# Digital Government and Public Management in the Provincial Municipalities of Amazonas, Peru

Juana del Pilar Contreras Portocarrero[1], Yrene Cecilia Uribe Hernández[2], Rosas Carranza Guevara[3], Omer Cruz Caro[4], Alex Javier Sánchez Pantaleón[5], Dennis Brayan Baique Timaná[6], Victor Manuel Valdiviezo Sir[7]

## Abstract

*Digitalization in the entities is a strategic priority for economic development and value generation. Therefore, the objective of the research was to determine the relationship between digital government and public management in the Provincial Municipality of Chachapoyas, Amazonas, Peru. It was a type of applied, explanatory research with a quantitative approach, presenting a non-experimental, cross-sectional correlational design. The population consisted of 65 workers of the Provincial Municipality of Chachapoyas, to whom a survey was applied as part of the data collection, the analysis and modeling of the data was carried out through structural equations based on PLS. The results show that the digital government variable presents a high level with 89.2% and the public management variable at a high level with 74.4%, in addition, the relationship between the variables was demonstrated through the structural model with Rho of 0.871. It concludes that digital government has an influence on public management, since it allows improving efficiency, transparency and citizen participation, through the adoption of digital technologies, streamlining processes, promoting transparency and access to information, encouraging citizen participation and improving the quality of public services.*

**Keywords:** *Digital government, public management, citizen participation, public administration.*

## 1. Introduction

Currently, digitalization in entities is a strategic priority, which for years institutions did not carry out such digitization until the pandemic caused by Covid 19 arrived (Funa et al., 2023). The global health crisis became opportunities for organizations because they implemented digitalization in their management, adapting to changes (Reuschl et al., 2022; Rena et al., 2022). Public and private organizations are beginning to implement digitalization, as we are living in a world of cutting-edge technology, therefore, organizations are taking the path of digitalization (Gallan et al., 2021; Schiuma & Santarsiero, 2023; Zaheer et al., 2022). That is why digital transformation for public and private organizations is no longer an option, but a determining factor to grow and position themselves in the productive ecosystem in times of crisis and post-crisis (Hong Nham et al., 2023; Mishra & Sharma, 2022).

At the international level, with respect to a digital government, in the face of the Covid-19

---

[1] Universidad Cesar Vallejo, Email: jcontrerasp@ucvvirtual.edu.pe, Orcid: https://orcid.org/0000-0001-7201-8996
[2] Universidad Cesar Vallejo, Email: yuribeh@ucvvirtual.edu.pe, Orcid: https://orcid.org/0000-0001-5893-9262
[3] Universidad Nacional Toribio Rodríguez de Mendoza, Email: rosas.carranza@untrm.edu.pe, Orcid: https://orcid.org/0000-0002-5594-8902
[4] Universidad Nacional Toribio Rodríguez de Mendoza de Amazonas, Email: omer.cruz@untrm.edu.pe, Orcid: https://orcid.org/0000-0001-5664-3222
[5] Universidad Nacional Toribio Rodríguez de Mendoza de Amazonas, Email: alex.sanchez@untrm.edu.pe, Orcid: https://orcid.org/0000-0001-5708-272X
[6] Universidad Nacional Toribio Rodríguez de Mendoza de Amazonas, Email: dennis.baique@untrm.edu.pe, ORCID: https://orcid.org/0000-0003-4038-3504
[7] Universidad Nacional Toribio Rodríguez de Mendoza de Amazonas, Email: victor.valdiviezo@untrm.edu.pe, Orcid: https://orcid.org/0000-0003-4348-3076

crisis, 21% who used the internet for their procedures went to 39% and 50% of employees carried out their last procedures in person (Roseth et al., 2021). A digital government is to provide citizens with access to information considering that governments produce large volumes of information and an amount at a time; it is now available through the Web and other electronic means (Androutsopoulou et al., 2019; Berger et al., 2016). In the U.S., there is, FedStats providing access to more than 100 federal units that provide statistical information, 68 million Americans make use of government agency given websites, and more than 50% of households have access to the Internet (Marchionini et al, 2003),

Digitalization is a fundamental strategy for the economic development of an organization; Faced with this, Europe has been promoting mechanisms to improve the digital environment, with simple, secure features and, above all, respecting freedoms (European Union, 2022). However, only 56% of European companies implemented at least four of the twelve digital technologies, most of which small and medium-sized enterprises have implemented a low digital intensity, being a challenge that the European Union hopes to achieve that 90% achieve at least basic digital intensity by 2030 (Content, 2022). In the public sphere, 2,600 million euros are being invested, as part of the digitalization plan for public entities, focusing on the digitalization of public administration as a fundamental part (Skrycky, 2021).

Similarly, in Spain, the administration is taking the path of digitalization, ranking ninth in digitization in 2021, with 94% above the European Union; In addition, 67% of the population actively participates in digital administration services in the different entities as part of the actions implemented by the government (Government of Spain, 2022). The latest digital administration report on Spanish regions shows that 84% have implemented the digital transformation plan, of which ten regions have digital channels at high standards (Pozo, 2022).

The Latin American and Caribbean region ranks as the fourth region in the world with the highest number of users using the internet with 67% of the entire population (United Nations, 2021). By 2019, 73% of the countries in the region had a digital government strategy, but it is still a challenge to advance a digital agenda in governments, since it is recorded that 30% of procedures can be carried out online and only 7% of the population carried out these procedures online (Porrúa, 2019).

To make use of a digital government, you have to have connectivity in homes; Thus, the use of connectivity in Latin American households is growing, it is estimated that by 2020 there is a total of 78.8%, with countries with a low level of connectivity such as Honduras, which registers only 39.3%, followed by El Salvador with 45% and Bolivia with 58.3%. this is an indicator of the digital divide that each government has to implement strategies to reduce and serve the population (Katz et al., 2020).

In Peru, the impact generated by digitalization in the years 2004 to 2013 was 5.3% of the Gross Domestic Product (GDP), the change of entities to digitalization generated a total of 1,150 million dollars in 2018. As of 2022, a total of 250 servers are registered with 300 public entities registered on a digital platform out of a total of 3000, which is an unfavorable indicator for the country (Medina, 2022). Faced with this, it is the primary objective of the State to achieve digital transformation in governments by generating a more efficient, transparent public administration that can offer quality services and less time (Huamán & Medina, 2022).

By 2019, 60% of the population uses the internet, even so, this figure is well below countries such as Chile, Mexico and Colombia (BBVA, 2020). However, digital connectivity is a gap that has to be overcome in many municipal governments, only six departments of the country,

including Ucayali, Tumbes, Tacna, Pasco, Moquegua and Madre de Dios, have 100% of municipalities with internet access, while in regions such as Amazonas, more than 20% of municipalities do not have internet service (ComexPerú, 2020). In addition, only 45% of the population nationwide uses the internet and in the Amazon region only 20% (BBVA, 2022).

The research is relevant since it will contribute to the improvement of a digital government in order to improve public management in the entities, in addition to exposing how the implementation can be improved to avoid bureaucracy, errors, discomfort in the citizenry, providing a quality service. To this end, the general objective is to determine the relationship between digital government and public management in the Provincial Municipality of Amazonas, Peru.

## 2. Theoretical Basis

The importance of a digital government guarantees transparency and compliance with the activities and objectives planned in organizations, for this according to Tomasz, (2015) offers a co-evolution of technology, organizational networks and institutional arrangements to explain the process of government transformation, including internal transformation in government and the transformation of relations between government and actors, through the development of ICT in government. On the other hand, as stated by Alarcón et al. (2020), the changes experienced in the media are the result of technological progress and new social demands, these changes can be understood within the theoretical framework of evolution proposed by Darwin, in which the media emerge gradually through the transformation of the old media; According to this perspective, media does not disappear completely, but continues to evolve and adapt to changing circumstances. In the same way, Palacios (2018) proposes the theory of digital literacy, which describes digital literacy as a set of socio-cognitive skills that allow people to select, process, analyze and interpret the transformation of information into knowledge.

Digital government starts after the implementation of an electronic government, which in turn is like the advance increasingly towards a reform of the new public management as a normative, theoretical and analytical theory that serves as strategies for institutions (Monje, 2018). In other words, it is the use of ICTs in public administration to improve its efficiency and effectiveness (Criado & Gil-García, 2019). An e-government is subject to two aspects, first, changes in public administration through doctrines and normative characteristics and second, the use of ICTs as a process of adoption of management reforms (Peña et al. 2022).

The theory of Governance and E-Government states that the implementation of e-governments requires considering the aspects of the social, economic and political environment with which complex problems are faced, by adopting this theory, governments can move towards more effective and transparent management, strengthening citizen participation and improving decision-making based on collaboration and consensus; In addition, the construction of strategic alliances between the different actors is promoted (Criado et al., 2020).

Governance has become a more influential theory in recent years, it involves providing an approach to the needs of the population through the implementation of programs and policies (Torres, 2019). An electronic government is synonymous with the implementation of ICTs, which is given by the combination of both tangible and intangible information in the entities (Yaneth & Puello, 2019).

A digital government consists of the implementation of digitalization transformation throughout the public administration to create value by accompanying the population closely and closing the gap of their needs, through principles, policies and procedures as part of governance (Legislative Decree No. 1412, 2018).

Public management focuses on explaining how this strategy can improve the performance of government entities (Barrios, 2018). On the other hand, public management is a set of actions that is used to organize, direct, coordinate and, above all, motivate employees to meet the goals and objectives in the political framework of institutions to generate economic and social sustainability (Sánchez et al., 2022; Solarte-Pazos, 2019).

The modernization of public administration, focused on reducing public administration, decentralization and privatization were led by countries such as Chile, Mexico and Argentina, which consists of eradicating associative networks such as unions, business groups, but in practice cooperative intuitions are far from being eradicated or disappearing (Barrios, 2018). It is subject to the context of States, and public management will not be applied to all countries equally (National Institute of Public Administration, 2019).

It is a reality in the entities of the region, the appointment of officials and authorities is for the payment of political favors, where talent and youth are as a secondary value or in some cases are not taken into account; which has hit the results of public administration hard (Sanabria, 2019).

Digital government, known as e-government, is a strategy that promotes the implementation of digital systems, as tools in all the actions of institutions; its purpose is to make maximum use of ICTs and ensure their operation throughout the entity; it is part of the modernization of entities, with the purpose of creating public value (ECLAC, 2022). The dimensions of digital government can be found in the research of Churampi- Cangalaya et al. (2023) where they propose the following dimensions: external dimension; the internal (internal) dimension; the relational dimension and the promotion dimension.

The external dimension refers to the relationship between the government and the citizen so that the population can learn about the different activities carried out by the entity as part of the management, as well as the activities they carry out and the information on the entity's data (Rincón & Vergara, 2018). This dimension includes indicators such as the use of the media and digital media such as web portals and information systems to disseminate activities and processes, the level of interaction established by the mechanisms for measuring the use of ICTs and the level of service to users with the use of ICTs, making the three previous ones a tool for interaction with the user public (Mirabal, 2021). Through the triangulation of these elements, the State can identify the level of relationship with the entity's environment (Burneo & Carrión, 2019). As long as they have the professional skills, they will be able to meet the demands of users, and therefore a higher level of service quality will be built (Izquierdo, 2021; Rivera-Arroyo et al., 2020).

The main objective is the restructuring and redesign of processes and operations, which will allow the search for modernization and efficiency, the use of ICT in the different processes is the organization will allow change within the entities, making it possible to give timely responses to the different requirements of the workers (Mendoza, 2020). This dimension considers aspects such as levels of effectiveness, which refer to the levels of adaptation of staff in the use of ICT to adequately develop their activities in the internal processes of the organization. For the Office of the Comptroller General (2022), the government has the need

and obligation to dynamize, optimize and make transparent the different processes that are developed within public entities, making use of ICTs for public management as a primary fact.

The relational dimension considers the use of ICTs to facilitate relationships with other entities, whether public or private, considering as the main ones with which they maintain the most constant and intense contact (Herrera & Mahecha, 2018). This dimension includes the transparency of information through digital means that allow knowledge of the different services provided by the entity, the increase of the service through the use of virtual platforms that allow a quick and timely interaction in different aspects (administrative and academic). Improving processes, which refers to the constant improvement of the use of the integrated systems managed by the organization in order to make timely decisions (Criado & Gil-García, 2019).

The promotion dimension aims to promote government through the use of ICTs by raising awareness of cultural and social elements, making it possible for entities such as the population to use vital elements to collect information related to their needs (Rincón & Vergara, 2018). This dimension includes the change of the model of care through electronic services by the staff with the use of ICT either totally or partially, an adequate access of users through the use of different tools and systems that intuitively allow an adequate management to interact with the organization (Castells & Valls-Pasola, 2020).

Public management is a system that allows tools to be articulated in the processes in order to achieve a correct application in the performance of a public organization; that is, public management is given by the process and tasks that must be fulfilled to carry out management operations in state institutions, whose objective is to achieve a correct optimization of the gaps in the services provided to the population in a timely manner. effective and quality (Universidad Autónoma del Perú, 2022). For Galindo (2020), it argues that the state and the public administration carry out acts of management, therefore, it is responsible for maintaining public order by satisfying the needs of the user, as well as maintaining economic and social development, complying with commitments and satisfying the needs of citizens and providing solutions to problems at the appropriate time.

Public value is the value created by the State through laws, services, products, which citizens need to receive (Zegarra et al., 2021). It consists of all population-state actors linking up to generate well-being, seeking the same goal for all, leaving aside individual priorities (Barrio & Bravo, 2019).

The public management by result dimension is a management mechanism used by public institutions, with the aim of achieving an effective and integrated generation of public value, with the purpose of prioritizing and ensuring continuous improvement of institutions (Subdirectorate of Capacity Development in State Procurement, 2019). Results-based management consists of strategies to evaluate performance, which in turn serve to implement improvements in favor of institutions; The actions carried out in order to achieve the planned results and obtain the necessary resources are very important (Alarcón et al., 2020).

*The participation dimension*, Palumbo et al. (2022) argue that participation supports and strengthens beliefs, values, and practices between society and the State, allowing the number of public hearings and percentage of trust in citizens. On the other hand, Suito and Ventura (2018) mention that participation presents the following indicators: choosing, handling information, giving opinions on public affairs, constitutional reform, legislative reform, decision-making, monitoring, controlling, referendums and citizen consultations.

## 3. Methodology

The research was explanatory with a quantitative approach of non-experimental correlational cross-sectional design. The population consisted of 65 collaborators from the Provincial Municipality of Chachapoyas, for which a non-probabilistic convenience sampling was used, taking the entire population as a sample (65). To collect the information, the survey was used as a technique and the questionnaire as an instrument.

There were two such questionnaires (digital government and public management). The design of the questionnaires was on a Likert scale in a range of: never (1), almost never (2) sometimes (3); Almost always (4) and always (5). The questionnaires were validated by the judgement of three experts.

The application was in the months of March and April, this questionnaire was prepared using the Google froms form which was sent to the emails of the workers through the human resources area of the municipality.

Once the information was collected, the matrix data was prepared and processed with MS Excel and SPSS version 29.0 applications for descriptive analysis and SmartPLS 3.37 software, and using structural equation model according to the design shown:

**Figure 1:** Research Design.
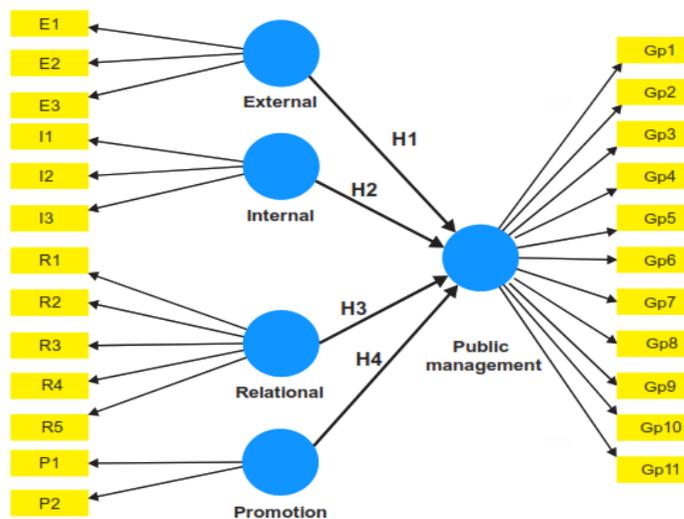


Based on the model described, the following specific hypotheses were formulated:

**Specific hypothesis 1 (H1)** *There is a significant relationship between the external dimension and public management in the Provincial Municipality of Chachapoyas.*

**Specific hypothesis 2 (H2)** *There is a significant relationship between the internal dimension and public management in the Provincial Municipality of Chachapoyas.*

**Specific Hypothesis 3 (H3)** *There is a significant relationship between the relational dimension and public management in the Provincial Municipality of Chachapoyas.*

**Specific Hypothesis 4 (H4)** *There is a significant relationship between the promotion dimension and public management in the Provincial Municipality of Chachapoyas.*

This methodology was applied by Churampi- Cangalaya et al. (2023) in their research article on "Digital government, institutional development and public higher education".

## 4. Results

### 4.1. Data Analysis

**Table 1:** Perception of the Dimensions of Digital Government in the Provincial Municipality.

| | | External | | Internal | | Relational | | Promotion | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | f | % | f | % | f | % | f | % | f | % |
| Digital Government | High | 65 | 100 | 63 | 96.9 | 63 | 96.9 | 41 | 63.1 | 58 | 89.2 |
| | Middle | 0 | 0 | 2 | 3.1 | 2 | 3.1 | 22 | 33.8 | 6.5 | 10 |
| | Low | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3.1 | 0.5 | 0.8 |
| Total | | 65 | 100 | 65 | 100 | 65 | 100 | 65 | 100 | 65 | 100 |

**Note:** Questionnaire on Digital Government in the Provincial Municipality.

Table 1 shows the levels of the digital government variable by dimensions; of which the external dimension presents a high level with 100%, demonstrating that the entity has a good interaction with citizens, through the information media and digital media. Regarding the internal dimension, it is observed that the Municipality presents a high level with 69.9% followed by a medium level with 3.1%, which shows that the entity has improved its management and operational processes, which makes it in constant search of modernization and efficiency in the public management process.

The relational dimension is observed at a high level with 96.9% followed by 3.1% at a medium level. This shows that the Municipality has a good level in the management of ICTs for the linking of activities with other entities, maintains a transparency of information towards the population and allows to publicize the different procedures and activities carried out by the entity through the use of virtual platforms that bring the population closer.

As for the promotion dimension, it is observed at a high level with 63.1%, followed by a medium level with 33.8% and only 3.1% at a low level. This demonstrates that the Municipality must improve aspects and processes of promotion of cultural and social activities through the use of ICTs, making it possible for both the entity and the population to use virtual media to interact and keep informed about the management and needs of the population.

In summary, the digital government variable represents its four dimensions (external, internal, relational and promotion dimensions). It is observed in the table, at a high level with 89.2% followed by a medium level with 10% and only 0.8% at a low level.

**Table 2:** Dimensions of Public Management in the Provincial Municipality.

| | | Public Value | | Public management by results | | Participation | | Total | |
|---|---|---|---|---|---|---|---|---|---|
| | | f | % | f | % | f | % | f | % |
| Public management | High | 59 | 90.8 | 44 | 67.7 | 42 | 64.6 | 48 | 74.4 |
| | Middle | 6 | 9.2 | 21 | 32.3 | 23 | 35.4 | 17 | 25.6 |
| | Low | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | | 65 | 100 | 65 | 100 | 65 | 100 | 65 | 100 |

**Note.** Questionnaire on Public Management in the Provincial Municipality.

The public value dimension is shown at a high level with 90.8% followed by a medium level with 9.2%. Which demonstrates that the entity as part of public management, the entity's collaborators show leadership and in the entity practices process-based management, the entity allows the development of competencies and skills in its workers and rewards are practiced for the good performance of functions.

Regarding public management by results, it can be observed that the Municipality is at a high level with 67.7%, followed by a medium level with 32.3%. Demonstrating that the entity has a good service to the population, ensuring effective citizen participation, providing public services according to needs and ensuring the transparency of the entire management process.

The participation dimension has a high level with 64.6%, followed by a medium level with 35.4%. Thus demonstrating that the Municipality maintains a climate of participation with the population, maintaining good information that allows the population to give their opinion on public affairs, in participation in referendums and reforms, in participation in the budget and participation in accountability; in order for the entity to improve management.

As for the public management variable, it is observed at a high level with 74.4% followed by a medium level with 25.6%, which shows that the Municipality has good management in terms of the processes of attending to the needs of the population, allowing the population itself to participate in it by providing all the information through the virtual platforms implemented by the entity.

## 4.2. Model Confirmation

Table 3 shows the confirmation of the model, where Cronbach's alpha and composite reliability determined the reliability of the model. Based on the data obtained and according to Ortiz & Fernández-Pera (2018), the internal consistency is adequate since the value of Cronbach's alpha is greater than 0.9 in all cases; in addition, the composite reliability coefficients are above the value of 0.9, which evidences a very satisfactory composite reliability (Useche et al., 2022). On the other hand, construct validity is analyzed by discriminant validity and convergent validity Salgado & Espejel (2016) the AVE coefficient provides the variance between a construct and its indicators, according to (Escobedo et al., 2016; Hair et al., 2017) the criterion is taken to accept those items whose value is greater than or equal to 0.5. The research shows mean values greater than 0.5, indicating that there is adequate convergent validity. Discriminant validity is obtained on the square roots of the AVE and is compared with the correlations between latent variables. The model by which research is measured is presented in the following table:

**Table 3** Confirmation of the Model According to the Dimensions.

| | Reliability | | Extracted Variance | | Discriminant validity | | | |
|---|---|---|---|---|---|---|---|---|
| | Alpha Cronbach | Composite Reliability | Average variance extracted (AVE) | Gp | D.E. | D.I. | D.R. | D.P. |
| Digital Government | 0.965 | 0.956 | 0.782 | 0.933 | | | | |
| External Dimension | 0.932 | 0.945 | 0.810 | 0.921 | 0.948 | | | |
| Internal Dimension | 0.938 | 0.948 | 0.906 | 0.983 | 0.979 | 0.953 | | |
| Relational Dimension | 0.943 | 0.951 | 0.782 | 0.851 | 0.843 | 0.851 | 0.832 | |
| Promotion Dimension | 0.925 | 0.933 | 0.755 | 0.989 | 0.883 | 0.861 | 0.838 | 0.944 |
| Reference values | >0.7 | >0.7 | >0.5 | | | | | |

According to the results obtained in Figure 2, the rejection or acceptance of the specific hypotheses formulated was established. According to the results obtained, hypotheses 1, 2, 3

and 4 are captured. The hypotheses show a positive relationship on public management (Gp), since the values are as follows: External Dimension (SD) β = 0.291, p = 0.000. Internal dimension (I.D.) β = 0.289, p = 0.028. Relational dimension (R.D.) β = 0.301, p = 0.023 and Promotion dimension (P.D.) β = 0.253, p = 0.000. Accepting all the relationships between the dimensions of digital governance and public management. Also, the SRMR (Standardized Root Mean Square Residual), which is the absolute measure of fit between the predicted correlation and the observed observed correlation. For Escobedo et al. (2016) the SRMR should have values between 0 (perfect fit) and 0.08 (good fit), the SRMR value obtained for the research was 0.071, which indicates a good fit, as shown:

| Hypothesis | Mean sample | Standard deviation | Path beta value | Student's t statistic | P value | Decision |
|---|---|---|---|---|---|---|
| H1: D.E Gp | 0.357 | 0.253 | 0,291 | 3.365 | 0.000 | Accept |
| H2: D.I Gp | 0.342 | 0.233 | 0.289 | 2.552 | 0.028 | Accept |
| H3: D.R Gp | 0.438 | 0.431 | 0.301 | 4.265 | 0.023 | Accept |
| H4: D.P Gp | 0.199 | 0.271 | 0.253 | 2.891 | 0.000 | Accept |

t > 1.96; p < 0.05.

**Figure 2** Structural Model With Research Results.
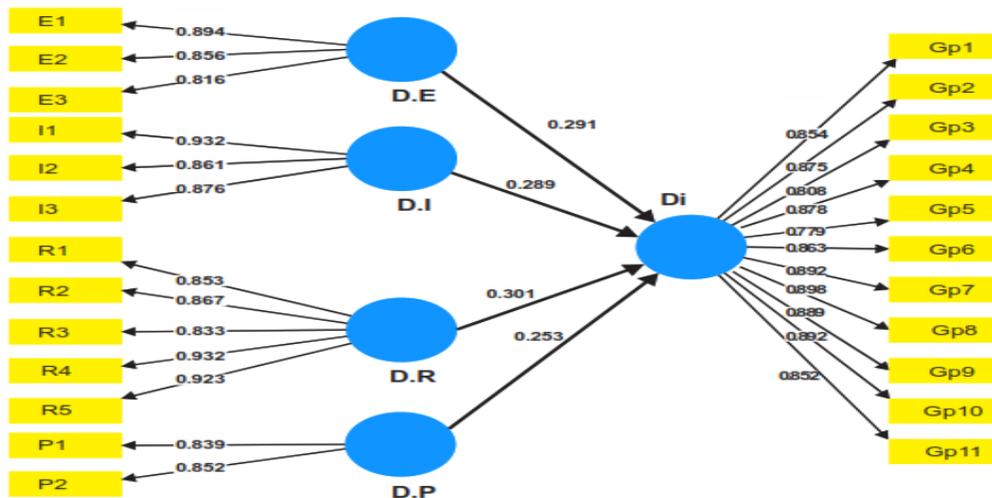


The figure shows a relationship between variables, which accepts all hypotheses, also demonstrating that digital government has a direct relationship in public management.

## 5. Discussions

The digital government variable, represented by its four dimensions (external, internal, relational and promotion dimensions), is shown at a high level with 89.2%, demonstrating that the entity is on the path of modernization through the use of ICTs in all the processes and management carried out by the entity in favor of the population. This result is contradictory to what was found by Cosquillo (2022) where he shows that digital government has an average level with 50%, demonstrating that the entity must continue to improve its activities and continue modernizing. Similarly, Barco (2019) states that there are deficiencies in management,

this is due to the fact that rules and regulations in public entities are not being taken into account; Such is the case of regulations focused on transparency and access to the information provided to society.

But there is similarity with Valenzuela (2021) where he found digital government at a high level with 95.5%, Electronic Government is a radical change in government management that completely transforms the structure of government. In this sense, the research carried out by Boscán (2021) supports the claim that the main objective of digital government is to transform government management through a paradigm shift. This approach comprehensively combines ICT with management, planning and administration strategies. We also agree with Manríquez (2019) who argues that the incorporation of technology by public entities has a positive impact on the progress and quality of life of society. State-of-the-art technological tools and applications are recognized as playing a strategic role in establishing links between citizens and government, facilitating communication and citizen participation.

As for the public management variable, it is observed at a high level with 74.4%, which shows that the Municipality has a good management in terms of the processes of attention to the needs of the population, allowing the population itself to participate in it by providing all the information through the virtual platforms implemented by the entity. These results are similar to those of Flores (2021) where they state that an efficient and effective administration in the public sector must focus on meeting the needs of citizens through adequate management of available resources. Similarly, with the results of Paco (2021) where he found public management at a high level with 64.3%, which shows that the importance of good public management lies in its ability to meet the needs of society, promote the well-being of citizens and guarantee sustainable development.

A relationship was also found between the variables and the dimensions, which shows that digital government has an influence on public management with very high degrees of correlation. Finding similarity with Valenzuela (2021) where he demonstrated a connection between digital government and administrative management, which yielded a value of 0.748, indicating a moderate positive correlation. This result is considered close to the maximum value, which places this correlation in first place in terms of proximity. Similarly, Moreno (2021) demonstrated in his results the statistical analysis, which was able to verify that, when performing the bilateral test, he obtained a relationship coefficient ($r = 0.506$), and a significance of a p-value of 0.000. Similarly, with Huerta (2022) who discovered that there is a strong positive correlation between digital government and public management, which was concluded from a significance value of 0.000 and a correlation coefficient of 0.846.

## 6. Conclusions

The research has been able to show that the implementation of a digital government in the Provincial Municipalities will considerably improve public management, turning it into an entity that provides services efficiently and responsibly with the support of society, also the implementation of digital government must be carried out from the external, internal, relational and promotion dimensions; since the indicators that cover these missions allow us to know the degree of implementation and the level of development of the institution. In this sense, it is necessary to consider that public management allows for the improvement of efficiency, transparency and citizen participation, through the adoption of digital technologies, streamlining processes, promoting transparency and access to information, encouraging citizen

participation and improving the quality of public services. In addition, digital government drives innovation and technological development in public administration.

# References

Alarcón, R., Salvador, Y. & Pérez, M. (2020). The public value chain in the evaluation of the management result in local governments. *Advances, 22*(3). https://www.redalyc.org/articulo.oa?id=637869117003

Alarcón, R., Salvador, Y. & Pérez, M. (2020). The public value chain in the evaluation of the management result in local governments. *Advances, 22*(3). https://www.redalyc.org/articulo.oa?id=637869117003

Androutsopoulou, A., Karacapilidis, N., Loukis, E., & Charalabidis, Y. (2019). Transforming the communication between citizens and government through AI-guided chatbots. *Government Information Quarterly, 36*(2), 358–367. https://doi.org/10.1016/J.GIQ.2018.10.001

Barco, C. (2019). *Strategies in the implementation of e-government to improve public management at the Pedro Ruiz Gallo National University of Lambayeque* [Undergraduate thesis, Señor de Sipán University]. Institutional repository. https://repositorio.uss.edu.pe/handle/20.500.12802/6320

Barrio, D., & Bravo, A. (2019). *Generating public value through transparency.* https://www2.congreso.gob.pe/sicr/cendocbib/con4_uibd.nsf/3a0e8b56b517d25905258030007bbd7c/$file/barrivas.pdf

Barrios, Z. (2018). Theory to improve public management. *UNICA Journal of Arts and Humanities, 9*(22), 132-149. http://www.redalyc.org/articulo.oa?id=170118859008

Barrios, Z. (2018). Theory to improve public management. *UNICA Journal of Arts and Humanities, 9*(22), 132-149. http://www.redalyc.org/articulo.oa?id=170118859008

BBVA. (2020). *Digitalization: What has been done in Peru and what are the challenges ahead?* https://www.bbva.com/es/pe/digitalizacion-que-se-ha-hecho-en-peru-y-cuales-son-los-retos-a-futuro/

BBVA. (2022). *Peru: Advances in digitalization.* https://www.bbvaresearch.com/wp-content/uploads/2022/11/Peru_Avances-en-digitalizacion_nov-17I.pdf

Berger, J. B., Hertzum, M., & Schreiber, T. (2016). Does local government staff perceive digital communication with citizens as improved service? *Government Information Quarterly, 33*(2), 258–269. htps://doi.org/10.1016/j.giq.2016.03.003

Boscán, M. (2021). *E-government and public management.* http://www11.urbe.edu/boletines/postgrado/?p=1432

Burneo, E., & Carrión, D. (2019). *The use of ICTs in the Municipal GAD of Loja and its impact on public management processes.* University of Loja - Ecuador. https://dspace.unl.edu.ec/handle/123456789/10059

Castells, P. E., & Valls-Pasola, J. (2005). *Technology and innovation in the company.* https://www.researchgate.net/publication/260210824

ECLAC. (2022). *From digital government to smart government.* https://biblioguias.cepal.org/gobierno-digital/defniciones

Churampi-Cangalaya, R. L., Inga-Ávila, M. F., Huamán-Pérezc, F., Peña-Rojasb, A. C., Churampi-Cangalayad, J. J. & Ulloa-Ninahuama, J. (2023). Digital government, institutional development and public higher education. *International Journal of Data and Network Science,* (7), 865–872. http://www.growingscience.com/ijds

ComexPeru. (2020). *Digital Transformation in Peru.* https://www.comexperu.org.pe/articulo/transformacion-digital-en-el-peru-estamos-listos

Content, P. (2022). *In Europe, digitalization is accelerating the pace to create more resilient businesses.* https://es.euronews.com/next/2022/09/28/en-europa-la-digitalizacion-esta-acelerando-el-ritmo-para-crear-negocios-mas-resilientes

Office of the Comptroller General. (2022). *What does accountability to the Office of the Comptroller General of the Republic consist of?.* https://www.gob.pe/12308-en-que-consiste-la-rendicion-de-cuentas-a-la-contraloria-general-de-la-republica

Tickle, S. (2021). Digital government and municipal management in the municipality of Tarma - Junín for the period 2019-2020. *Scientific Magazine, 6*(22), 332-344. https://www.indteca.com/ojs/index.php/Revista_Scientific/article/view/831/1343

Criado, J. & Gil-García, J. (2019). Electronic Government, Management and Public Policies: Current Status and Future Trends in Latin America. *Management and public policy, 22.* https://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S1405-10792013000400001

Legislative Decree No. 1412. (2018). *Legislative decree approving the Digital Government Law.*

Escobedo, M. T., Hernández, J. A., Estebané, V. & Martínez, G. (2016). Structural equation modeling: Features, phases, construction, implementation and results. Science & Work, 18(55). http://dx.doi.org/10.4067/S0718-24492016000100004

Flores, Y. A. (2021). E-government and public management. *Ciencia Latina Multidisciplinary Scientific Journal, 5*(6), 13807- 13821. https://doi.org/10.37811/cl_rcm.v5i6.1359

Funa, A. A., Gabay, R. A. E., Deblois, E. C. B., Lerios, L. D., & Jetomo, F. G. J. (2023). Exploring Filipino preservice teachers' online self-regulated learning skills and strategies amid the COVID-19 pandemic. *Social Sciences & Humanities Open*, *7*(1), 100470. https://doi.org/10.1016/j.ssaho.2023.100470

Galindo, M. (2000). *Theory of Public Administration.* https://repositorio.uesiglo21.edu.ar/bitstream/handle/ues21/12816/teoria%20de%20la%20administracion%20publica.pdf?sequence=1

Gallan, A. S., Kabadayi, S., Ali, F., Helkkula, A., Wu, L., & Zhang, Y. (2021). Transformative hospitality services: A conceptualization and development of organizational dimensions. *Journal of Business Research*, *134*, 171–183. https://doi.org/10.1016/j.jbusres.2021.05.028

Government of Spain. (2022). *How is digital transformation evolving in Spain?* https://datos.gob.es/es/noticia/como-evoluciona-la-transformacion-digital-en-espana

Hair, J., Hult, T., Ringle, C., & Sarstedt, M. (2017). *A Primer on Partial Least Square Structural Equation Modeling* (PLS SEM). California, United States: Sage.

Herrera, W., & Mahecha, I. (2018). Transparency, public reason and accountability in companies. *VERITAS*, (41). https://www.scielo.cl/pdf/veritas/n41/0718-9273-veritas-41-00039.pdf

Hong Nham, N. T., Mai Hoa, T. T., & Ha, L. T. (2023). Influences of digitalization on sustaining marine minerals: A path toward sustainable blue economy. *Ocean & Coastal Management*, *239*, 106589. https://doi.org/10.1016/J.OCECOAMAN.2023.106589

Huamán, P. & Medina, C. (2022). Digital transformation in public administration: challenges for active governance in Peru. *Comuni@cción: Journal of Communication & Development Research, 13*(2), 93-105. https://doi.org/10.33595/2226-1478.13.2.594

Huerta, D. A. (2022). *E-government and its relationship with public management in the Regional Government of Lima - period 2016-2019* [Master's Thesis, Center for Higher National Studies]. Institutional repository. https://renati.sunedu.gob.pe/bitstream/

National Institute of Public Administration. (2019). *Modernization of the State: The Way Forward.* https://www2.congreso.gob.pe/sicr/cendocbib/con4_uibd.nsf/60215c4f9ee653e105257de700740989/$file/1685.pdf

Izquierdo, J. R. (2021). The quality of service in the Public Administration. *Business Horizon, 8*(1), 425–437. https://doi.org/10.26495/rce.v8i1.1648

Katz, R., Jung, J., & Callorda, F. (2020). *The state of digitalization in Latin America in the face of the COVID-19 pandemic.* https://scioteca.caf.com/bitstream/handle/123456789/1540/el_estado_de_la_digitalizacion_de_america_latina_frente_a_la_pandemia_del_covid-19.pdf

Manríquez, A. (2019). *The use of ICT in communication with citizens: diagnosis of local government web portals in Mexico* [PhD thesis, Complutense University of Madrid]. Institutional repository. https://eprints.ucm.es/id/eprint/50692/1/T40750.pdf

Marchionini, G., Samet, H., & Brandt, L. (2003). *Digital government.* http://www.cs.umd.edu/~hjs/pubs/marchioninicacm03.pdf

Medina, H. (2022). *Digitalization in the Public Administration of Peru.* https://economica.pe/la-digitalizacion-en-la-administracion-publica/

Mendoza, A. (2020). Public administration, citizenship and transparency. *Euro-Latin American Journal of Administrative Law, 7*(2), 227-240. https://doi.org/10.14409/redoeda.v7i1.9325

Mirabal, A. (2021). Quality of service. *Compendium, 24*(46). https://www.redalyc.org/articulo.oa?id=88067978001

Mishra, V., & Sharma, M. G. (2022). Digital transformation evaluation of telehealth using convergence, maturity, and adoption. *Health Policy and Technology*, *11*(4), 100684. https://doi.org/10.1016/j.hlpt.2022.100684

Monje, P. (2018). The professionalization of the Public Administration: a permanent challenge. *Revista Enfoques, 3*(4). http://www.revistaenfoques.cl/index.php/revista-uno/article/view/263

Moreno, D. A. (2021). *Digital Government and Administrative Management in the Provincial Municipality of Huallaga, 2020* [Master's Thesis, Universidad Cesar Vallejo]. Institutional repository. https://repositorio.ucv.edu.pe/handle/20.500.12692/56792

United Nations (2021). *Data and facts about digital transformation.* https://www.cepal.org/sites/default/files/publication/files/46766/S2000991_es.pdf

Ortiz, M. & Fernández-Pera, M. (2018). Structural Equation modeling: A guide for Medical and Health sciences. *Psychological Therapy, 36*(1). http://dx.doi.org/10.4067/s0718-48082017000300047

Paco, W. F. (2021). *E-Government and Administrative Management in the Administration and Finance Management of the District Municipality of Yauli of 2019* [Master's Thesis, National University of Huancavelica]. Institutional repository. https://repositorio.unh.edu.pe/items/1cafbb4b-df8a-45e2-b081-421164955005

Palacios, R. M. (2018). *Proposal for a technological immersion workshop for the development of the digital literacy capacity of the students of the academic research subject 2017-II, UTP Chiclayo* [Master's Thesis, Pedro Ruiz Gallo National University]. Institutional repository. BC-4268 diaz.pdf Palaces (unprg.edu.pe)

Palumbo, G. B., Tejada Estrada, G. C., Inche Mitman, J. L., & Gomero Mancesidor, J. M. (2022). Citizen participation and public management in Lima, Peru. *Revista Venezolana de Gerencia*, *27*(100), 1474–1488. https://doi.org/10.52080/rvgluz.27.100.12

Peña, A., Álvarez, F., & Gallardo, G. (2022). *E-government and its relationship with public management in the Regional Government of Lima – period 2016-2019* [Master's Thesis, Center for Higher National Studies]. Digital archive. https://renati.sunedu.gob.pe/bitstream/sunedu/3129961/1/tesis%20d.%20huerta%20.pdf

Porrúa, M. A. (2019). *The Digital Agenda in Latin America: Progress at Different Speeds.* https://blogs.iadb.org/administracion-publica/es/la-agenda-de-gobierno-digital-en-america-latina/

Pozo, C. (2022). *The path towards digitalisation of the Spanish Administration: progress, setbacks and pending objectives.* https://www.rtve.es/noticias/20220803/camino-digitalizacion-administracion-espanola/2388423.shtml

Rena, Yadav, S., Patel, S., Killedar, D. J., Kumar, S., & Kumar, R. (2022). Eco-innovations and sustainability in solid waste management: An indian upfront in technological, organizational, start-ups and financial framework. *Journal of Environmental Management, 302*, 113953. https://doi.org/10.1016/j.jenvman.2021.113953

Reuschl, A. J., Deist, M. K., & Maalaoui, A. (2022). Digital transformation during a pandemic: Stretching the organizational elasticity. *Journal of Business Research, 144, 1320–1332. https://doi.org/10.1016/j.jbusres.2022.01.088*

Rincón, E., & Vergara, C. (2018). *Electronic Public Administration: Towards the Electronic Administrative Procedure.* https://doi.org/http://doi.org/10.12804/tj9789587388275

Rincón, E., & Vergara, C. (2018). *Electronic Public Administration: Towards the Electronic Administrative Procedure.* https://doi.org/http://doi.org/10.12804/tj9789587388275

Rivera-Arroyo, J. K., Araya-Castillo, L. & Ganga-Contreras, F. (2020). Bibliometric analysis of service quality research. *Interciencia, 46*(11), 404-415. https://www.redalyc.org/articulo.oa?id=33969826002

Roseth, B., Reyes, A. M., & Amézaga, K. Y. (2021). *Public Services and Digital Government During the Pandemic: Perspectives from Citizens, Officials, and Public Institutions.* www.shutterstock.com

Salgado, L. & Espejel, J. E. (2016). Analysis of the study of causal relationships in marketing. *Innovate, 26*(62), 79-94. https://doi.org/10.15446/innovar.v26n62.59390

Sanabria, P. (2019). *Strategic Management of Human Talent in the Public Sector: State of the Art, Diagnosis and Recommendations for the Colombian Case.* https://www.funcionpublica.gov.co/eva/admon/files/empresas/zw1wcmvzyv83ng==/imgproductos/gestion_estrategica_talento_humano_sectorpublico.

Sanchez, A. J., Cruz, O., Sanchez, F. R., & Cueva, E. (2022). Management Competencies in Municipalities in Peru. *Revista Venezolana de Gerencia, 27*(99), 1183-1195. https://doi.org/10.52080/rvgluz.27.99.21

Schiuma, G., & Santarsiero, F. (2023). Innovation labs as organisational catalysts for innovation capacity development: A systematic literature review. *Technovation, 123*, 102690. https://doi.org/10.1016/j.technovation.2023.102690

Skrycky, M. (2021). *Public Administrations take a leap towards digitalization.* https://www.expansion.com/economia/2021/10/26/61772ea5e5fdeaa2338b4572.html

Solarte-Pazos, L. (2019). Management and behavioral theory from the perspective of the human sciences: a look from interdisciplinarity. *Cuadernos de Administración, 19*(31). http://www.scielo.org.co/scielo.php?pid=S0120-35922006000100009&script=sci_arttext

Subdirectorate of Capacity Building in State Procurement, 2019). *Results-based management in public procurement.* https://portal.osce.gob.pe/osce/sites/default/files/Documentos/Capacidades/Materiales/Gest_por_resul1.pdf

Suito, M., & Ventura, G. (2018). *Guide to Citizen Participation in Peru.* https://www2.congreso.gob.pe/sicr/cendocbib/con4_uibd.nsf/b3465d6f1868627205257cd7005de4b8/$file/1_pdfsam_guia_de_participacion_ciudadana.pdf

Tomasz, J. (2015). Digital government evolution: From transformation to contextualization. *Government Information Quarterly, 32*(3), 221-236. https://doi.org/10.1016/j.giq.2015.07.001

European Union. (2022). *A digital future for Europe.* https://www.consilium.europa.eu/es/policies/a-digital-future-for-europe/

Universidad Autónoma del Perú. (2022). *What is Public Management?* https://www.autonoma.pe/comunidad/blogs/que-es-gestion-publica/

Useche, S. A., Alonso, F., Boyko, A., Buyvol, P., Castañeda, I., Cendales, B., Cervantes, A., Echiburu, T., Faus, M., Feitosa, Z., Gene, J., Gonzalez-Marin, A., Gonzalez, V., Gnap, J., Ibrahim, M. K., Janstrup, K. H., Javadinejad, A., Makarova, I., McIlroy, R., ... Montoro, L. (2022). Cross-culturally approaching the cycling behaviour questionnaire (CBQ): Evidence from 19 countries. *Transportation Research Part F: Traffic Psychology and Behaviour*, *91*, 386–400. https://doi.org/10.1016/J.TRF.2022.10.025

Valenzuela, M. C. (2021). *Digital government and its relationship with the modernization of administrative management in the IT division of the information and communications technology directorate of the Peruvian National Police (DIRTIC PNP), 2021* [Master's Thesis, Universidad Peruana de las Américas]. Institutional repository. http://repositorio.ulasamericas.edu.pe/bitstream/handle/upa/2125/tmaestria_valenzuela%20neyra%20marilyn.pdf?sequence=1&isallowed=y

Yaneth, M., & Puello, J. (2019). *Learning theories under the ICT magnifying glass.* http://portal.amelica.org/ameli/journal/226/226955009/226955009.pdf

Zaheer, H., Breyer, Y., Dumay, J., & Enjeti, M. (2022). The entrepreneurial journeys of digital start-up founders. *Technological Forecasting and Social Change*, *179*, 121638. https://doi.org/10.1016/J.TECHFORE.2022.121638

Zegarra, W., Olano, D., Lluncor, M., & Cacho, A. (2021). Public value, fundamental characteristics in the new public management. *Pakamuro Scientific Journal, 9*(1), 21-30. https://doi.org/10.37787/pakamuros-unj.v9i1.160