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Research Article

Impact of E-Government Technologies on Citizen Engagement and Service Delivery: A Case Study of Local Government Units in Caloocan

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ABSTRACT

The emergence of technology significantly affects the transformation of how the local government and its citizens interact through the utilization of the e-government services platform. This study focuses on the impact of e-government technologies on citizen engagement and service delivery in the Local Government Unit (LGU) of Caloocan City. The results highlight citizens' perspectives on Caloocan's e-government platform, underscoring concerns, challenges, and suggestions for improvement. Privacy and security rank highly among citizens' concerns, while language accessibility is less of an issue. However, survey data from 250 respondents highlight that 73% expressed satisfaction with the user interface and design of the e-government platform, while 58% trusted the platform's security and privacy measures, though 10% indicated a lack of trust in the system's data security. To build on this foundation, respondents suggest improvements such as better customer support, clearer communication, and training opportunities that could help boost confidence and encourage active participation. By means of addressing these areas, the platform could be more effectively support the community's needs, enhancing trust and fostering a stronger connection between citizens and the local government.

Keywords*: E-government, Technologies, Citizen engagement, Service delivery, Local government units, Descriptive method, Caloocan City*

Introduction

"Automation is the greatest tool for good governance."

Hon. Ma. Josefina G. Belmonte, Fifth State of the City Address

This is an era where technology opens new opportunities for a better quality of life. As the world continuously changes, people adapt and stay relevant to avoid being left behind. In connection with these changes, people become more creative, innovative, and resilient. The emergence of technology does not hinder people, as the government helps its citizens understand and embrace these changes. When the government and its citizens work together, they strive for improvement by simplifying

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processes and effectively meeting the needs of communities. With the help of technology, agencies have introduced electronic government services, making transactions more accessible and easier to use.

Local governments collaborated with national government agencies (NGAs) to advance their e-government initiatives. On the technology, some local governments set up websites, built information systems, and implemented online tools developed by other government bodies. In terms of human resources, these initiatives mostly involved seminars and training sessions conducted with the support of NGAs (De Castro 2022).

The system informs citizens about which government agency needs to enhance its services and empowers them. Furthermore, it gives the government additional chances to carry out its duties more effectively (Moraga et.al 2018). It is advised that the created system be used as an innovative way of communication that can enhance government transparency and motivate citizens to take part in the decision-making process.

The Philippine government has developed comprehensive strategies to improve the country's e-government implementation (Ubina et. al. 2017). It makes sense to look into the country's e-government adoption status in order to monitor the development of its implementation and enhance citizens' access to government services and information.

There are challenges that the government experienced today, especially in terms of implementing electronic platforms in providing public services. However, the COVID-19 pandemic made digital tools and technologies a regular part of everyday life (Elsersy et al., 2021). When face-to-face connection was no longer possible, local governments had to immediately adjust to these developments by coming up with new strategies for remaining in touch with their people and offering services remotely. The government had to take charge and ensure that the general public, medical workers, and local agencies received timely and accurate information. At the same time, it addressed possible hazards such as cybersecurity threats and data privacy issues and prevented the spreading of fake news (Farrell et al., 2020). Governments have to cope with emerging opportunities and citizens' growing expectations as demand for more and better public services (Mali, 2020). Thus, our study focused on the impact of e-government technologies on citizen engagement and service delivery.

Although citizens face many challenges due to technology, the government is seeking the easiest way to deliver services through e-government platforms. This study presents the impact of e-government technologies on citizen engagement and service delivery in the Local Government Unit (LGU) of Caloocan. Moreover, the study focuses on actionable recommendations for improving engagement and trust, which are essential for enhancing the effectiveness of e-government platforms and overall service delivery.

This study aims to investigate the influence of e-government on citizen engagement and service delivery within Caloocan's Local Government Unit (LGU). The researchers chose the City of Caloocan because, despite being part of Metro Manila, Caloocan faces unique challenges, including a high population, limited digital access, and a socioeconomic landscape that makes digital adoption difficult. The primary objectives focus on understanding the specific challenges that citizens encounter when using digital platforms to interact with their local government, examining how limited e-government adoption affects service satisfaction, and identifying factors behind low digital governance usage among citizens. The study also explores the potential benefits of enhanced digital interactions between citizens and the local government, as well as strategies for fostering greater engagement and trust through improved digital platforms and digital literacy initiatives. A positive correlation is hypothesized between the adoption of e-government technologies and improved service delivery, suggesting that effective digital interactions could enhance satisfaction and trust in government services. Through a survey of 250 citizens in Caloocan, administered via Google Forms, the research will gather insights into these challenges and potential improvements.

The study's findings hold significance for various stakeholders. Government officials and

public servants may benefit from understanding their roles in facilitating effective e-government services, helping them devise solutions and interventions that promote citizen engagement and improve service quality. The Technology Acceptance Model (TAM) is recognized as one of the most effective frameworks for comprehending adoptions of technology that may be expanded upon and modified to accommodate the variations of numerous situations. This study examines the implementation of e-government services and suggests that personal values and trust offer insights into this adoption (Belanche et. al. 2012). Citizens, on the other hand, may gain a clearer appreciation of e-government's importance, which could encourage them to engage more with local government and adapt digital tools in their daily interactions. For researchers and public administration students, the study provides a valuable reference for future research on e-governance and citizen engagement. By addressing the scope of e-government's challenges and opportunities, this study aims to contribute meaningfully to discussions on enhancing public service delivery and digital engagement in the local governance context.

Review of Related Literature

Since the internet began to take off in the late 1990s, e-government also known as Electronic Government or Digital Government has been a popular idea worldwide (Grönlund & Horan, 2005). The use of information and communication technology, especially the Internet, as a tool to create improved governance is known as e-government (OECD, 2003).

In its OECD (2003) E-government Project, the Organization for Economic Cooperation and Development (OECD) evaluated the problems and effects of e-government in 12 countries: Australia, Canada, Denmark, Finland, France, Germany, Italy, Japan, Korea, Mexico, and the Netherlands. According to this study, nations adopt e-government in an effort to 1) increase efficiency in government, 2) increase service quality, 3) use ICT to enable more successful results, 4) secure better governance arrangements that encourage economic growth, 5) advance the reform agenda, and 6) strengthen the general relationship of trust between the public and the government. This may be created by enhancing the flow of information, which promotes citizen participation as a key component of effective governance.

Several kinds of studies were also conducted to determine the level of e-government development in different countries and to carry out quantitative analysis.

The United Nations enhances its evaluation process and standards annually. and statistics to accurately assess how e-government is developing on a national, regional, and international scale, as well as at lesser levels of government like local government units.

According to the UN's (2020) report, there is an increasing percentage of countries and localities pursuing digital governance, and more innovative initiatives are being implemented by various government institutions.

When it comes to digital governance, the Philippines is making progress. About 20 years ago, work to create Egov began (Magno, 2018). With a view toward an ICT-enabled future, the National Information Technology Plan was first created (National IT Council 1997). Following this was the Government Information Systems Plan (GISP) in 2000, which was reinforced by Republic Act No. 8792, also known as the Electronic Commerce Act of 2000, and sought to create an online government where citizens could access public information and services from the comfort of their homes, communities, public libraries, kiosks, and government offices (Magno, 2018).

The Philippines is truly keeping pace when it comes to embracing modern technology. One example is the City of Caloocan, which we selected as the focus of our study to understand its impact on our citizens, gather valuable insights, and explore suggestions for improving its effectiveness and making it more beneficial for everyone.

Methodology

Research Design

This study employs a descriptive research design to observe and characterize the influence of e-government technologies on citizen engagement and service delivery in the Local Government Unit (LGU) of Caloocan. This

method was chosen for its suitability in detailing the behaviors, perceptions, and experiences of citizens regarding e-government interactions without manipulating variables (Vale, 2023). A descriptive study design was used by the researcher, who created a survey questionnaire to test its validity and reliability (Bullo et. al. 2024). Using this design enables a comprehensive view of existing conditions and patterns, providing insights into citizen engagement levels and identifying any service delivery gaps due to limited e-government adoption.

Locale and Population of the Study

The research was conducted in Caloocan City, Metro Manila, as this location exemplifies a growing urban population impacted by digital government initiatives. The study's population comprises 250 residents of Caloocan, selected through purposive sampling, ensuring that participants are familiar with e-government platforms and have had previous interactions with Caloocan's LGU services. This sampling technique allowed the researchers to focus on participants best suited to provide relevant insights into citizen engagement and service delivery within the context of e-government technologies.

Description of the Respondents

The 250 citizen-respondents are representative of Caloocan's diverse demographic, providing a range of insights on how e-government services influence daily interactions with local government. These respondents were selected to answer structured survey questions delivered through Google Forms, ensuring accessible participation across the city. Respondents' experiences with digital government services are central to understanding the factors affecting usage, satisfaction levels, and areas of improvement.

Data Gathering Procedure

Data collection involved administering a structured survey via Google Forms to the selected respondents. The questionnaire was designed to capture data on challenges, satisfaction, usage frequency, perceived benefits, and trust in e-government technologies. Respondents were invited via email and social media channels, and instructions were provided to clarify survey objectives and confidentiality assurances. Data collection occurred over a two-week period, allowing ample time for respondent engagement and follow-up reminders to maximize participation rates.

Instruments of the Study

The primary research instrument was a structured survey questionnaire, divided into sections covering demographics, frequency of e-government use, perceived challenges, satisfaction levels, and engagement. The questionnaire was designed using a 4-point Likert scale to measure respondent attitudes and behaviors, providing structured data for analysis. Each section aimed to address a specific research question, ensuring comprehensive coverage of the study's objectives.

Reliability and Validity of the Instrument

To ensure reliability, the questionnaire underwent a pilot test with a sample of 25 residents who were not part of the main study group. Their feedback helped refine questions for clarity and appropriateness. Cronbach's alpha was calculated for the Likert scale questions, yielding a reliability coefficient that confirmed internal consistency. Expert validation was also performed by academic professionals in e-government studies to verify the content's relevance and accuracy, ensuring the instrument's validity for accurately measuring citizen engagement and service delivery perceptions.

Statistical Treatment of Data

Data were analyzed using several statistical tools. The mean was used to calculate average responses, offering an overview of the data. The Average Weighted Mean (AWM) provided more detailed insights by dividing the total weighted responses by the number of responses, helping to quantify citizen attitudes. Ranking techniques were applied to prioritize response factors by importance and frequency, highlighting key issues in e-government service delivery and engagement.

Ethics Review

This study adhered to ethical research guidelines, ensuring participant confidentiality, voluntary participation, and informed consent. Participants were provided with an informed consent form detailing the study's purpose, data usage, and privacy measures, and they were allowed to withdraw at any time. Anonymity was maintained by collecting data without identifiers, and the gathered information was stored securely. The study received ethical clearance from the institutional ethics review board, ensuring compliance with academic and ethical standards.

Limitations of the Study

The study's limitations include its reliance on self-reported data, which may be subject to response bias. Furthermore, the study is geographically limited to Caloocan City, which may affect the generalizability of findings to other local government units in Metro Manila or the Philippines. However, these limitations are considered manageable and do not significantly detract from the study's potential to provide valuable insights into e-government's impact on citizen engagement and service delivery in Caloocan.

Results and Discussions

Table 1. Interaction with Local Government through Digital Platforms

SOURCES	WEIGHTED MEAN	STANDARD DEVIATION	DESCRIPTIVE SCALE
1. I find the e-government platform difficult to navigate.	3.00	0.90	Agree
2. I lack adequate technical skills to effectively use the e-government platform.	2.94	0.94	Agree
3. I experience difficulties in accessing the e-government platform due to internet connectivity issues.	3.08	0.84	Agree
4. I find it difficult to resolve issues or get help when I encounter problems with the e-government platform.	3.14	0.81	Agree
5. The process for submitting requests or applications online is too complex.	3.01	0.87	Agree
6. I am concerned about the security and privacy of my personal information on the e-government platform.	3.21	0.82	Agree
7. I find the language or terminology used on the e-government platform to be too technical.	2.92	0.91	Agree
8. There is a lack of awareness or knowledge about how to use the e-government platform effectively.	3.12	0.83	Agree
9. The e-government platform does not support my preferred language or dialect.	2.89	0.94	Agree
10. There is insufficient feedback or confirmation provided after I complete a transaction on the platform.	3.09	0.89	Agree
WEIGHTED AVERAGE MEAN	**3.04**		**Agree**

Legend: 4.00 – 3.00 (Strongly Agree) 2.99 – 2.00 (Agree) 1.99 – 1.00 (Disagree) 1.00 – 0.99 (Strongly Disagree)

Table 1 shows that source number 6 "I am concerned about the security and privacy of my personal information on the e-government platform." has the highest mean of 3.21 with a

descriptive scale of "Agree". This result suggests that most respondents are concerned about the security and privacy of personal information on the e-government platform. In contrast, source number 9, "The e-government platform does not support my preferred language or dialect." has the lowest item mean of 2.89 with a descriptive scale of "Agree". While the majority of the respondents were comfortable with the language offered by the platform. Also, the overall weighted mean is 3.04 with a descriptive scale of "Agree". This score of "agree" indicates that although there is room for improvement, respondents might not be completely unsatisfied. Nonetheless, this suggests that users wanted to secure the privacy of personal information by using the digital platform.

Table 2. Impact of Limited Adoption of E-Government Initiatives on Service Delivery and Citizen Satisfaction

SOURCES	WEIGHTED MEAN	STANDARD DEVIATION	DESCRIPTIVE SCALE
1. Use of digital platforms reduces overall satisfaction with local government services.	3.15	0.75	Agree
2. The lack of widespread adoption of e-government initiatives leads to inefficiencies in service delivery.	3.21	0.76	Agree
3. Limited access to e-government platforms negatively impacts the accessibility of services for citizens.	3.23	0.75	Agree
4. The limited use of e-government platforms results in longer wait times for service completion.	3.26	0.81	Agree
5. Limited e-government adoption affects the ease of communication between citizens and local government.	3.16	0.78	Agree
6. Citizen satisfaction is adversely affected by the limited availability of e-government services.	3.26	0.76	Agree
7. Limited engagement with e-government services creates barriers to accessing government resources and information.	3.2	0.75	Agree
8. Limited use of e-government platforms results in a lack of innovation in service delivery methods.	3.28	0.76	Agree
9. The lack of widespread e-government usage contributes to an increase in paper-based transactions.	3.22	0.74	Agree
10. The limited adoption of e-government services affects the overall modernization of local government operations.	3.31	0.75	Agree
OVERALL WEIGHTED MEAN	**3.23**		**Agree**

Legend: 4.00 – 3.00 (Strongly Agree) 2.99 – 2.00 (Agree) 1.99 – 1.00 (Disagree) 1.00 – 0.99 (Strongly Disagree)

Table 2 shows that source number 10 "The limited adoption of e-government services affects the overall modernization of local government operations." has the highest mean of 3.31 with a descriptive scale of "Agree". This indicates that respondents strongly feel that

the limited adoption and modernization of local government operations has a significant negative impact on the efficiency of local government operations. In contrast, source number 1, "Use of digital platforms reduces overall satisfaction with local government services." has the lowest item mean of 3.15 with a descriptive scale of "Agree". This suggests that respondents do not feel strongly one way or another about whether the use of digital platforms reduces overall satisfaction with local government services. Also, the overall weighted mean is 3.23 with a descriptive scale of "Agree". This reflects an overall agreed stance from the respondents toward the broader impact of limited e-government adoption on service delivery and citizen satisfaction.

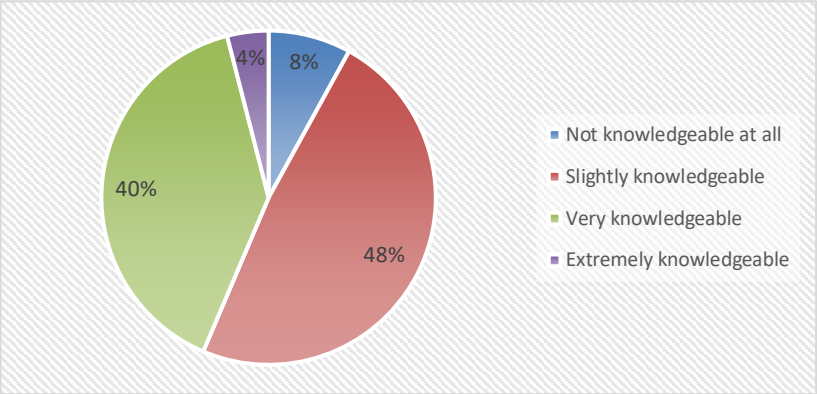

Figure 1. Knowledge of Respondents on how to use the available digital governance tools

Figure 1 shows that 35% of the respondents are slightly aware of the digital governance tools provided by the local government in Caloocan. On the other hand, the lowest percentage, 4% of the respondents are extremely aware of the program. Table 3.1 shows that 48% of the respondents are slightly aware of how to use the available digital governance tools. Contrary to that, 4% of the respondents are extremely aware of the program. Therefore, most citizens are not aware of the e-government services.

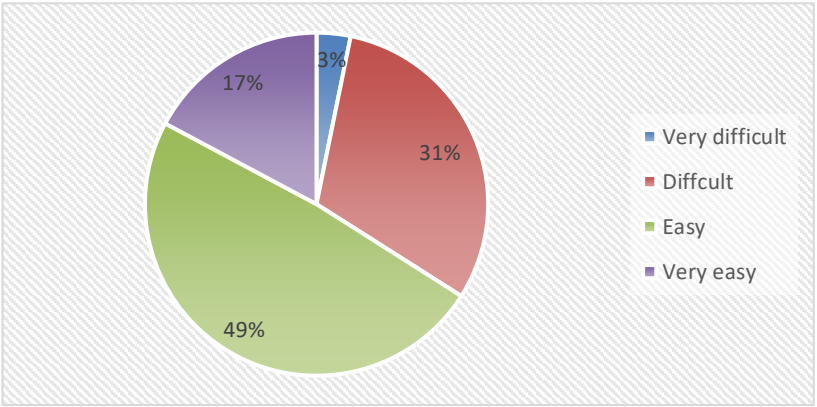

Figure 2. Perception of respondents in navigating the digital governance tools

Figure 2 shows that 49% of the respondents have an ease of navigation to the digital governance tools. While 3% are still in difficulty navigating the e-government tools. Hence, there are still citizens experiencing difficulties with the online platform.

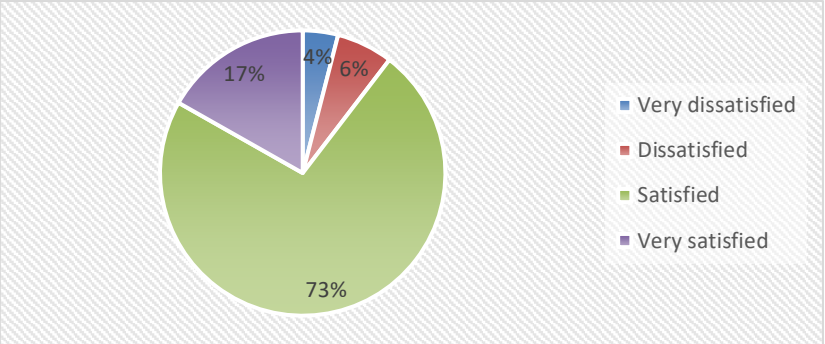

Figure 3. Respondents' satisfaction with the interface and design of the digital governance

Figure 3 shows that 73% of the respondents are satisfied with the user interface and design of the digital governance. In contrary to that, there are 4% who are very dissatisfied with the features. Therefore, some citizens are not satisfied with the features of digital government tools.

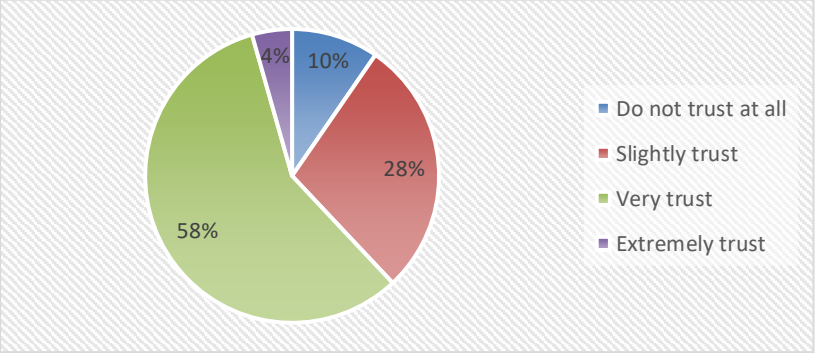

Figure 4. Respondents Trust in Security and Privacy of Information provided through digital governance tools

Figure 4 shows that 58% of the respondents very trusted the security and privacy of the information provided through digital governance tools. In contrary to that, there is 10% do not trust it at all. Therefore, some citizens do not trust the security and privacy of the information provided to the digital governance portal.

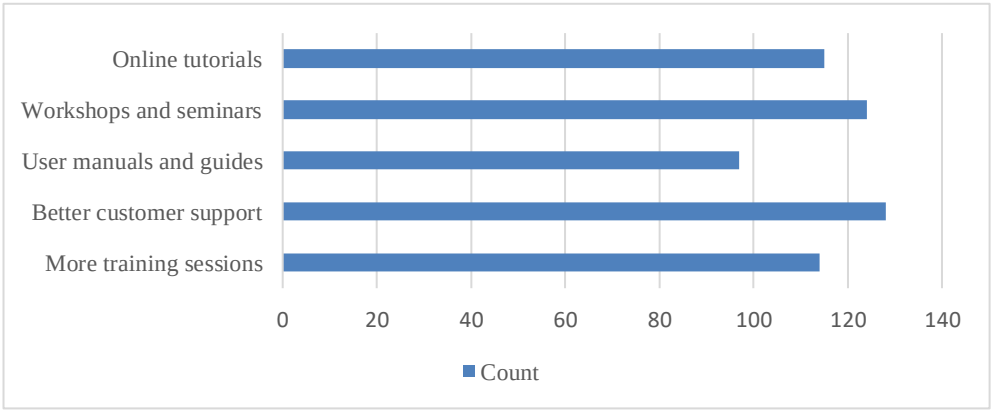

Figure 5. Type of additional support for digital governance tools

Figure 5 shows that "Better customer support" ranked first, followed by "Workshops and seminars" in second place, "Online tutorials" in third, "More training sessions" in fourth, "User manuals and guides" in fifth regarding the types of additional support that would encourage respondents to use digital governance tools more frequently.

The findings show that the citizens need better support in terms of customer service and learning resources like user manuals and online tutorials. On the other hand, seminars and workshops are also important to provide better understanding and hands-on experience to the citizens of Caloocan.

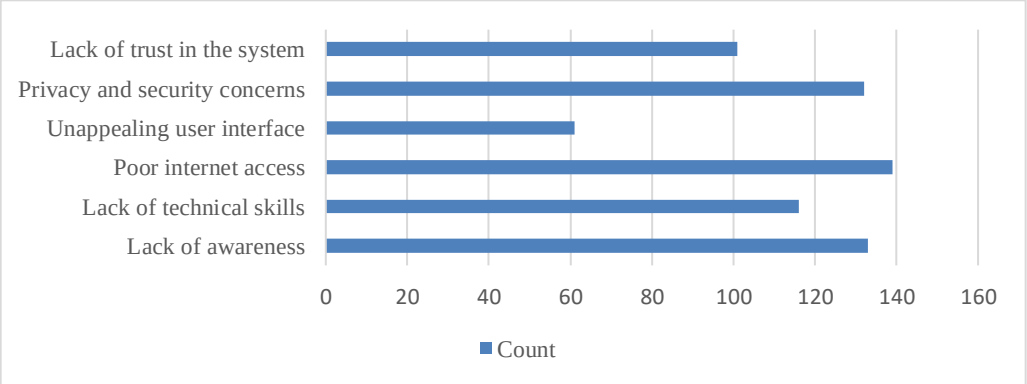

Figure 6. Barrier to using digital tools

Figure 6 shows that "Poor internet access" ranked first, followed by "Lack of awareness" in second place. "Privacy and security concerns" ranked third, "Lack of technical skills" placed fourth, "Lack of trust in the system" was fifth, and "Unappealing user interface" was ranked sixth regarding the biggest barriers to using digital governance tools.

The findings show that poor internet access is the biggest barrier to using digital governance tools, closely followed by the need for awareness. Privacy and security concerns are also seen as hindrances that affect Caloocan citizens' willingness to engage with digital services.

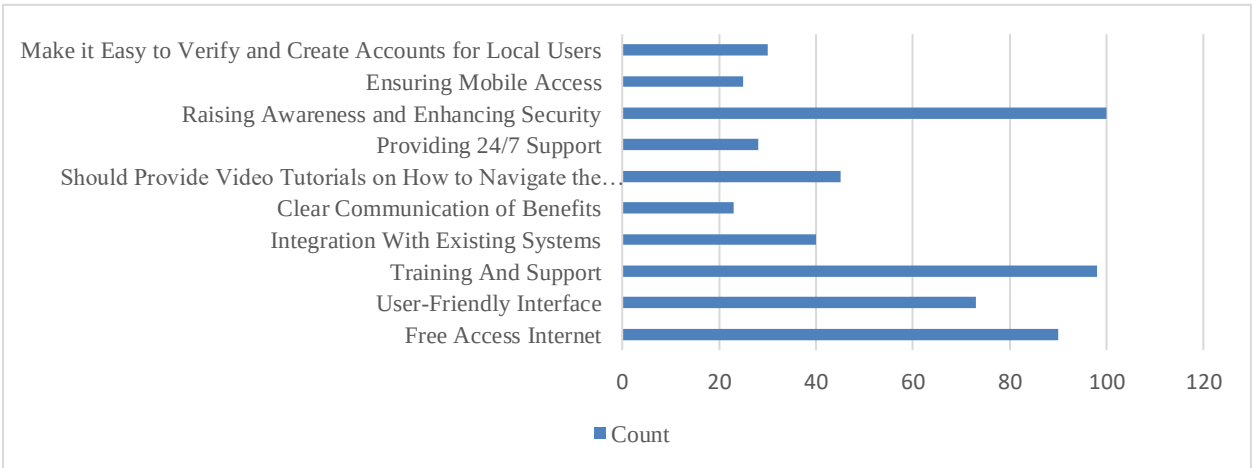

Figure 7. Improvements to increase the usage of Governance Tools

Figure 7 shows that "Raising Awareness and Enhancing Security" ranked first, followed by "Training And Support" in second place, "Free Access Internet" in third, "User-Friendly Interface" in fourth, "Should Provide Video Tutorials on How to Navigate the Governance Tools" in fifth, "Integration With Existing Systems" in sixth, "Make it Easy to Verify and Create Accounts for Local Users" in seventh, "Providing 24/7 Support" in eighth, "Ensuring

Mobile Access" in ninth and "Clear Communication of Benefits" in tenth regarding what improvements would you suggest to increase the usage of digital governance tools.

The findings show the feedback from respondents on what improvements should increase the usage of digital governance tools providing free internet access can help break down barriers, while a user-friendly interface can make the tools more inviting. People want better training and support, so they feel empowered to use these digital resources confidently.

Table 3. Benefits of Improved Digital Interactions Between Citizens and the Local Government

Sources	WM	SD	DS
1. Improved Access to Services	3.36	0.72	Agree
2. Faster Response Times	3.42	0.73	Agree
3. Enhanced Transparency in Government Processes	3.39	0.69	Agree
4. Increased Convenience in Accessing Services	3.43	0.69	Agree
5. Better Quality of Services Provided	3.41	0.71	Agree
6. More Efficient Communication Channels	3.43	0.69	Agree
7. Greater Opportunities for Public Feedback and Participation	3.42	0.72	Agree
8. Improved Accuracy of Information Provided	3.43	0.73	Agree
9. Enhanced Security of Personal Information	3.35	0.69	Agree
10. More Timely Updates on Local Government Activities	3.46	0.73	Agree
11. Increased Trust in Local Government Operations	3.33	0.75	Agree
12. Better Integration of Services Across Departments	3.44	0.74	Agree
13. Enhanced Ease of Access to Information	3.38	0.73	Agree
14. Reduction in Administrative Burden for Citizens	3.29	0.83	Agree
15. Streamlined Processes for Service Requests	3.35	0.71	Agree
16. More Personalized Service Experiences	3.39	0.73	Agree
17. Improved Public Engagement and Community Involvement	3.47	0.71	Agree
18. Increased Efficiency in Local Government Operations	3.44	0.74	Agree
19. Better Access to Local Government Updates and Notifications	3.38	0.73	Agree
20. Enhanced Digital Literacy Among Citizens	3.45	0.74	Agree
OVERALL WEIGHTED MEAN	**3.40**		**Agree**

Legend: 4.00 – 3.00 (Strongly Agree) 2.99 – 2.00 (Agree) 1.99 – 1.00 (Disagree) 1.00 – 0.99 (Strongly Disagree)

Table 3 shows that source number 17 "Improved Public Engagement and Community Involvement" has the highest mean of 3.47 with a descriptive scale of "agree". This shows that citizens highly value the enhanced opportunities for participation and involvement provided by e-government initiatives. In contrast, source number 14, "Reduction in Administrative Burden for Citizens." has the lowest item mean of 3.29 with a descriptive scale of "agree". This shows that although the accessibility and convenience of e-government services have increased, the difficulties in simplifying procedures and lowering administrative responsibilities still exist. Also, the overall weighted mean is 3.40 with a descriptive scale of "agree". It indicates a generally positive perception of the impact of e-government technologies on citizen engagement and service delivery.

The findings provide valuable insights into how e-government impacts public service delivery and citizen engagement in Caloocan. If improvements are properly addressed, they will benefit the community. The local government can enhance e-government through collaborative efforts and create more innovative platforms to increase citizen engagement with local services.

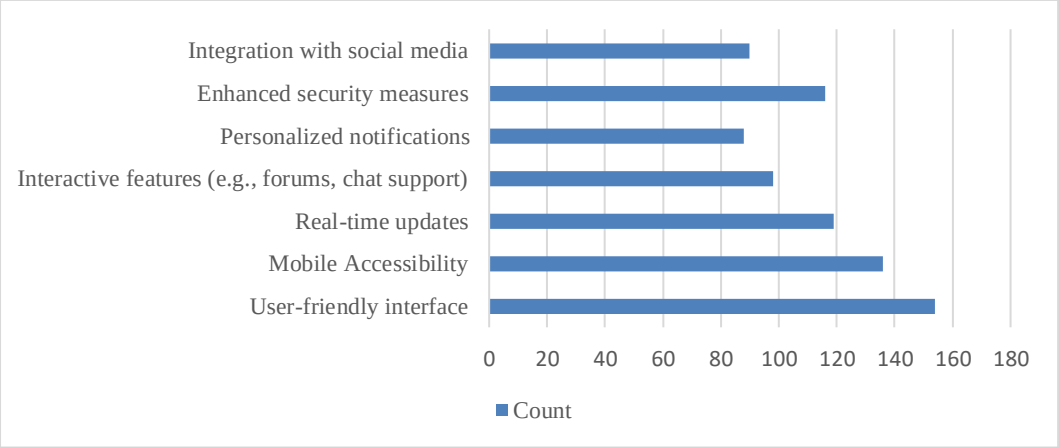

Figure 8. Important Features for improving engagement on e-government platform

Figure 8 shows that "User-friendly interface" ranked first, followed by "Mobile Accessibility" in second place, "Real-time updates" in third, "Enhanced security measures" in fourth, "Interactive features (e.g., forums, chat support)" in fifth, "Unappealing user interface" in sixth, and "Personalized notifications" in seventh regarding what features do the citizens of Caloocan believe are most important for improving citizen engagement on e-government platforms.

The findings suggest that the Caloocan government should create a more user-friendly, accessible, and trustworthy e-government platform. This will pave the way for greater citizen engagement with government services.

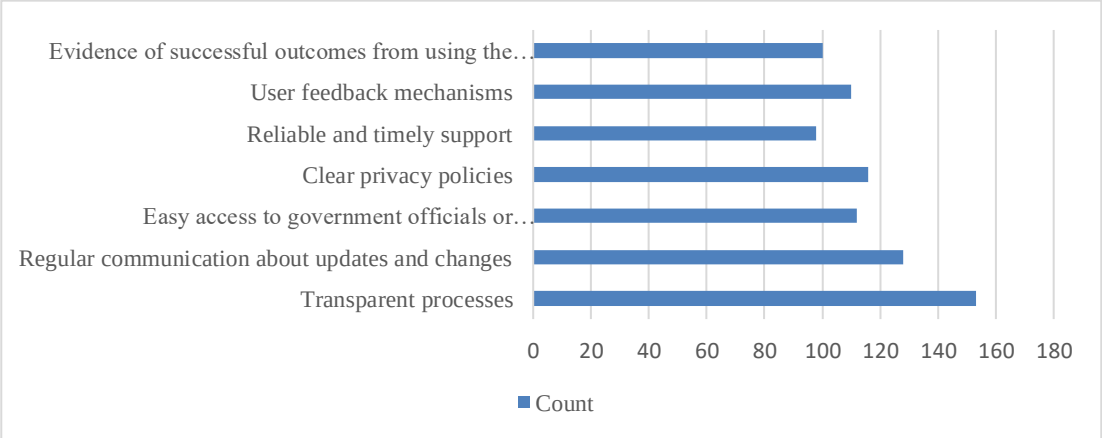

Figure 9. Improvement to increase trust

Figure 9 shows "Transparent processes" ranked first, followed by "Regular communication about updates and changes" in second place, "Clear privacy policies" in third, "Easy access to government officials or representatives" in fourth, "User feedback mechanisms" in fifth, "Evidence of successful outcomes from using the platform" in sixth, and "Personalized notifications" in seventh regarding which of the following improvements would most increase trust in e-government platforms.

The findings suggest that the Caloocan government should promote citizen trust in e-government systems. The government needs to create a more user-friendly, transparent, and accountable platform to build trust and encourage citizens to actively participate in the development of the local government.

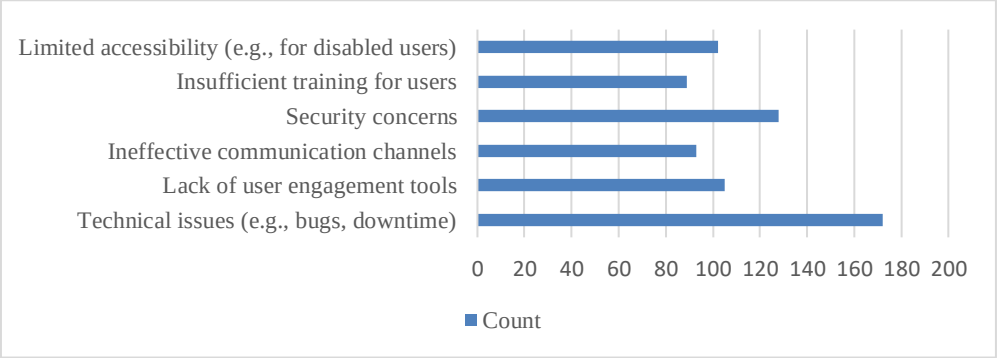

Figure 10. Challenges in the current e-government platform

Figure 10 shows that "Technical issues (e.g., bugs, downtime)" ranked first, followed by "Security concerns" in second place, "Lack of user engagement tools" in third, "Limited accessibility (e.g., for disabled users)" in fourth, "Ineffective communication channels" in fifth, "Insufficient training for users" in sixth, and "Personalized notifications" in seventh regarding what challenges do the citizens think exist in the current e-government platforms that need addressing.

The findings show that the Caloocan government faces specific challenges when citizens interact with e-government services. The government should build trust that encourages citizens to actively participate in local government development.

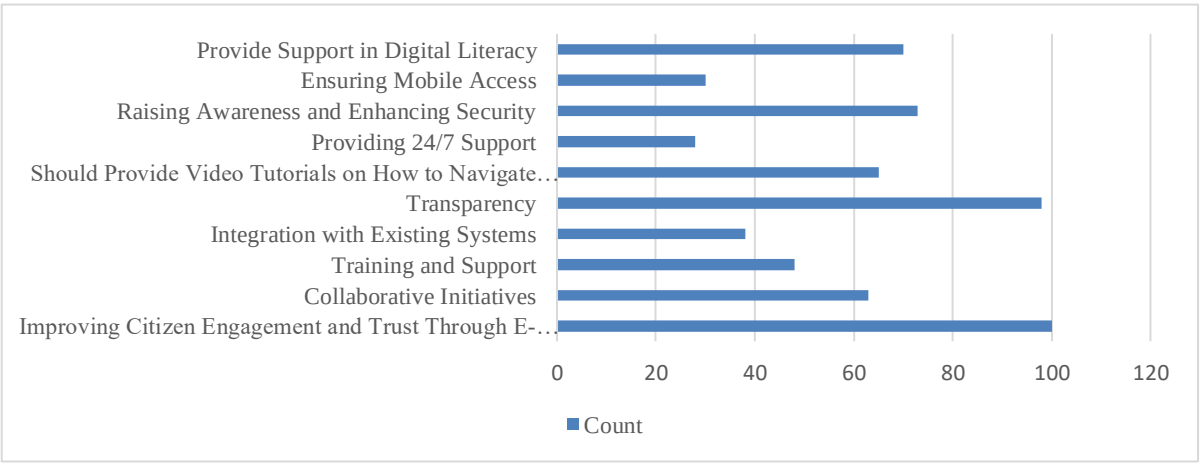

Figure 11. Recommendations to Improve Citizen Engagement and Trust through E-Government Platforms

Figure 11shows that "Improving Citizen Engagement and Trust Through E-Government" ranked first, followed by "Transparency" in second place, "Raising Awareness and Enhancing Security" in third, "Provide Support in Digital Literacy" in fourth, "Should Provide Video Tutorials on How to Navigate the Governance Tools" in fifth, "Collaborative Initiatives" in sixth, "Training and Support" in seventh, "Integration with Existing Systems" in eighth, "Ensuring Mobile Access" in ninth and "Providing 24/7 Support" in tenth regarding what additional recommendations would you suggest to improve citizen engagement and trust through E-Government platforms.

The findings indicate that Caloocan citizens suggest improvements to the e-government platform to foster their trust in sharing their data and information. The government should work on building this trust to encourage citizens to actively participate in local government development.

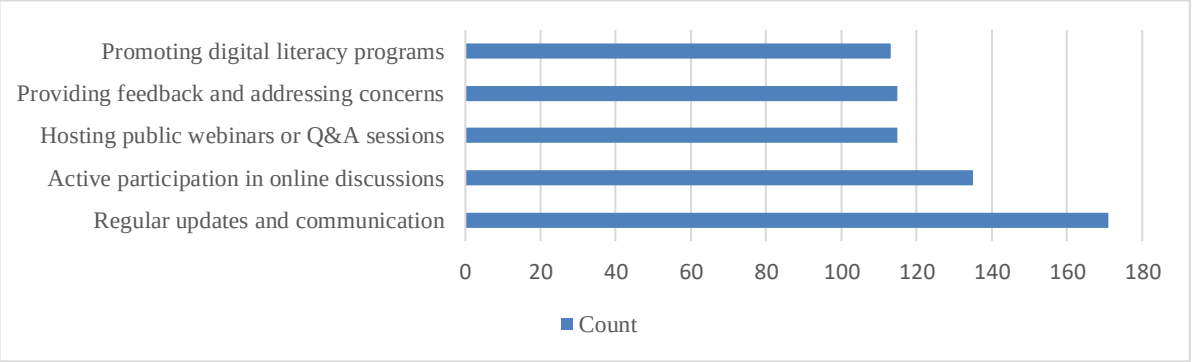

Figure 12. Roles of government officials in enhancing citizen engagement through digital platforms

Figure 12 shows that "Regular updates and communication" ranked first, followed by "Active participation in online discussions" in second place. "Hosting public webinars or Q&A sessions," and "Providing feedback and addressing concerns," ranked third while, "Promoting digital literacy programs" placed fourth regarding the role that citizens believe local government officials should play in enhancing citizen engagement through digital platforms.

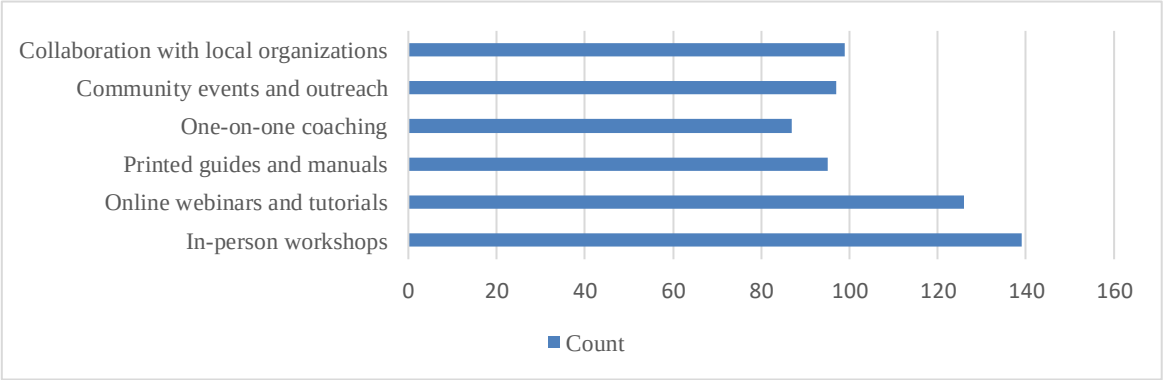

Figure 13. Feedback from citizens for improvement of e-government platform

Figure 13 shows that "Regular surveys and feedback forms" ranked first, followed by "Direct communication channels (e.g., email, chat)" in second place, "Public forums and discussion boards" in third, "Feedback-driven updates and improvements" in fourth, "Analysis of user behavior and engagement metrics" in fifth, and "Others" in sixth regarding how can feedback from citizens be effectively incorporated into the improvement of e-government platforms.

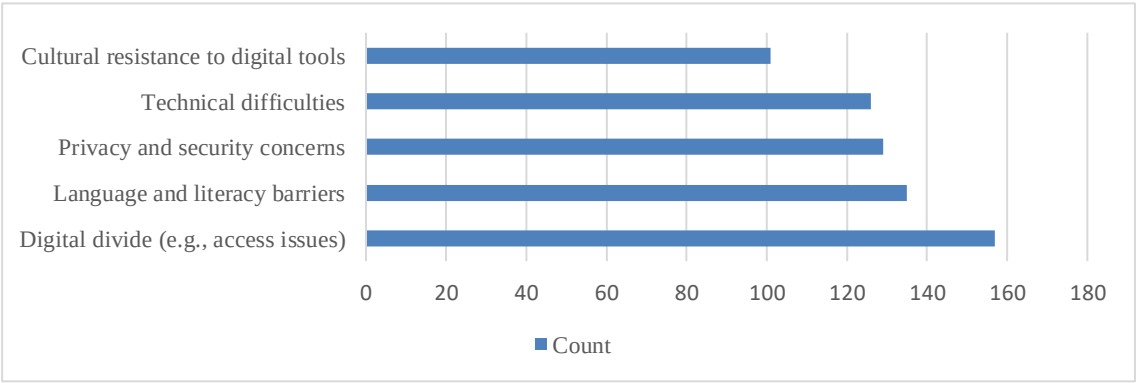

Figure 14. Potential barriers to engagement and trust

Figure 14 shows that "Digital divide (e.g., access issues)" ranked first, followed by "Language and literacy barriers" in second place, "Technical difficulties" in third, "Privacy and security concerns" in fourth, "Cultural resistance to digital tools" in fifth, and "Others" in sixth regarding potential barriers to the engagement and trust should be considered when designing e-government platforms and digital literacy programs.

Conclusion

The researchers conclude that e-government technologies could help improve how people connect with their local government and access services in Caloocan. However, there are some important challenges to address. While many citizens see the benefits of these digital tools, issues like slow internet access, concerns about privacy and security, and the difficulty of using complicated platforms are getting in their way. There's also a clear need for better customer support, more training in digital skills, and user-friendly interfaces.

The study shows that if the local government can resolve these issues, it could build more trust and satisfaction among citizens, modernize its operations, and encourage more involvement from the community.

Improvements such as being more transparent, making services accessible through mobile devices, and offering personalized options would help engage more people. Respondents suggested conducting workshops to improve skills, boost security measures, and clearly explain the benefits of these platforms. All of these could greatly improve how e-government initiatives work.

Furthermore, collaboration between government officials and citizens is key to achieving a better quality of life and ensuring good governance. Working together can lead to improved services and stronger trust in local governance.

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