for example, detect anomalies in public procurement or analyze large amounts of data to help society make decisions, such as prioritization based on analyzed variables to which establishments should be subject to administrative controls. Despite this, Apleni & Smuts (2020), states that the governance of developing countries, face obstacles in transformation issues, which include the absence of e-government interoperability, scarcity of resources and lack of responsibility in management, which is why it is considered a framework for the implementation of e-government, where government sectors are directed and prepared in their implementation programs, transforming smart governments, optimizing political, economic and social inclusion and people's living conditions by developing a correct delivery of e-government. Cordovez, et al (2018),the identification of many recurring problems have had an impact on the simplicity of the management of e-government sites and that these could be solved through the usability of patterns, the ease of these models developed under the approach of the use of electronic government, in order to provide the digital tools of sites and thus avoid problems that violate the ability to use the services offered to the population from the portals of public or governmental organizations. Martínez (2018), the limited solidity in the municipalities in the territory of Sonora, in terms

of the position and technological conduction in infrastructure (websites, computers, computer products, telephone lines), confers to see the obstacles that restricts the progress of municipal electronic government, there is a lack of a regulated support that strengthens the technological infrastructure in the municipalities, unified to an administrative, financial and political institutional development of electronic government, therefore it seeks to build the Municipal Electronic Management Index (IGEM), from the research processes provided by INEGI (National Institution of Statistics and Geography), towards the periods 2009 - 2011. Henrique et al (2018), the provision of measurement of input and skill in the use of the internet impact on the electronic governance services that are developed in Brazil, by which it is sustained in the competences of Amartya Sen under the investigation of microdata of the analysis of information technologies, the increase of different public services such as e-government sponsorship greatly influence the internet connection from the home or workplace, as well as the extension from the skills of people in using other internet tools, residences associated with CETIC.br (Central Region of Studies of the Information Society of Brazil), for the year 2013 and linked to CGI.br (Internet Management Committee in Brazil).Przeybilovicz et al (2018), reflects on developing e-government and smart city activities in Brazilian municipalities, identifying four clusters: the individual who does not have technology, being courteous to the individual, the correct legality and having the ICT equipment, given the different needs that arise in a society. Citizen participation is necessary to develop mechanisms of new technologies that can empower the citizen as an active function in decision-making in public administration. Moreira & Hidalgo (2020), in addition to the online progress of services, the structure of telecommunications and human talent, and the strategic regularization of broadband, of the institutions that form the Central Public Administration of the Government, causing an improvement in the efficiency and optimization of public funds, in the state and local sector, dominated by interoperability, given the technological impulse and implementation of e-government in Ecuador. Menacho et al (2020), investing in new equipment, computer programs and infrastructures is a big step to introduce technology, leading to improve the organization,

being an organizational transformation strategy. Armenta (2018), the inopportune technological insertion, aspects with which information technologies would be implemented in the state, thus changing it in an electronic government, not only is it enough to have the technology, the public collaborator must have knowledge of the computer for which he must be trained, there is little information about the institutions that must be established on their websites, that is why it is the Ministry of Communications and Transportation who creates the Digital Agenda as a strategy to install a better development of electronic management in Mexico, which allows it to carry out its procedures processes efficiently, reducing time, work and human talent and reducing costs, thus benefiting the citizen. Dema et al (2021), the use of e-government in the improvement of their public services is not optimal in the offices of Bulo Village considering the inefficiency that exists on the protection of an electronic base, there are optimal factors such as trust, preparation, participation and leadership that contribute to the success of e-government, highlighting two important factors the strategy and the vision and mission. The effect of e-government progress within governance indicators in MENA (Middle East and North Africa) countries. Dhaoui (2021), points out that digitalization improves the effectiveness of the state and the control of corruption, which the digital technological use of information framed within its policies must be incorporated into the reforms of the public sector, which promotes competitive business sectors, improvement in accountability, in education procedures and capacity building. Prokofiev et al (2021), the importance of legislative practices from which it will allow the introduction of modern technologies in the state and municipal public administration regimes in Russia, in addition to indicators that systematize the momentum and progress of the process, the effectiveness of e-government is also planned where the computerization system is under development within the public administration and interacted in 3 areas: 1. Inhabitant and state organizations. 2. State and private organizations. and 3. Governmental organizations and state levels. Politankyi et al (2021), the operability of information security as a key piece of e-government in Ukraine, which is feasible on the basis of a good modern infrastructure in state information security with a systemic, complex appearance; conditioned by internal and external

components, having been the most important in the political environment. Geteloma et al (2019) given the deficiencies in accessing services and the inappropriate management of multiple identification methods, in Nigeria the application of digital identity is sought, so the electronic passport, electronic voting, driver's license, electronic payment and electronic health are part of the accreditation of services within the framework that make use of the NFC (Near Field Communication) intelligent credential, biometric documents and OTP (One Time Password), identifying and authenticating in a resistant and truthful way the person in the access to the electronic government. Hidayatullah et al (2019), for the improvement of services to the citizens of Sumbawa in Indonesia, plans to apply a software system using the cascade method and office-centered planning with SQL and Studio Visual as a managed database mechanism whose result focuses on processing information in a timely manner providing an optimal service. Sik & Bou (2019), focuses on a comparison of e-government of two countries on the one hand the United States, which seeks to normalize the function of the Management and Budget Agency (AMB) and coordinate with the cabinets to promote and have budget support for the implementation of e-government and on the other hand Korea that seeks to reduce documents by processing it electronically, both rescue the importance of promoting digital technology as a transformational process of e-government management. Pysarenko et al (2019), to avoid plagiarism and manipulation of documents circulating in the public administration in Ukraine, security measures such as the biometric digital signature that provides the validity of the detail and content of the documents, as well as the signature, embodied in the occasion of uses and benefits with the insertion of electronic government using the mechanism of verifying electronic identity, are needed. Zhou & Chen (2019), big data, cloud computing and mobile internet are the recent challenges of social management in China, having an open service medium, reference service, e-government as a platform in the management of services and the monitoring program based on mechanisms, information base and exchange of these and their collaboration with companies that support the government and the business information framework. Ramesh et al (2019), the electronic contribution is of great interest to e-government

and e-management, an index of electronic supply of services for citizens (CePI) is proposed, with the electronic participation of them in the services given in the administrations by the deputy in the physical, economic, personal and social, as well as the process to quantify the CePI. Paiva (2019)," the analysis around e-government in the Ibero-American community is irregular, clarified by the development of public policies, despite this there are emerging countries in evolution and leaders and vigilantes for which the study focuses on a bibliometric analysis on electronic government. Dwivedi et al (2019), discusses the usefulness of the study of big data affliction and soft computing methods such as electronic government in the use of these to perfect the objectives of electronic governance being effective, reliable and transparent and free of acts of corruption, as well as the broad participation of the citizen in the progress of the Nation. Borthakur & Bhuyan (2019), the progress and growth of many nations focus on the use of e-governance, minimizing corruption and increasing transparency in the various government processes and operations, the various e-Kranthi, e-seva, Smart Governance projects, are launched by the state of India in order to generate an effect on e-government. Ribeiro et al (2019), it is not enough that public services are only provided through electronic government tribunes, but these must be co-produced with citizen intervention and public representatives who collaborate and interact, that is why a municipal e-government tribune was presented as an assessment system (MEPA) where the strengths and weaknesses of the municipal e-Gov tribunes are described, and in turn acts as an instrument of planning and administration by its representatives. Barrera et al (2018), specifies the segment of young students or university students with a degree who make better use of the internet for the realization of different public services such as electronic government in Spain, unlike older adults or people with basic education which does not have that efficiency of electronic administration. Pavlyutenkova (2019), examines the transition from e-government to e-government and its notion of distinction, e-government focuses on delivering public services in the e-form and digital government, being a breadth of e-government traces a theoretical definition and considers a set of key peculiar qualities within the strategic government policy environment that addresses digital conversion. Ejdys et al (2019), the provision of services in public management allows citizens to treat legitimate content through the use of the internet as ICT tools, from that perspective in Poland in comparison with other nations highlights the level of security observed as a factor that shapes the level of trust that determines the advancement of e-government technology. Oze (2019), the ways to improve in institutions in Northern Cyprus are based on the development of technologies on the web as a new theory of e-government, focused on understanding the usefulness in the method of disposing government information according to e-government, which its service must have a better effective management by its public managers. Kaya (2019), as part of the evolution of electronic government, 3 definitions of technological use for decision making are taken into account, social networks as a source of communication, Big data as a processing of the decisions made from the investigation of available data, and artificial intelligence, where devices will have consequences in human decision making, this being one of the best efficient electronic forms in its use for decision-making within public institutions through the application of a conceptual system (Engage). Khrais et al (2019), highlights the adaptation and use of e-government especially in Jordan, where its continuity of use is measured and where policies make available to people their trust and social influence in their way of strengthening the service of their e-government every day.

This study is justified in the transformational process that e-government has been developing that allows obtaining favorable results in the different processes and services provided by public institutions within public management, having as its primary objective to analyze the importance of electronic government with a transformational approach. in public management, the specific objectives focus on 1. Analyze the situation of e-government in public management. 2. To analyze the use of ICT to improve operations and services in a transparent manner with the participation of citizens, which will allow the implementation and use of ICTs to bring the state and citizens closer together in encouraging participation in the management of an electronic government as a main source to promote the contribution of society in public management.

2.   Methodology

The review of the article presents a methodology developed based on a qualitative study, collecting the information through the selection of scientific articles referring to the topic under study, exploring different databases using the keywords, without filters (exclusion) and with filters (inclusion), taking into account as items the open access and the years of publication which is detailed below:

Table 1. Search method of selection and amount of collected items

Base of date	Engine of research	Filters Used	Total, of articles		
			No filter (exclusion)	With filter (inclusion)	Selected
Scopus	Electronic government	Year 2018-2022 Open access, Spanish and Portuguese	22,562	1,859	29
Scielo	E-government	Year 2018-2021 Article-Review article, English, Spanish and Portuguese	86	28	9
EBSCO	E-government	Year 2018-2021 Full text, English	308,459	29,123	6
Dialnet	E-government	Year 2018 and 2020 Magazine article, English	1,881	681	2

3.   Results

The information related to the topic of the research was collected, exploring articles indexed and used in different databases, detailed in table 2 shown below:

Table 2. Distributed items used as a similarity according to the year of selection criteria.

Database	Year of publication				Total
	2018	2019	2020	2021	
Scopus	1	13	7	8	29
Scielo	4	0	5		9
EBSCO	0	0	4	2	6
Dialnet	1	0	1		2
Total					46

As results, the most important contributions of the selected articles of the compilation of the databases consulted for the respective study are highlighted, which will contribute to a greater and better understanding and knowledge of the analyzed topic, which is shown below in Table 3:

Table 3. Articles distributed according to relevant contribution

N°	Article title	Relevant Concept/Contribution	Contextualization	Author
1	E-government and accessibility: Availability of service on state online platforms in	Technological systems refer to the set of all factors, variables, interrelated processes that will allow a person to change his	It serves to increase productivity and simplify the various day-to-day processes that occur in different public entities, thus enabling a	De Grande (2020)

	Argentina.	environment, whose main purpose is to simplify a job or perfect his life well-being.	standardized mechanism for knowledge transfer between an office or between units.	
2	Analysis of the e-government initiative at the local government level in the city of Bandung, Indonesia.	The new initiative in the provision of public services, using ICT, must be well communicated and consulted with the executing units.	It allows to achieve better levels of performance, improve the productivity of the country, redesign processes and activate controls.	Rachmawati (2021)
3	E-government in Romania: a case study.	Modernize processes through current computer systems in order to streamline some bureaucratic processes and / or completely eliminate others.	Develop computer systems to increase public services based on a simplification of administrative processes supported by information technology.	Stoica & Bogdan (2020)
4	The informational dimension of Public Administration for Governance and "electronic" and "open" government.	The informational, communicative and technological magnitude, under the triad "information-communication-technology", as new dimensions of public management:	Develop a communication-information-society interlinearn as part of an electronic government, with informational, technological and open government management focused on sustainable development objectives.	Rodriguez (2020).
5	Public policies on e-governance and corruption in Mexico.	Accessibility to information, transparency and monitoring of public institutions by citizens and other actions of public policies of electronic government necessary that cause a positive impact on corruption within public management.	Promote information, clarity in accountability and monitoring of public organizations, impacting on the decrease in corruption.	Vera & Martínez (2020)
6	A forecast of Chinese e-governance.	The electronic services provided, to achieve offices without papers and with greater transparency, responsibility and accessibility, the central and municipal governments.	Leave aside the traditional paper-based service, in an electronic service showing transparency, responsibility and accessibility.	A. Baker et al (2020)
7	Electronic government in the Public Entities of	Current trends in information and communication technologies, and the	Update ICT trends in public management for the good relationship between	Menacho et al (2020)

	Peru.	improvement of the government-to-citizen relationship.	the State and citizens.	
8	Current information technologies in public administration in Russia.	Effectiveness of e-government and interaction in public administration between: 1. State structures and citizens of the country. 2. Government and private companies. 3. Government structures and levels of government.	Have connectivity through electronic government: Inhabitant-state and private organizations-Government organizations and state levels.	Prokofiev et al (2021)
9	Desktop-based population data information system to support Sumbawa Electronic Government in Rhee District.	Software development using the waterfall model and desktop-based programming with Visual Studio and SQL Server as the database of a management system.	Process information in a timely manner providing an optimal service.	Hidayatullah et al (2019)
10	Effectiveness of ICT in promoting e-governance in India.	E-governance has minimized corruption, making its user-related government processes and operations transparent.	The benefits of implementation can be: reduced corruption, more transparency in public administration through faster service, savings in public spending, and reduced time and costs.	Borthakur & Bhuyan (2019)

4. Discussion

The accesses of electronic government with transformational approach in public management since its inception through technological information systems according to Medina (2020), seek to achieve the development and performance of its processes or modern forms of management of public government institutions and their relationship with citizens, companies and government entities. I agree with what was mentioned by Rachmawati (2021), who states that ICT will allow the improvement of services as part of the transformational approach of e-government. It is also similar to what is mentioned by Prokofiev et al (2021) who state that through e-government the application of information technology systems achieves connectivity between inhabitants, private and public organizations and government institutions and their different levels of State. From the investigation of the scope obtained in the study we mention that, as part of the modernization of the State, the different governments, public or private institutions, as well as their citizens must apply and adapt to the new forms of public management through the tools of ICTs, as part of the transformational approach in its processes or new forms of electronic government, in addition to promoting knowledge in society of the study carried out.

The situation of e-government in public management is found in some countries in full development of execution and others in the process of adaptability, despite the deficiencies or digital gaps that may present in their governance. However, Paiva (2019) states that the analysis of e-government in Ibero-American society is uneven despite this there are outgoing

nations, vigilantes and leaders who seek better progress in e-government management. It is also similar to what was mentioned by Kapsa & Musial (2020) who states that in Poland despite the economic deficiencies and the communist system has delayed the technological insertion in the country's public administrations, but its development of electronic government has been having a great impact on the use of services by people and public organizations. coincides with what borthakur & Bhuyan expressed (2019), where the development and growth of nations focus on the use of e-government, thus minimizing acts of corruption and contributing to the transparency of their government processes and operations, in the same way according to A. Baker, et al (2020), in China although its electronic services are delayed, central and local entities make efforts to reform the traditional paper service for service electronic. What is worth mentioning about the results obtained emphasizes the initiatives of each government that has been incorporating, applying and adapting the use of electronic government within its processes, which is essential at the level of its public managers and the institutions representing each government.

Computer systems or e-government access mechanisms have been developed as a transformational approach in public management, which allow to increase public services by simplifying administrative processes and having a better relationship between the different public agents with the citizens Stoica & Bogdan (2020). For its part, Vidiasov & Vidiasova (2021), states that in St. Petersburg the website will allow the solution of cases of public services. In a different way, Niknezhad et al (2020) state, who use blockchain as a system for the exchange and storage of annotations and electronic payment to delimit administrative processes, reducing costs and generating e-government revenues, a different situation expressed by Cordovez et al (2018), who claims that the improvement of e-government will be achieved by applying user-friendliness patterns. The results highlight the different means of access of electronic government that will allow a better connectivity and relationship with the entities involved within public management with ethics and values in their procedures leading them to be more efficient, effective, transparent and of greater performance for citizens, public and private institutions and government instances, generating development and growth in society and nations.

5.   Conclusions

We define electronic government to the use and use of information technologies and the internet in order to achieve public access and transparency of inquiry strengthening society between citizens and the public sector, in this way it would be promoting participation among citizens and the management of governments being this a powerful weapon against corruption.

E-government is linked to the structures and processes created for the provision of e-services depending on a firm commitment from managers, public officials, civil services, political dynamics and judicial and parliamentary functions, where a government that has a broad service delivery model that can interact with different levels of government is required.

For governments it is necessary to develop Apps and systematic programs (blockchain, big data, artificial intelligence, microdata, etc.), in which you have access to electronic government which will facilitate a lot, where people can use their corresponding procedures through their Smartphones, with this governments will be able to interact directly with the user and that better be able to make payments, such as basic services of electricity, water, tenure and property among others, in this way governments would have a greater collection, saving time and a lower cost of operation.

Information technologies cooperate with democracy in the organization of knowledge wealth and innovation in the private and public sector. Digital certificates and signatures are a key element that helps land issues of administrative simplification improving public management. It is necessary to bring good practices of the management and use of an electronic government to the population for greater participation and public transparency and the development of a country.

Conflict of Interest

The authors of the article developed express at all no interest in relation to the activity presented.

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