OPEN GOVERNMENT AS A STRATEGY TO STRENGTHEN MUNICIPAL E-GOVERNANCE IN A DISTRICT OF LAMBAYEQUE, 2024

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ABSTRACT

This research is aligned with Sustainable Development Goal 17, Partnerships for the Goals, and examines open government as a strategy to strengthen municipal e-governance in a district of Lambayeque, Peru. The study used an applied, quantitative, non-experimental, descriptive-propositional design. The target population comprised 1,726 people who had used the municipal area under study, and a simple random sample of 509 adult citizens who managed virtual documents participated. Data were collected through a structured ordinal questionnaire validated by expert judgment; the thesis reports Cronbach's alpha reliability above 0.800. Descriptive analysis was performed with Excel and SPSS version 27. Municipal e-governance was predominantly rated at a medium level (62.9%), while 28.3% corresponded to a low level and 8.8% to a high level. Service digitalization was medium in 59.7% of responses, with 35.0% at a low level. Technological accessibility was medium in 60.9%, but 36.1% remained low, and information security was medium in 60.1%, with 36.0% low. The consolidated critical-gap estimate was approximately 33.9%, indicating persistent weaknesses in digital infrastructure, service integration, accessibility, cybersecurity and citizen-facing governance. Based on these findings, an open-government model was formulated around four operational priorities: transparency, citizen participation, accountability and institutional culture. The proposal combines active publication of public information, digital and face-to-face consultation, accessible reporting channels, staff training and open-government protocols. The findings indicate that municipal digital transformation requires not only technology, but also institutional openness, inclusive participation, information security and sustained accountability.

KEY WORDS: Open government, municipal e-governance, e-government, ICT, digital services, citizen participation, transparency.

I. INTRODUCTION

Open government has become a relevant approach for strengthening local public management because it connects transparency, citizen participation and accountability with collaborative decision-making. In the thesis, this approach is linked to Sustainable Development Goal 17 and its emphasis on effective partnerships among public institutions, civil society and other stakeholders. Digital government expands this agenda by allowing citizens to obtain public information, carry out procedures, participate in consultations and monitor government action through electronic channels [1], [5].

In Latin America, implementation has been uneven. Research cited in the thesis reports persistent obstacles related to organizational culture, resistance to change, limited technological and human resources, low disclosure of public information and insufficient citizen participation [1]-[3]. These conditions can weaken trust and reduce the effectiveness of local public policies. The Peruvian context shows similar problems: regional and local governments have made progress in open-data and e-government practices, but digital maturity, transparency and citizen interaction remain heterogeneous [3], [4].

Municipal e-governance refers to the incorporation of digital technologies into administrative processes and public services in order to improve the relationship between local government and citizens. The construct examined in the thesis includes three operational dimensions: service digitalization, technological accessibility and information security. Open government, in turn, is organized around transparency, citizen participation and accountability. Together, these dimensions describe both the technical capacity of a municipality and the institutional conditions required for legitimate, inclusive and trustworthy digital governance [5]-[8].

The research question asked how open government, as a strategy, could strengthen municipal e-governance in a district of Lambayeque in 2024. The general objective was to propose an open-government strategy for that purpose. Specific objectives were to determine the level of municipal e-governance, service digitalization, technological accessibility and information security, and to design a strategy that responds to the identified gaps.

II. METHODOLOGY

The study was applied and quantitative, with a non-experimental design and a descriptive-propositional scope. The variables were observed in their natural setting without manipulation, and the diagnostic results were used to formulate a practical intervention proposal. This design follows the methodological approach described in the thesis for studies that quantify current conditions and subsequently develop a solution framework [12].

The population comprised 1,726 people who had frequented the area under study, according to information provided by the information-technology management unit. The sample included 509 adults who managed virtual documents and agreed to participate. Simple random sampling was used. The survey was the

data-collection technique, and an ordinal questionnaire served as the instrument. Three specialists reviewed the instrument for content validity, and reliability was assessed with Cronbach's alpha, reported as greater than 0.800. The thesis also cites the importance of a representative sample for the validity of quantitative findings [13].

Data were processed using descriptive statistical procedures, with tables prepared in Microsoft Excel and SPSS version 27. Ethical procedures followed the Universidad César Vallejo research ethics code (RS. 470-2024-UCV). Participation was voluntary; the study emphasized non-maleficence, equity, beneficence, responsible use of information and compliance with authorship and citation standards.

III. RESULTS

The overall municipal e-governance indicator was predominantly medium: 320 of 509 responses (62.9%) were classified at the medium level, 144 (28.3%) at the low level and 45 (8.8%) at the high level. This pattern indicates partial progress in the use of technologies and digital platforms, while also showing that fully integrated, interoperable and citizen-oriented e-governance remains limited.

Service digitalization showed a similar distribution. A medium level represented 59.7% of responses, while 35.0% were low and only 5.3% were high. The thesis interprets this as evidence that basic portals and electronic procedures are present, but automation, interoperability and advanced self-service functions remain insufficient. Technological accessibility was rated medium in 60.9% of responses; however, 36.1% were low and only 3.0% high, indicating a persistent digital-access gap associated with infrastructure, connectivity and digital skills.

Information security was medium in 60.1% of responses, low in 36.0% and high in 3.9%. The thesis notes that basic safeguards such as passwords, antivirus tools or backup protocols may exist, but that many environments still lack comprehensive cybersecurity policy, structured auditing, risk-management culture and continuing security training. These weaknesses can threaten data confidentiality, integrity and availability and may also reduce citizen trust in digital public services.

TABLE 1. LEVELS OF MUNICIPAL E-GOVERNANCE AND ITS DIGITAL DIMENSIONS

Indicator	Low (%)	Medium (%)	High (%)
Municipal e-governance	28.3	62.9	8.8
Service digitalization	35.0	59.7	5.3
Technological accessibility	36.1	60.9	3.0
Information security	36.0	60.1	3.9

Source: adapted from the thesis results (n = 509).

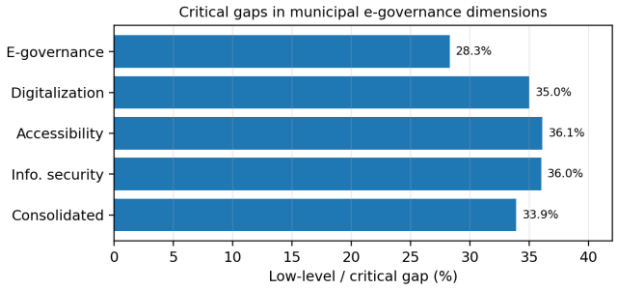


Figure 1. Low-level and consolidated critical gaps reported in the study.

The consolidated gap analysis estimated that approximately 33.9% of the essential components required for adequate municipal e-governance remained in a critical condition. The largest gaps were technological accessibility (36.1%), information security (36.0%) and service digitalization (35.0%). The e-governance indicator itself showed a lower but still substantial low-level share of 28.3%. The thesis therefore characterizes fragmentation and variability in digital maturity as central risks to the sustainability of local digital transformation.

IV. DISCUSSION

The results show a pattern of intermediate digital development rather than fully consolidated municipal e-governance. Basic web portals, electronic procedures and digital communication channels appear to be present, but the medium-level classifications suggest that these components have not yet been integrated into a mature digital ecosystem. This interpretation is consistent with research on digital government that emphasizes the difference between simply adopting technology and establishing interoperable, citizen-centered and institutionally sustainable digital governance [1], [8], [9].

The 35.0% low level in service digitalization indicates that a substantial group of users still experiences limited automation and incomplete digital procedures. Open government can contribute to addressing this problem when digitalization is accompanied by clear public information, reusable data and opportunities for citizens to evaluate service quality. Studies included in the thesis link open-government practices with public trust, transparency and the ability to create public value through digital interaction [4]-[6].

Technological accessibility presents the largest specific gap (36.1%). Digital services cannot strengthen governance if connectivity, devices, digital literacy or interface usability exclude significant sectors of the population. Municipal digital-transformation frameworks therefore require both infrastructure and inclusion strategies [9], [10]. In parallel, the 36.0% low level of information security reveals a structural vulnerability. The legitimacy of e-governance depends on citizens trusting that personal, administrative and financial data are protected. Contemporary municipal data-management research likewise emphasizes governance arrangements, interoperability and secure data-sharing practices [8], [11].

Taken together, the findings support the thesis premise that digital transformation is inseparable from

institutional openness. Technology provides channels, but transparency determines whether information is visible and understandable; participation determines whether citizens can influence decisions; accountability determines whether authorities explain results and use of resources; and institutional culture determines whether these practices become routine rather than isolated initiatives. This integrated interpretation provides the basis for the proposed open-government strategy.

V. PROPOSED OPEN GOVERNMENT STRATEGY

The thesis proposes open government as a structured response to the low-to-medium performance of municipal e-governance in the district studied. The model is grounded in New Public Management and the principles of openness, efficiency, citizen orientation and measurable performance [14]. It is designed to address technological, institutional and cultural barriers simultaneously rather than treating digitalization as a stand-alone technical project.

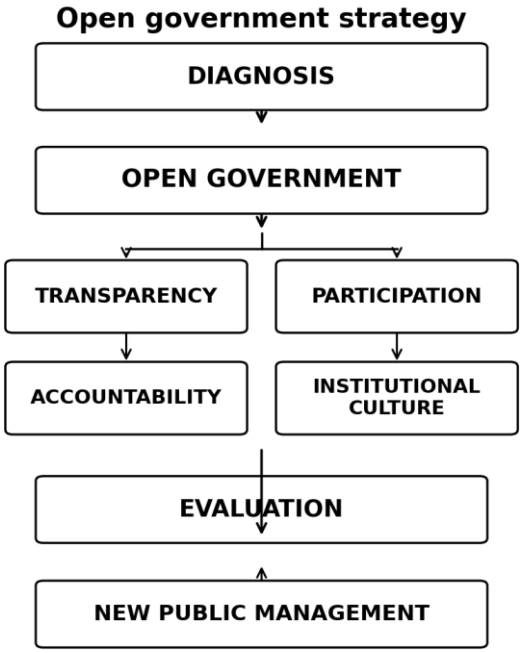


Figure 2. Open-government strategy adapted from the governance model proposed in the thesis.

The model has four objectives. First, it seeks to strengthen transparency through active publication of data, digital bulletins, institutional schedules and information that citizens can understand and reuse. Second, it promotes citizen participation through updated consultation platforms, educational campaigns, hybrid spaces for dialogue and explicit inclusion of vulnerable groups. Third, it reinforces accountability through periodic financial and administrative reports and accessible digital and face-to-face channels for questions and feedback. Fourth, it embeds open-government principles in institutional culture through service protocols, performance indicators, staff training and incentives for good practices.

Implementation is planned over twelve months. The thesis schedules diagnosis and planning first, followed by portal implementation and data publication, citizen-participation campaigns, digital and face-to-face accountability activities, staff training, and an evaluation and sustainability phase. The proposed budget is S/ 88,000: S/ 35,000 for platform development and updating, S/ 20,000 for information and educational campaigns, S/ 15,000 for staff training, S/ 10,000 for institutional incentives and recognition, and S/ 8,000 for monitoring and evaluation. The strategy is aligned with broader digital-government recommendations that emphasize smart public services, local digital transformation and systematic evaluation [15]-[17].

VI. CONCLUSION AND FUTURE WORK

The research concludes that municipal e-governance in the study context has reached mainly an intermediate level. The results show meaningful but incomplete progress: 62.9% of responses were at the medium e-governance level, while 28.3% remained low. Digitalization, accessibility and information security showed even larger low-level shares, producing a consolidated critical-gap estimate of approximately 33.9%. These results indicate that the central challenge is no longer merely the initial adoption of digital tools, but their integration into accessible, secure, transparent and citizen-centered municipal management.

The proposed open-government strategy responds to this challenge by linking technical modernization with transparency, participation, accountability and institutional culture. The thesis recommends sustained investment in infrastructure, progressive automation of municipal services, digital-inclusion measures, comprehensive cybersecurity policies and formal local open-government plans. Future evaluation should measure whether the proposed interventions reduce the low-level gaps, increase citizen use and satisfaction, improve publication and accountability indicators, and raise the proportion of users who perceive municipal e-governance at a high level.

VII. REFERENCES

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