

# E-Government Service Delivery in Selected Municipalities of Lanao del Sur, Philippines

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**Abstract.** This study evaluated the service delivery in three municipalities of Lanao del Sur, Philippines, focusing on the current state of e-governance. The research aimed to identify gaps in existing governance strategies and provide recommendations for enhancing transparency, accountability, and efficiency in local government services. A descriptive research design was employed, combining quantitative methods via a cross-sectional survey and qualitative insights from a phenomenological approach. The study was conducted in Piagapo, Tamparan, and Taraka—municipalities recognized for their governance performance. Participants included key municipal officials and end-users, such as households and business owners, selected through purposive and quota sampling. Findings indicate that the e-governance in Lanao del Sur is underdeveloped, with municipal websites lacking dynamic content, citizen engagement, and transparency mechanisms. High technology costs, insufficient resources, inadequate support, and leadership resistance hinder e-governance adoption. Infrastructure development, resource allocation, and stronger institutional support are essential for advancing e-governance in the region.

**Keywords:** E-governance; Service delivery; Local government; Transparency; Accountability; Municipalities.

## 1. Introduction

There has been a global movement to reinvent government during the last 20 years, especially in both developed and poor countries. There is growing demand on governments to improve their capacity for public administration and service delivery. As a result of this endeavor, information and communication technology (ICT) has been widely used and modified to update conventional administrative activities, procedures, and structures. Since ICT is now an essential component of many governments' efforts to deliver public services around-the-clock, it has altered the nature of citizen-government involvement [1].

E-government, a tool created to expedite governmental procedures and service delivery, is a crucial part of this ICT-driven change. Numerous advantages are promised by e-government, such as less travel expenses, shorter wait times for services, less corruption, and cheaper service delivery costs. Additionally, it improves accessibility, convenience, and transactional capabilities for both residents and government employees [2, 3, 4, 5]. By reorganizing contacts between the government and its internal and external stakeholders, e-government deployment aims to streamline bureaucratic procedures [6]. The creation of government portals—the online representation of official services—is necessary to make e-government a reality. These portals are essential for establishing public trust, improving the nation's overall online service capabilities, and raising the public sector's profile and accessibility [7].

Even with these developments, e-government implementation remains fraught with difficulties, especially in developing nations. The "e-government services gap" has gotten worse due to problems including poor service delivery and the partial availability of anticipated services [8]. This disparity is noticeable in many poor countries, where e-government service adoption is still low despite significant public spending over the last 20 years [9]. Inefficiencies in public service delivery systems are highlighted by the fact that citizens frequently have to physically visit government offices in order to obtain fundamental services that could be supplied electronically [10]. Usually, labor-intensive, antiquated, and inflexible approaches hinder service delivery in these areas [11, 26].

ICT integration into public management is essential to overcoming these obstacles in the Philippines. The Philippine government has been actively promoting the creation of complete e-government platforms, including those with open data characteristics, in accordance with the E-Government Master Plan (EGMP), which seeks to modernize ICT infrastructure throughout the nation [12]. However, the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), especially the Province of Lanao del Sur, has a severe dearth of services. Due to a lack of e-government and ICT integration, Lanao del Sur, one of the poorest regions in the nation, has restricted access to government services [13].

To access necessary government services, Lanao del Sur residents frequently have to travel great distances, make numerous trips, pay a hefty price, and deal with significant inconvenience. Lack of awareness and understanding about navigating intricate public service delivery networks exacerbates these challenges. Citizens are compelled to physically visit government offices, even for basic tasks like submitting paperwork, getting information, or accessing services that may be offered online. The BARMM government has started working to move toward a more effective and efficient governing model after realizing these difficulties. The goal of the "Localizing E-Governance for Accelerated Provision of Services" initiative is to encourage innovation in public service delivery throughout the region and decentralize services. In order to better serve the requirements of the community, this project aims to increase service accessibility, expedite business procedures, and promote the use of digital solutions.

This study evaluated the service delivery in a few chosen towns in Lanao del Sur because of the vital role that local governments play in encouraging active citizen engagement and guaranteeing the effective and efficient delivery of services. The study aims to provide suggestions for more effective, efficient, responsive, transparent, and accountable governance by pointing out weaknesses in the current approaches. With the potential to add to larger conversations on e-governance in developing contexts, this study is noteworthy because it tackles a pressing need for better e-government services in one of the Philippines' most underserved regions.

## **2. Methodology**

### **A. Research Design**

This study used a descriptive research design with a quantitative approach through a cross-sectional survey and a qualitative approach using a phenomenological design. This combination best suited the study's objectives.

### **B. Research Locale**

Three municipalities in Lanao del Sur—Piagapo, Tamparan, and Taraka—were chosen for the study. The Department of the Interior and Local Government awarded these municipalities the Seal of Good Local Governance in recognition of their exceptional performance. Their

successful and efficient service delivery to their communities earned them this prize. The websites for every municipality in Lanao del Sur were also examined by the researcher. Just seven of the forty-one municipalities had created and kept up websites. The three municipalities chosen for the study were geographically accessible and had excellent performance records.

### **C. Research Participants**

Lanao del Sur has 41 municipalities, but only seven have established websites for service delivery. This study focused on the top three: Piagapo, Tamparan, and Taraka. The participants included two groups: key officials (service providers) from these municipalities, specifically those in roles like Information Officer, Mayor, and Planning and Development Officer, and end-users, including households and business owners who might access the websites. A non-probability sampling method was used to select end-user respondents, specifically purposive and quota sampling. Household members were chosen because they may use e-government services for civil registries, birth certificates, marriage contracts, and more. Business owners were selected because they might use the websites for business permits and other services. A quota of 20 individuals per municipality was set for these groups.

### **D. Research Instrument**

Data were gathered using a modified questionnaire and interviews. Two sets of questionnaires were used: one for service providers and another for end-users. The service providers' questionnaire had five parts: Part I: Official e-government portals of the selected municipalities, Part II: Functional categorization of web content information, Part III: Types of e-government services provided on the websites, Part IV: Evaluation of e-government effectiveness in public service delivery, administrative governance, transparency, and citizen empowerment, and Part V: Major issues and challenges in e-government development.

The end-user questionnaire had four parts: Part I: Respondents' knowledge of their municipality's web portals; Part II: Functional categorization of web content information; and Part III: Evaluation of e-government effectiveness in public service delivery, administrative governance, transparency, and citizen empowerment, and Part IV: Major issues and challenges in e-government development.

### **E. Data Gathering Procedure**

The researcher personally administered the questionnaires to the respondents. Permission letters were sent to the selected municipalities, seeking approval from the local government units to conduct the study. The researcher informed the mayors of their role in the study, but they referred the researcher to their Information Officers, who served as the key informants.

### **F. Data Analysis**

The collected data were presented in tables using frequency counts, percentage distributions, and weighted means. The data were coded, analyzed, and presented using a Likert Scale, with a rating from one (1) to four (4), where four is the highest and one is the lowest.

## **3. Results and Discussion**

### **A. Official E-Governmental Portals of the Selected Municipalities in Lanao del Sur**

Table 1 presents the official names of the web portals of the three selected municipalities, the Uniform Resource Locator (URL), and how it will be accessed.

Table 1. The official e-governmental portals of the selected municipalities in Lanao del Sur

Name of the Municipality	Name of the Official Web Portals	Uniform Resource Locator (URL)
Municipality of Piagapo	Municipality of Piagapo	piagapo.gov.ph
Municipality of Tamparan	Islamic Municipality of Tamparan	tamparan.weebly.com
Municipality of Taraka	Municipality of Taraka	taraka.gov.ph

The results show that the three Lanao del Sur municipalities that were chosen have started the e-government transition process. In countries where e-government projects are being established, web portals are commonly used as the gateway to the government and its services. In addition to executing transactions, promoting participation, and improving administrative control, portals can also collect, organize, and distribute knowledge, making them centers for information and knowledge sharing [7].

The results of the end-user stratum's response, however, showed that nearly all of the participants were ignorant of the existence of local websites. Neither websites nor services were accessed by the respondents. This supports the key informants' assertion that no one visits the website on a regular basis. The primary reason for this is the LGUs' inadequate communication with their constituents [14].

#### **B. Functional Categorization of Information of Web Contents of the Selected Municipalities in Lanao del Sur**

##### **Promotion of Citizens' Awareness and Understanding of the Municipality's Characteristics**

Table 2 presents the functional categorization of information on web content to promote citizens' awareness and understanding of the Municipality's characteristics.

Table 2. Descriptive statistics of the promotion of citizens' awareness and understanding of the municipality's characteristics

Indicators	Mean	Interpretation
<b>Information Related to the Municipality</b>		
History	4.00	Fully Implemented
Physical resources (location, topography, climate, land area, geography, geology)	3.67	Fully Implemented
Cultural Sites and Attractions	3.33	Fully Implemented
Cultural Festivals	3.33	Fully Implemented
Human Resources (population/demographic information, electorate)	4.00	Fully Implemented
Infrastructure Profile (roads, bridges, communication)	3.67	Fully Implemented
Local Economy (Trade and Commerce, Agricultural and Fisheries Sector, Financial Institutions, exports, business establishments/industries)	3.67	Fully Implemented
Public Utilities (power supply, water supply, communications, mass media)	4.00	Fully Implemented

Land Use Map	3.33	Fully Implemented
Community or Municipal News/Announcement	4.00	Fully Implemented
Municipal hood (How it becomes a Municipality)	4.00	Fully Implemented
Selected Socioeconomic indicators (poverty incidence, unemployment rate, crime statistics, etc.)	4.00	Fully Implemented
Socioeconomic Profile	4.00	Fully Implemented
<b>Information Related to the Municipal Government</b>		
Names of All Elected Officials	4.00	Fully Implemented
Profile of All Elected Officials	3.67	Fully Implemented
Names of Past and Present Mayors	3.33	Fully Implemented
Names of Barangay Heads	4.00	Fully Implemented
Vision and Mission	4.00	Fully Implemented
Department and Office Heads	4.00	Fully Implemented
Profile of the Municipal Projects	3.67	Fully Implemented
Organizational Structure	4.00	Fully Implemented
Awards and Recognition Received	3.67	Fully Implemented
Accomplishment Report	3.33	Fully Implemented
Development Plan, Policies, and Strategies	4.00	Fully Implemented
Committees/Commissions and their Compositions	3.67	Fully Implemented
<b>Overall Mean</b>	<b>3.77</b>	<b>Fully Implemented</b>

**Legend:** 1.00-1.74 = Not Implemented, 1.75 – 2.49 = Stopped, 2.50 – 3.24 = On going, 3.25 – 4.00 = Fully Implemented

With an overall weighted mean of 3.77, the results showed that the majority of the data on citizens' awareness and comprehension of the Municipality's features was applied correctly. The results suggest that people's knowledge and comprehension of the Municipality's features are enhanced by the websites of the selected municipalities. A fundamental understanding of the composition and operations of their government is necessary to raise citizens' political awareness, which is regarded as an essential precondition for their active participation in the political process [14]. Information regarding e-government can be found on the website [7].

#### **Promotion of Efficient and Effective Frontline Services Delivery**

Table 3 presents the functional categorization of web content information in terms of promoting efficient and effective frontline service delivery.

Table 3. Descriptive statistics of the promotion of efficient and effective frontline service delivery

<b>Indicators</b>	<b>Mean</b>	<b>Interpretation</b>
<b>Application procedures for securing different permits, licenses, and clearance</b>		
Business permits/licenses and application procedures (business application or renewal, business name registration, franchise permit, closure of business)	3.67	Fully Implemented
Local Civil Documents (birth, marriage, and death certificates, marriage licenses, change of name, adoption,	3.67	Fully Implemented

correction of clerical error on the birth, marriage, or death certificate, marriage annulment)		
Application for engineering-related permits and documents (building or excavation permit, health/sanitation, fire safety, electrical, mechanical, occupancy)	3.67	Fully Implemented
<b>Download Forms</b>		
Application for a business permit	3.33	Fully Implemented
Application for building permit	3.33	Fully Implemented
Application for the electrical permit	3.00	Ongoing
<b>Overall Mean</b>	<b>3.45</b>	<b>Fully Implemented</b>

With an overall weighted mean of 3.45, the results demonstrated that most of the information regarding enabling effective and efficient frontline service delivery was properly implemented. According to the findings, the chosen towns demonstrate two e-government functions: timely, efficient, and effective frontline service delivery. The form can only be downloaded, and there isn't a transaction button—like a "submission" button—that would allow a user to submit his form and wait for it to be accepted, which is in contradiction to the key informants' response. However, it could be time-consuming to physically attend the hall to get permits and other necessary papers because conventional and customary procedures must be followed. This supports the assertion made by Madariaga et al. [10] that in order to obtain basic information, complete and submit forms, or access other services that might be provided online, citizens still need to get in touch with government offices and agencies. The majority of public services in developing countries are still delivered via time-consuming, inflexible, and ineffective procedures [11, 26].

### Promotion of Transparency and Accountability in Operations and Services

Table 4 presents the functional categorization of information on web content in terms of promoting transparency and accountability in operations and services.

With an overall weighted mean of 3.20, the results showed that the majority of the information regarding promoting accountability and openness in operations and services was ongoing. This indicates that work is still ongoing to add information to this category. Additionally unavailable are the services in this category. Since there is the least amount of data about products and processes, the results indicate a lack of transparency in the disclosure of information about these types of content. Promoting openness and transparency during the bidding process is another strategy to fight corruption in public procurement [14].

Table 4. Descriptive statistics of the promotion of transparency and accountability in operations and services

Indicators	Mean	Interpretation
<b>Municipal Government Services</b>		
Education	3.00	Ongoing
Health	3.00	Ongoing
Agriculture	3.00	Ongoing
Social Welfare	3.00	Ongoing

Public Order and Safety	3.00	Ongoing
Public Educational and Health Facilities	4.00	Fully Implemented
Business-related services (e.g., securing permits)	3.67	Fully Implemented
Civil Registry	3.33	Fully Implemented
Fire Protection	3.00	Ongoing
Sanitation	3.33	Fully Implemented
Engineering-related Services	3.33	Fully Implemented
Profile of Programs and Project		
Without Cost	3.00	Ongoing
With Cost	3.00	Ongoing
Update or Status of Different Project	3.33	Fully Implemented
Bids and Procurement (Invitation to bid and detail of required supplies, services, or equipment)	3.33	Fully Implemented
Employment Opportunities	3.00	Ongoing
Ordinances and Resolutions	3.33	Fully Implemented
Financial Statement (either balance sheet, income statement, statement of expenditures, or statement of revenues and sources)	3.00	Ongoing
<b>Overall Mean</b>	<b>3.20</b>	<b>Ongoing</b>

#### Promotion of Citizens' Awareness of the Policy-Making Process

Table 5 presents the functional categorization of information on web content in terms of promoting citizens' awareness of the policy-making process and their participation in decision-making.

Table 5. Descriptive statistics of the promotion of citizens' awareness of the policy-making process

Indicators	Mean	Interpretation
Ordinances and Resolutions	3.33	Fully Implemented
Online Surveys and Polls	3.00	Ongoing
Minutes of Meeting of Municipal Councils	3.00	Ongoing
Local Election Results	2.33	Stopped
<b>Overall Mean</b>	<b>2.92</b>	<b>Ongoing</b>

The results showed that the majority of the content intended to raise people's awareness of policymaking and participation in decision-making was ongoing, with an overall weighted mean of 2.92. This suggests that efforts are currently being made to include materials in this area. Moreover, the services in this category are not available. Enhancing access to political information and promoting participatory democracy are the goals of e-governance.

Disseminating information regarding the local policymaking process, like that contained in minutes of Municipal Council meetings, encourages accountability in addition to expanding the representational roles of elected officials. The results show that providing comparatively little content improves people's comprehension of the policymaking process and boosts their involvement in local decision-making. Additionally, there is little local involvement in the three selected communities. Direct public input is available through online polls and surveys, which can facilitate cooperation and decision-making [14].

### Promotion of Linkage and Interaction Between Government and Citizens

Table 6 presents the functional categorization of information on web contents in terms of promoting linkage and interaction between government and citizens.

Table 6. Descriptive statistics of the promotion of linkage and interaction between government and citizens

Indicators	Mean	Interpretation
<b>Vertical Communication</b>		
Telephone or Fax		
<i>Mayor</i>	3.67	Fully Implemented
<i>Offices and Departments</i>	3.67	Fully Implemented
<i>General Telephone/Fax No.</i>	4.00	Fully Implemented
<i>Vice Mayor</i>	3.67	Fully Implemented
<i>Councilors</i>	3.33	Fully Implemented
<i>Selected Government Offices within the Municipality</i>	3.67	Fully Implemented
Email		
<i>Mayor</i>	3.33	Ongoing
<i>General e-mail</i>	3.67	Fully Implemented
<i>Vice Mayor</i>	3.33	Ongoing
<i>Website Administrator</i>	3.33	Ongoing
<i>Municipal Planning and Development Officer</i>	3.33	Ongoing
<i>Municipal Information Officer</i>	3.33	Ongoing
<i>Guestbook</i>	2.33	Stopped
<i>Feedback Form</i>	2.67	Stopped
<i>Webmail (For Municipal Government Personnel Only)</i>	2.33	Stopped
<b>Horizontal Communication</b>		
Discussion Forum	2.33	Stopped
Chat	4.00	Fully Implemented
Telephone Number and Address of Private Businesses/Institutions within the Municipality		
<i>Hotels and Inns</i>	1.00	Not Implemented



Links to other websites		
<i>National Government Portal</i>	1.00	Not Implemented
<i>Provincial Website</i>	1.00	Not Implemented
<b>Overall Mean</b>	<b>2.95</b>	<b>Ongoing</b>

The results demonstrated that most of the content promoting relationships and communication between the government, citizens, and other groups was continuous, with an overall weighted mean of 2.95. This suggests that the process of adding content to this category is still under progress. The services in this category are also unavailable.

The findings support the case for an informed and engaged public by showing that communication technologies have created new opportunities for engagement and connection in the three selected towns. Additionally, each office just offers phone numbers. Because few local government websites offer email addresses as a communication method, texting, also known as SMS, is more widespread on mobile devices than sending emails. SMS is preferred over landline and Internet communications mostly because it is less expensive. An SMS costs eight times less than a voice call during a one-minute peak [15].

#### Promotion of Linkage Between Government and Business

Table 7 presents the functional categorization of web content information in terms of promoting linkage between government and business.

Table 7. Descriptive statistics of the promotion of linkage and interaction between government and citizens

<b>Indicators</b>	<b>Mean</b>	<b>Interpretation</b>
<b>Tourism-related information</b>		
Sites and Attraction	2.67	Ongoing
Festivals	3.00	Ongoing
Getting to the Municipality (Location; how to get by land, air or sea)	4.00	Fully Implemented
Municipal Map	3.33	Fully Implemented
Names, addresses, and phone numbers of Hotels, Inns, and Restaurants in the Municipality	3.00	Ongoing
<b>Economy and Business-related Information</b>		
Agriculture and fisheries sector	4.00	Fully Implemented
Business establishments or industries	3.00	Ongoing
Business and industries profile	3.00	Ongoing
Business Condition/Climate (Competitive Advantages)	3.00	Ongoing
<b>Investment-related Information</b>		
Investment Code: tax incentives and how to avail	3.33	Fully Implemented
Priority or preferred investment or industries	3.00	Ongoing
Bids and procurement (invitation to bid and details of required supplies, services, or equipment)	2.67	Ongoing
<b>Overall Mean</b>	<b>3.17</b>	<b>Ongoing</b>

The results indicated that most of the information about building a relationship between business and government was continuous, with an overall weighted mean of 3.17. This suggests that the process of adding content to this category is still in progress. The services in this category are also unavailable. The findings point to a lack of awareness about the municipality's possible attractiveness to tourists and investors. The lack of a breakdown of the municipality's investment opportunities—which private companies require when making decisions—led to a subpar advertising campaign. This information could be used to boost the local economy by drawing in both domestic and foreign visitors [14].

### C. E-Government Services Provided on Websites of the Selected Municipalities of Lanao del Sur

Table 8 presents the kind of e-government services provided in the determined websites of the selected municipalities of Lanao del Sur in terms of informational, transactional, and personal.

The results suggest that the e-government services offered on the websites chosen by the three municipalities were only supposed to offer the most basic information. The results of the assessment demonstrated that the majority of local governments have not completely exploited their websites as e-governance tools and have only partially adopted e-governance. The majority of the content was to raise people's knowledge and comprehension of the traits of their local communities. However, the information provided on this subject has to be improved because it only included basic demographic, cultural, and historical aspects along with a little political information that focused mostly on the composition of the local government.

Table 8. Descriptive statistics of the types of e-government services provided in the determined websites

Indicators	Mean	Interpretation
<b>Informational</b>		
News	4.00	Fully Implemented
Announcements	4.00	Fully Implemented
General Information	4.00	Fully Implemented
List of Services Offered	3.33	Fully Implemented
Process and Procedures	3.33	Fully Implemented
Public Disclosure Information	3.00	Ongoing
Advocacy Campaigns	2.33	Ongoing
Political Slogan	2.67	Ongoing
<b>Transactional</b>		
Client-focused transactions (request of permits, renewals, appointments, etc.)	3.00	Ongoing
Inter-departmental (availability of the download forms)	3.00	Ongoing
<b>Personal</b>		
Availability of platforms for personal use, such as client accounts or employment accounts	3.00	Ongoing

The Philippines' 2022 EGMP lays out the objectives of the DICT, which include an interoperable government ICT network and services. The primary goal of this project is to provide a gateway mechanism that allows citizens to access services provided by a web portal. The initiative seeks to automate vital services and advance open government. The government should investigate ways to boost efficiency, make accurate information more affordable and accessible, and provide services with greater transparency and accountability. It aimed to provide businesses and citizens with more affordable and efficient government services. These goals will be accomplished by improving the intergovernmental and organizational coordination of government activities, improving the ICT competency of government employees, and simplifying procedures. Government services will be easily accessible to users, whether they are government officials, government agencies, or non-government consumers. Information should be made available through an online portal that also serves as a communication tool for locals to engage in dialogue, do business, and take part in governance.

#### D. Major Issues and Challenges

Table 9 presents the major issues and challenges the service providers encounter in establishing E-Government among these selected Municipalities in Lanao del Sur.

With an overall weighted mean of 3.00, which indicates Moderate Problems, the most prevalent problems and challenges noted by all three municipalities are as follows: a shortage of resources to support operations around-the-clock; and expenses and factors associated with infrastructure and technology. Insufficient institutional backing, poor information handling, departmental resistance to cooperation, improper use of private information, and resistance and skepticism from the leadership.

Purchasing technology and ICT infrastructure comes at a very high cost. Different government agencies' readiness for e-government is negatively impacted by implementation costs. Numerous studies [16, 17, 18, 19] have found that poor nations lack the infrastructure needed to conduct e-government operations. Implementing e-government nationwide is hampered by low teledensity, inadequate electricity supply, and poor fixed-line telecommunications penetration [20]. Lack of finance is another issue preventing many towns from implementing e-government. Most people agree that when e-government is adequately supported, it works [2]. Since e-government is directly tied to the growth of ICT infrastructure, closing the digital gap, and enhancing human capability, enough finance is necessary for its successful implementation [2].

Table 9. Descriptive statistics of the level of problems on the major issues and challenges (service providers)

Statement Indicators	Mean	Interpretation
Technology and Infrastructure costs/factors	3.0	Moderate Problem
Lack of resources to support 24/7 operations	3.0	Moderate Problem
Lack of institutional support	3.0	Moderate Problem
Information mismanagement Reluctance to share among depts. Misuse of sensitive data	3.0	Moderate Problem

Doubts and resistance by leadership	3.0	Moderate Problem
Information mismanagement reluctance to share among depts. misuse of sensitive data	3.0	Moderate Problem
Lack of capacity to manage large-scale IT Projects	2.6	Moderate Problem
Management expectations vs. management realities	2.6	Moderate Problem
Opposition by professional or union interests	2.6	Moderate Problem
Lack of coordination and or strategic planning	2.6	Moderate Problem
Lack of comprehensiveness and continuity of policies/programs	2.6	Moderate Problem
Absence of policy guidelines	2.6	Moderate Problem
Organizational/cultural dichotomies	2.6	Moderate Problem
Opposition by professional or union interests	2.6	Moderate Problem
Lack of incentives in the public sector – particularly regarding IT	2.3	Minor Problem
Absence of Policy Guidelines	2.3	Minor Problem
Lack of conviction of top or middle managers	2.3	Minor Problem
Lack of institutional support	2.3	Minor Problem
Lack of comprehensiveness and continuity of policies and programs	2.3	Minor Problem
Organizational/cultural dichotomies	2.0	Minor Problem
Obsolete legal frameworks to innovate and incorporate private sector	2.0	Minor Problem

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**Legend:** 1.00-1.74 = Not a Problem, 1.75-2.49 = Minor Problem, 2.50-3.24 = Moderate Problem, 3.25-4.00 = Serious Problem

The LGUs' inadequate ICT infrastructure also contributes to the frequently poor content and quality of websites. The primary cause of this is that their organization does not have the ICT personnel required to maintain the website continuously. Furthermore, not all ICT professionals are prepared to handle the technical requirements of e-governance. Human turnover exacerbates these issues because it necessitates training new hires in addition to endangering program continuity. Many towns used inept staff to create and oversee their e-government systems. Because of this, e-government initiatives are contracted out to affluent countries, which, according to Heeks' 2003 study, exacerbates the design-reality gap if a poor country takes up the project entirely [18]. Therefore, if government workers lack the necessary ICT skills, e-government cannot be implemented successfully.

Local governments' lack of appreciation for websites as e-governance tools is another barrier. Even if some of the project's sponsors are there to assist the local governments, it is their duty to put effort into updating and improving their websites. The websites' lack of information is a reflection of the local government's unwillingness to provide information. Enhancing accountability and transparency has been one of the main objectives of public sector reform. Democracy depends on the public having access to government information and services [21].

Despite laws guaranteeing the public's right to information and contemporary technologies that may help the government facilitate public access to information, the government regrettably nonetheless maintains a culture of concealment. Like any program, the leadership transition typically leads to a change in priorities, which makes it a significant concern. [14].

Table 10 presents the major issues and challenges encountered by the end-users in establishing E-Government among these selected Municipalities in Lanao del Sur.

Table 10. Descriptive statistics of the level of problems on the major issues and challenges (end users)

Indicators	f	%	Rank
Lack of Awareness among citizens	57	95	1
Lack of Knowledge on how to access the website	55	92	2
Lack of Internet Facilities	42	70	3
Lack of Computer Facilities	31	52	4
Lack of Coordination	16	27	5
Absence of Policy Guidelines	7	12	6
Resistance to changing the paper-based system to e-system	2	3.	7

## E. Interview Results

This portion presents the results of the researcher's interview with the key informants of the three selected municipalities of Lanao del Sur. The guide questions that were asked to the key informants were based on and extracted from the E-Government Master Plan of the Philippines 2022.

### Seamless Public Service Delivery

#### Setting Service Standards

In the case of the Municipality of Piagapo, the key informant stated, *“In the case of our website, the services offered are limited since it was created last year.”* Key informants say services are limited because the website is in its infancy. Then he says, *“Because here in Piagapo, only the municipal hall has access to the internet, the rest of the residents are using mobile data in a free data mode. So, even if we provide services through the website, they cannot be accessed directly by our citizens or target recipients because they have no access to the internet.”* He added, *“But as of now, there are government forms already incorporated on the website, like when you apply for a business permit, and when you apply for SB Accreditation for an NGO, those were available on our website.”* It has been discovered that the Municipality of Piagapo offers very little service through their website. Both the municipalities of Tamparan and Taraka agree that their websites offer little service, providing just the most basic information to their residents. This supports the conclusion that the websites are just informative about e-government services.

The key informant from the Municipality of Piagapo reiterated, *“That is it! Sadly, we do not have the mood or instrument to assess our services' effectiveness or efficiency because none is using it from our constituents.”* The municipalities of Taraka and Tamparan have confirmed this remark, claiming that no one is brave enough to use the platform because the bulk of the populace is unaware of how it works. The important source for the Municipality of Piagapo confirmed that the primary cause is a lack of internet access. Because no one in the community is using the platform, owing to poor connectivity and a lack of understanding of how to use it,

the data indicate that local governments have not received feedback on how effective or efficient their services are and how they will be improved. Therefore, the website would be meaningless even if services were supplied. As a result, web portals are ineffective for measuring service development.

Piagapo and Tamparan claim that because no one is brave enough to access websites and leave reviews, they are unable to gauge public happiness. The Municipality of Taraka asserts that every information systems project's scope must involve users. The main objective of citizen involvement is to include people's opinions in the creation of e-government services. "There is a poll on our website where citizens can evaluate our service; the only problem is that no one intends to use it." The results of the end-user stratum indicate that the public is not involved in the design process of e-government.

As a result, designers are more likely to produce e-government applications that fall short in terms of user satisfaction and acceptance.

#### Increasing Access

According to the key informant from the Municipality of Piagapo, *"What I believe personally is that we need to conduct public consultation because even if the website exists, it would be useless if people do not have the idea how to use it."* He added that this was necessary to inform the people because the government service was for them, saying, *"We do not assume that all residents and clients can read and write. How about those clients who cannot read and write? This is why we need to design the program based on the needs of the people."* This project is a significant step toward improved accessibility. So, by conducting a public consultation, LGU Piagapo will be able to determine the people's needs. This means that the Municipality of Piagapo's web portal is very responsive to the needs of the people, rather than simply complying with official orders. He went on to say that this could be accomplished by developing some necessary machines that would better serve them at a lower cost, while also being more effective and efficient. He added, *"We have partnered with the UNDP, and the MILG Piagapo has been chosen as one of the pilot municipalities together with Butig of the LEAPS. A center is solely for internet wires and machines but is not yet usable. There were already machines provided by the UNDP, such as internet cables, generators, and other related machines, but they are not yet fully equipped to operate."*

Since the Municipality of Piagapo was able to present its initiatives, the two municipalities have waved to answer the question. According to the key informant from the Municipality of Piagapo, He said: *"We will put up a kiosk or digital center at the ground floor, or if possible, we will put up a kiosk per barangay."* The key informant claims that setting up a kiosk will increase accessibility for community members without access to ICT infrastructure. He added that the design of the program will be determined by the outcomes of the public engagement. This demonstrates how more approachable and people-centered the Piagapo LGU's operations are. Lack of access to technology and the internet is a key concern when using e-government services in developing countries, according to research [22, 23, 24]. The majority of people still have little to no access to e-government services, notwithstanding notable advancements in emerging nations.

The Municipality of Piagapo's key informant stated that "everything will be free, and there will be an employee to be assigned." This initiative would reduce operating time, corruption, travel expenses, service delivery costs, and wait times, as well as improve accessibility and transactional capabilities. This supports the goals of the e-government initiative.

#### Providing Information

On this issue, the three municipalities are in agreement. They acknowledged that they did not have the skills and information required to take use of the program. Nonetheless, the municipality regularly changes its plans and activities. In order to improve accessibility, involvement, and reaction, the key informants also confirm that providing information about the services through the web portal is currently on the schedule and will be completed soon. This illustrates that a variety of factors, such as the websites' still-static nature, the sparse use of electronic tools to promote public participation, and the existence of websites with little content, contribute to the low accessibility and efficacy of e-governance at the local level [14].

The key informants were asked to rank the level of information accessibility in their particular localities on a scale of 1 (the least accessible) to 10 (the most accessible). *"One for the Municipality of Piagapo,"* as he spoke, *"Information on the web portal is not substantial. How much more is there for the accessibility of the people?"* He added, *"Because, do you know that 90% of our people do not know that the website in Piagapo exists."* The two main sources agreed with this. Given that access to information is a fundamental right guaranteed by the law and is the cornerstone of democracy, this suggests a lack of coordination between the populace and the local administrations of the three municipalities.

#### Value for Money

Every significant source concurred that one of the most crucial instruments for overseeing government operations is e-government. E-government would cut down on corruption, operational time, travel, and service delivery expenses. It would enhance accessibility and transactional simplicity in addition to lowering operating expenses. Ironically, this hasn't been demonstrated or used in their respective fields yet because the websites only provide a small range of services. Additionally, the Municipality of Piagapo's main informant attested that the installation of those digital centers or kiosks in barangays will reduce the traditional time-consuming process and save money on document overpricing and travel.

#### **Improve Administrative Governance**

The key informant from the Municipality of Piagapo said, *"It is way more efficient than the manual transaction because, in the first place, if the website is fully established, whenever you are in your house, you can access the service only with a fingertip. However, in terms of efficiency, we cannot assess it since our website was newly created."* Supported by the Key Informant from the Municipality of Tamparan, he added, *"We cannot be assured of the efficiency of work because no one is willing to supervise it 24/7."* It was agreed by the key informant from the Municipality of Taraka, who added: *"Services must be available 24/7, but if we are talking about duty time, the website is available every day, but if you access the service during weekends, the response will be made available only during working hours."* Based on the statements made by the key informants, it can be inferred that, because the online portal offers relatively few services, transactions must be carried out physically and in line with standard procedure in order to maximize the efficiency of service delivery. The lack of personnel to maintain the website around-the-clock is another factor contributing to ineffective service delivery. E-government has the ability to increase the effectiveness and efficiency of service delivery in addition to making administrations and data more available to consumers, knowledgeable clients, and the government itself.

All of the main informants concurred that the transactions will be made easier by e-government. Despite their limitations, integrating printed forms and other relevant documents is a first step toward making use of the entire spectrum of online possibilities. This demonstrates how the delivery of services in the three municipalities has changed from being a time-

consuming procedure to one that is more successful and efficient. Reforming government contacts both inside and outside the government is the main goal of e-government implementation in order to reduce complex and overworked bureaucratic systems [6].

Due to two factors, the key informants reaffirmed that they are currently unable to assess their websites: first, they are brand-new, and second, nobody has the guts to go there. Regarding the question, the main informants also offered their opinions. In addition to paying staff to handle customer demands, they think the government might save a significant amount of money by having one or two individuals handle and accommodate inquiries, requests, and transactions on a screen with all documents instantly accessible.

The replies from the key informants all agreed that the staff members in charge of the website need to receive training. According to one of the main informants, one issue impeding progress is the discontinuity of initiatives. He said, *“Our website has already been created since 2010; however, due to political rivalry, the project was stopped. And now, with the new administration, it has been revived”*. Other key informants supported the claim, adding, *“Mismatch employment is one thing too. In our case, our website was created by an outsider. He was appointed as a job order. He was based in Manila now. So, I must contact him whenever I have something to post because he has access and knows how it runs.”* The claims made by the main informants make it abundantly evident that politics can occasionally significantly affect advancement. A change in leadership is a serious issue because, like any program, priorities change.

### **Boost Transparency**

The primary informants confirmed that the webportals provide forms and other required papers that may be downloaded, as well as basic information about officials, history, and physical resources. This confirms the conclusion that the websites of the three municipalities only provide information, especially in the first category. Additionally, they said that some material is confidential and should not be made public. The findings, especially in the third category, which implies a lack of transparency in the sharing of information on services and activities, are supported by the fact that this category has the least amount of information.

### **Empower Citizens**

The key informants reiterated that because their websites are still in the early phases of development, they are unable to assess how these portals promote citizen empowerment and involvement. The observed findings appear consistent with previous research that found that existing e-government development initiatives do not prioritize user engagement [22]. Others claim that because customers aren't consulted at the design stage to ascertain their requirements and preferences, e-government efforts don't provide full services [25].

## **4. Conclusion**

The study concludes that e-governance in Lanao del Sur is still in its nascent stages and has not yet achieved its full potential as a tool for enhancing local governance. Although local governments have made strides in establishing an online presence, their websites remain underutilized and insufficient in providing comprehensive e-governance services. The study highlights several key deficiencies: the websites are predominantly static, lack substantive content, and do not effectively promote public participation or transparency. Crucial information necessary for improving service delivery, transparency, and citizen engagement is



largely absent. Furthermore, the absence of mechanisms for online transactions and outdated or unreachable contact information further hampers the effectiveness of these websites.

The study identifies significant barriers to the successful implementation of e-governance, including high technology and infrastructure costs, lack of resources for continuous operations, inadequate institutional support, and resistance from leadership. These issues, coupled with the reluctance to share information across departments and concerns about data misuse, contribute to the region's slow adoption and underdevelopment of e-governance.

Ultimately, the study suggests that failing to fully embrace e-governance limits the potential for improved governance and risks widening the gap between the government and its citizens, potentially leading to decreased public trust. To move forward, it is essential to address these challenges and invest in developing the necessary infrastructure, resources, and institutional support to foster a more robust and effective e-governance system in Lanao del Sur.

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