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Research Article

# Constructs Of E-Governance Satisfaction In Government-Owned And Controlled Corporations: A Factor Analysis

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## ABSTRACT

The increasing adoption of digital technologies in public administration emphasizes the role of e-governance in enhancing service delivery, transparency, and citizen's trust. This study examines the constructs of e-governance satisfaction among e-users of government-owned and controlled corporations (GOCCs), with a focus on agencies providing social services, specifically the Government Service Insurance System (GSIS), Social Security System (SSS), Home Development Mutual Fund (HDMF), and Philippine Health Insurance Corporation (PhilHealth). Anchored on the Technology Acceptance Model (TAM) and Public Value Theory, the research employed an exploratory sequential mixed-method design. Qualitative interviews with GOCC representatives informed the development of a validated survey instrument, which was then administered to e-users. Using exploratory factor analysis (EFA), five key constructs of e-governance satisfaction were identified: transparency and real-time updates, user experience and interface, integration and multi-platform support, accessibility and convenience, and privacy and security. These dimensions collectively explain a substantial proportion of user satisfaction and highlight the critical role of secure, transparent, and citizen-centered digital platforms. Findings suggest that strengthening these constructs can enhance trust and confidence in GOCC e-services, contributing to improved governance and public value creation. The study offers a framework for GOCCs and policymakers to refine digital strategies and guide future innovations in service delivery. Moreover, it provides an empirical basis for further comparative studies across different agencies and sectors to advance sustainable e-governance implementation.

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## INTRODUCTION

Digitization of government transactions have practically transformed citizens' lives today. When everything can be completed online with the help of countless digital platforms, it is also a call for the government to equip and make use of the influence of information and communications technology to improve and serve its purpose and to bring the government closer to the public. With the integration of ICT (Kumar, Praveen, & Rahma, 2023), e-governance was introduced that allows the government to create an easy access portal that enhances efficiency in accessibility, transparency in public administration and an intricate of administrative and social services for the public (Arabadzhyiev, et al., 2021). E-governance has developed and become an imperative means for governments across the globe to engage among citizens. Consequently, Bajar (2020) agreed that there is consistency in research that is highly correlated with the positive effects of e-Governance, particularly in the increase of administrative efficiency, transparency, accountability, and public trust. These factors have also been an indication of users' satisfaction which is the main focus and purpose of the e-Governance.

E-governance model of every nation is designed according to the needs of citizens and other stakeholders who are the principal recipient of digitization of services (Singh, 2023). Myint (2022) also suggests that the users' satisfaction thoroughly with e-Government services still relics a key research theme. Hence, as the recipient's needs evolve over time along with the various concepts of digital advancements, there is also still a need for the concept of e-governance to develop and progress especially that it is implemented in various agencies and departments that serves and

addresses the concerns thru the different services served among citizens and stakeholders.

Meanwhile, along with the implementation of e-governance is the satisfaction brought its purpose to its e-users, the citizens. The development of e-governance is still challenged by impediments as stipulated in the Five Categories Classification (FCC) Model recognized by Alassaf, Zaien, and Oláh (2020) which includes political, social, technological, organization, and financial factors. Initially, in spite of developing countries capitalizing more on e-governance resolutions, political uncertainty and several leadership issues restrict with its success (Gu, et al., 2021). Second is social factors that includes the service quality of the implementation of e-governance services that concerns with the country's varied population, inadequate digital structure in rural areas, short digital knowledge, and weak data protection principles (Kala, et al., 2024). Meanwhile, Baeuo, Rahim, and Alaraibi (2017) believed that majority of the failures of former e-government measures can be linked to technology factors which includes security, infrastructure, technological or technical problems, hard and soft gap, digital division, internet usage, and skills. Organization factors also affect e-governance implementation because of the resistance or risk-avoidance culture to change among public institutions and agencies or the so-called institutional resistance as referred by Toots (2019). Lastly are the financial factors that lead to the difficulties of equipping secured and constant funding for e-governance projects together with their long-term timelines the setting of high pressure on the public sector to compel its expenditure and resources (Kovacova et al., 2019).

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In South Africa, the government took benefit of the ICTs integration to enhance the provision of goods and services. However, Blom and Uwizeyimana (2020) revealed that the government failed to realize its objective of establishing an inclusive ICT infrastructure in South Africa because of the prevalence of poverty and discrimination that continue as the major encounters in rural areas. In addition to that is the citizens' lack of internet access and smart devices (Khan & Khan, 2018) and lack of electricity (Blom & Uwizeyimana, 2020). To alleviate the barriers of e-governance implementation among urban municipalities in South Africa, Masengu, Muridzi, Meyer (2021) revealed that they make use of the presence of website, uptake and usage of ICT, interventions in speeding online services, e-governance framework to advance online service delivery for urban municipalities, and full ecosystem.

Meanwhile, Lu (2018) identified challenges in the implementation of e-government in China that includes factors concerning the government, technologies, institutional and organizational, as well as the citizen's acceptance. In terms of Chinese Social Credit System (SCS), Chen and Grossklags (2023) direct that accessibility challenges extensively occur on SCS websites, consequential to the complications for certain groups of users to navigate and utilize the platforms. To address these challenges, Zongpu and Samsu (2023) identified factors prompting the development and implementation of e-government services in China. These include trust from the citizen, policy coherence on e-services, service effectiveness usefulness, and user satisfaction.

In the study conducted by Khalid and Lavilles (2019) in assessing the maturity of local e-government websites in the Philippines, the researchers found that among 150 assessed LGU websites, 49 were inaccessible. The findings implied that all accessible local e-government websites were still in the early stages of development and many towns and cities do not yet have independent websites. Bajar (2020) added that in assessing 21 government websites, it was perceived that there is no fundamental checking and reviewing system which make these digital websites vulnerable to politicization. To address the identified barriers among local government websites, De Castro and De Castro (2022) revealed that their initiatives include partnership with National Government Agencies (NGAs), as well as technology advancement, human resource development, and linkages among other concerned agencies.

From the literatures above, researchers have presented various weaknesses and coping mechanisms on the dimensions of the implementation of e-governance as a whole. But as specified, e-governance model differs accordingly depending on the needs of the citizens and stakeholders. Hence, the study found a gap from the literatures and suggested to go deeper and to put emphasis on the constructs of e-governance e-users' satisfaction particularly in the GOCCs as they uphold the responsibility of providing various needs and services to the public. As the study explores the factors implementing e-governance among GOCCs delivering social services to the public, the researcher adheres to the conceptual framework for exploratory factor analysis (EFA) presented in Figure 1.

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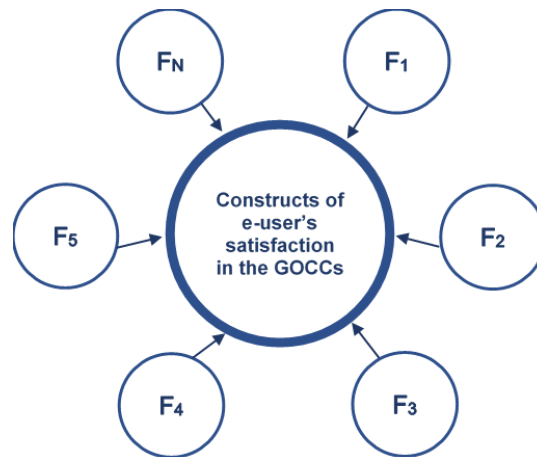


Figure 1. Conceptual Framework of the Study

Moreover, the study is anchored to the Technology Acceptance Model (TAM) introduced by Davis (1989). The model designed to demonstrate how users come to take and utilize a technology. This model has three factors including perceived usefulness (PU), perceived ease of use (PEOU), and attitude towards usage (ATU) (Davis, 1989). This model is applicable to the concept of government-to-citizen (G2C) as presented by Sebetci (2015) in terms of providing e-government services to regulate students' loans service system implementation activities of Turkish university students. Along with TAM is the public value theory that was first introduced by Mark Moore in 1995 as implication to citizens' collective expectations in connection to government and public services. The implication of public value theory in e-governance includes constructs such as quality of information, service limitations, user orientation, efficiency, openness, and awareness as well as establishing a direct influence on the communicative intention to adopt e-government services (Mensah, Zeng, & Mwakapesa, 2022).

The contextual terms used in this study includes GOCCs, e-governance, and constructs. Government-owned and controlled corporations (GOCCs) according to Presidential Decree No. 2029 are "the stock or a non-stock corporation, either executing governmental or exclusive functions, which is straightly chartered by special law or, if prepared under the general corporation law, is owned or controlled by the government directly or indirectly over a primary or subsidiary corporation, the degree of at least a mainstream of its outstanding capital stock or of its outstanding voting capital stock." E-governance refers to the use of ICT by the government to provide services to the citizens in more effective and efficient manner. While constructs refer to the ideas and concepts identified in the satisfaction of e-users in the implementation of e-governance among GOCCs.

Furthermore, the purpose of the study focuses on the identification and exploration of the constructs and ideas of the e-users' satisfaction in the implementation of e-governance in the government-owned and

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controlled corporations (GOCCs) particularly to provide an e-governance framework for the implementation of their e-services. Thus, it is significant to conduct the study to address the identified gap between the constructs in e-users' satisfaction in the implementation of e-governance and how are these being accepted or approved by its end users – the citizens. In this study, an exploratory factor analysis (EFA) will be employed to uncover the specific social-services-offering GOCCs' constructs in e-user's satisfaction in the implementation of e-governance on their end as they hold a different perspective from various departments particularly that they provide social services to the public.

The study seeks to explore the constructs of the e-user's satisfaction with the implementation of e-governance among government-owned and controlled corporations (GOCCs) delivering social benefits to the citizens. Moreover, the research objectives can be outlined as follows: (1) to discover the experiences of the GOCCs in implementing e-governance; (2) to categorize the implementing e-governance factors among GOCCs; and (3) to propose an implementing e-governance framework for GOCCs.

Nonetheless, the conduct of the study only limits to the constructs of the e-user's satisfaction in the implementation of e-governance among GOCCs. The design of the study is exploratory factor analysis (EFA) which both caters qualitative and quantitative data. Qualitative data was initially collected to the identified GOCCs' representatives as they shared the possible constructs in e-user's satisfaction in implementing e-governance in their respective offices. After constructs was categorized, end-users of the e-governance services conferred if the identified

Globally, the results of the study can contribute to the SDG 9 that aims to develop a robust infrastructure, encourage inclusive and sustainable industrialization and advance innovation because it will explore the implementing factors of e-governance in the perspective of the GOCCs. The conduct of the study also signifies GOCCs, citizens and end-users, as well as the policy makers and future researchers. For GOCCs, they will be able to share the constructs in the e-user's satisfaction with the implementation of e-governance in their viewpoints as these agencies deal with providing social services to the public. For the citizens and end-users, the study will confer if the identified constructs are acceptable and does meet their satisfaction. For the policy makers, the study will provide a basis on policy modifications and interventions for the enhancement and development of the existing policies. For future researchers, the research can be expanded or applied to various departments and agencies in assessing their e-governance implementation using the identified constructs.

constructs are acceptable and does meet their satisfaction. The GOCCs participating in the study only includes those that provide social services to the citizens particularly Government Services Insurance System (GSIS), Home Development Mutual Fund (HDMF), Philippine Health Insurance Corporation (PhilHealth), and Social Security System (SSS) in Davao del Norte. Thus, other GOCCs not mentioned were not included.

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## METHODS

### Study Participants/Research Subject

In order to explore the constructs of e-governance satisfaction among GOCCs in Davao del Norte, the researcher gathered data to the identified respondents from the GOCCs' government financial institutions sector, particularly the social security institutions. These institutions include the Government Services Insurance System (GSIS), Home Development Mutual Fund (HDMF), Philippine Health Insurance Corporation (PhilHealth), and Social Security System (SSS).

For the qualitative phase of the study, a total of twelve (12) participants was selected from various Government-Owned and Controlled Corporations (GOCCs) within the province of Davao del Norte. Specifically, three (3) key informants were drawn from each of the four participating GOCC offices, namely PhilHealth and GSIS in Tagum City and SSS and HDMF in Panabo City. The participants express their experiences as end-users of the system and applications, particularly to the implementation of e-governance in their institution. Participants was chosen based on the following criteria: regular employees who have been employed in the office for more than three years; regular employees holding a supervisory position in the organization; currently using and implementing e-governance systems in their office; and agreed to participate in the study. Non-regular employees are excluded from the research participants.

### Materials/Instruments

In the qualitative phase, the researcher utilized an interview guide questionnaire to collect primary data from selected respondents. This tool aims to explore the

For the collection of the quantitative data, a total of 400 respondents participated in the study, with 100 participants coming from each of the four identified GOCC offices. The quantitative data were gathered using structured survey questionnaires. The construction of the questionnaire was based from the findings obtained through the qualitative data analysis. Specifically, the dimensions that emerge from the qualitative data analysis were form the basis for designing the questionnaire. The questions included in the questionnaire was designed to capture the key aspects and dimensions derived from the qualitative analysis. These dimensions were served as the foundation for outlining the content of the questionnaire. This questionnaire also undergone validation by experts before its actual implementation. Furthermore, the participants of the quantitative phase of the study were the e-users of the e-governance services of each identified GOCCs. E-users must have the following inclusive criteria – member and/or contributor of the GOCC for more than 1 year; using the e-governance services of the organization not later than 1 month; and agreed to participate in the study. E-users not using the actual application and/or website of a particular GOCC were not considered as respondents of the study.

constructs of e-user satisfaction in e-governance implementation among GOCCs in Davao del Norte through open-ended questions that allow detailed

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responses. Before the interviews, experts reviewed and validate the questionnaire to ensure its relevance and reliability. The guide includes a main question to direct the discussion, followed by related questions exploring specific factors of e-user satisfaction. Probing questions were also used to encourage more comprehensive responses.

Once data from the primary interview is gathered and categorized, the quantitative phase of the research was employed. Quantitative data for this study were collected through a survey questionnaire. A 5-point Likert scale labeled from 5 “Strongly

## Design and Procedure

The design of this study was focused on the exploratory sequential mixed-method of research. Mixed methods research combines both qualitative and quantitative data collection and analysis methods within a single study (Creswell & Clark, 2017). This research approach involves combining qualitative and quantitative results to deliver a more thorough and comprehensive response to the research inquiry. Exploratory sequential mixed-method is a process designed and characterized by an opening qualitative phase of data collection and analysis, followed by a stage of quantitative data collection and analysis, with a concluding stage of incorporation or linking of data from the two distinct aspects of data. This research design allows researchers to first explore the phenomena of interest qualitatively before moving on to quantify and analyze the data gathered.

Figure 2 shows the exploratory sequential mixed-method procedure of underlying constructs influencing e-user’s satisfaction in e-governance implementation on GOCCs in Davao del Norte. It shows the step-by-step

Agree” to 1 “Strongly Disagree”. The construction of questionnaire, particularly the constructs of e-user’s satisfaction on the e-governance implementation in GOCCs, was informed by the findings obtained from the qualitative data analysis. The categorized constructs served as the foundation for outlining the content of the questionnaire. Furthermore, the survey questionnaire was engaged in a comprehensive validation process, including review and investigation by qualified professionals. This thorough evaluation aims to establish the appropriateness of the survey items for inclusion in the research instrument.

process of the study including the procedures and products of each phase.

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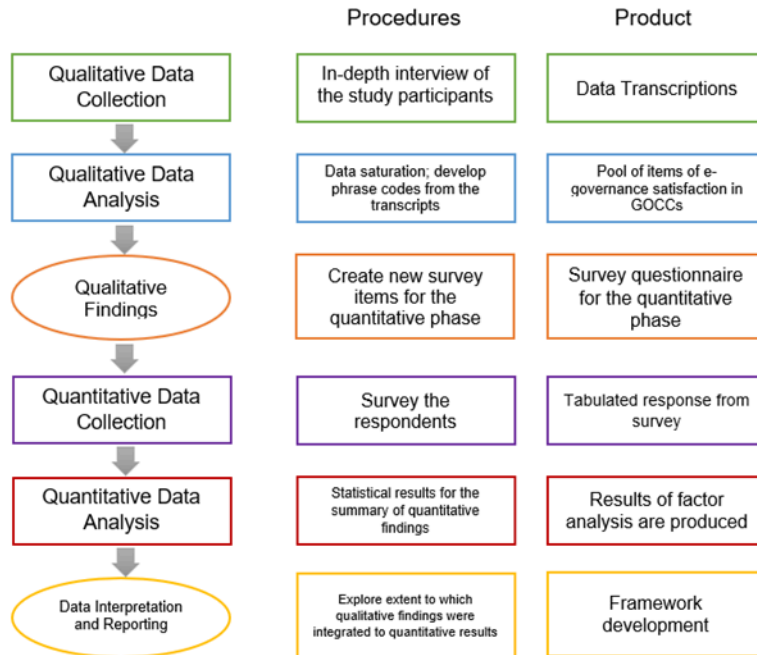


Figure 2. The Exploratory Sequential Mixed-methods Process (Patel & Moitra, 2021)

Initially, the researcher conducted a Key Informant Interview with experts and authorities to help generate themes that helped identify factors in creating the research instrument in addition to the factors identified through the literature review. Through this discussion, the researcher was able to augment the list of variables that affect the e-governance satisfaction in GOCCs. Afterward, the researcher finalized the gathered themes from the literature and the interview to develop the research instrument.

Second, the questionnaire underwent review and correction from experts and validators. After the survey questionnaire is reviewed, checked, and graded by the panel of internal and external evaluators, the researcher instantaneously secured an endorsement letter from the Dean of the Graduate

Education of the University to signal the approval to conduct the study. After complying with the UMERC requirements, the researcher secured a UMERC certificate to prove that the study had been thoroughly reviewed and ready to be administered.

Third, the researcher informed and adequately directed the participants about the study and discussed with them the filling out of digital informed consent. After they agreed to participate of their own volition, they were encouraged to sign the informed consent form. The acquisition of an informed process in the research is a must since this signifies that the participants were given the correct information and freedom to decide whether they wanted to participate in this undertaking.

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Fourth, after the researcher administered the survey questionnaire to the target respondents, the data gathered were tabulated, analyzed, and interpreted statistically. As to the collected data, the responses' information was handled with the highest confidentiality and total anonymity. The specific identities of the respondents used were in no reports, presentations, or publications resulting from the research project. All study information was stored in a password-protected folder. The only person who can view the files is the principal investigator. The acquired data will be stored on file for three (3) years after the research project is finished, after which it will be securely deleted to prevent further use, disclosure, or access by unauthorized parties unless otherwise required by law.

After the collected quantitative data were interpreted, this integration allowed the study to develop a robust framework that reflected the key constructs of e-governance satisfaction in GOCCs, ensuring both depth and generalizability of the findings.

Furthermore, the following statistical tools were used in interpreting the data collected. Kaiser-Meyer-Olkin (KMO) measures how suited the data is for factor analysis. The test evaluates the model's overall sampling efficiency and the sampling efficiency for each variable. The statistical method quantifies how much of each variance among variables may be a common variance. The more readily the data was lent themselves to factor analysis, the lower the fraction.

Another tool used was the Initial eigenvalue (1.0 above). It is a particular scalar used in matrix multiplication. According to the Kaiser Criterion, Eigenvalues help choose or determine a factor. It is a measure of how many factors there are. It should only be considered a factor if eigenvalues are more

significant than one; otherwise, it should not be considered a factor.

VARIMAX rotation was also used as a statistical tool in the study. It is an essential second step in Factor Analysis and Principal Component Analysis. There are infinite initial or provisional factors in the first step of the factor analysis. Varimax rotation is one type of factor rotation that changes the original factors into new, more understandable ones. Varimax rotation, also known as Kaiser-Varimax rotation, optimizes the variance of the squared loadings, where "loadings" refers to correlations between variables and factors. It often results in high factor loadings for a smaller subset of the variables and low factor loadings for the remaining variables. The remaining components all have eigenvalues of more than one (Stevens 1994, p. 10). Simply put, the outcome is that a few key factors are highlighted, making it simpler to understand the findings.

Another statistical used in the study was the Scree plot, the graphical presentation used in factor analysis. The eigenvalues are plotted on the axis of a scree plot, and the number of components is plotted on the x-axis. It consistently shows a declining curve. The number of components the analysis should create is indicated by the "elbow," which is where the slope of the curve is visibly leveling off.

Thematic analysis was also used as a method of analyzing qualitative data. It is typically used to describe a collection of texts, such as transcripts or interviews. The researcher carefully analyzes the data to find common themes, concepts, topics, and patterns of meaning.

Lastly, Bartlett's test of sphericity was also used as it compares the correlation matrix (a matrix of Pearson correlation) to the identity

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matrix. It checks whether any variables can be summed up by some factors that overlap.

On the other hand, the researcher also adhered to all ethical standards in handling the study participants and data obtained following the guidelines established by the University of Mindanao Ethics Review Committee (UMERC). The researcher ensured to secure and get permission from authorities/organizations where the study was conducted. The personal and

professional information of the respondents required in the study was kept private, and the confidentiality of the respondents' data was adhered to. After complying with all the requirements set by the Ethics Review Committee, the researcher received the UMERC Certificate with UMERC Protocol No; UMERC-2025-110, which certified the implementation of the protocols and submission of related documents set by the office.

## RESULTS AND DISCUSSION

The data analysis from the interviews conducted across four government-owned and controlled corporations (GOCCs) in Davao del Norte served as the foundation for the development of the survey questionnaire. Through the qualitative phase, key themes and recurring patterns related to e-user satisfaction in e-governance implementation were identified. These insights guided the formulation of an initial 100-item survey items, ensuring that each item reflected the actual experiences, perceptions, and concerns of e-governance users within the participating GOCCs. The complete list of generated 100-item survey is presented in Table 1.

Furthermore, to ensure that the questionnaire accurately captures the

intended constructs and maintains both content validity and reliability, the 100-item instrument undergone expert and validator review. These experts evaluated each item based on its clarity, relevance, and alignment with the study's objectives. Their feedback was used to refine and improve the questionnaire, eliminating redundant or unclear statements and retaining only those that effectively measure the components of e-user satisfaction. As a result, the validated 81-item questionnaire now represents a more concise, coherent, and comprehensive tool for assessing e-user satisfaction. The retained items provide a balanced coverage of all major indicators related to e-governance service quality and user experience.

*Table 1*  
*100-Item Survey Statements from Qualitative Phase*

Item No.	Survey Item
1	I can access e-governance platforms easily through various devices (web, mobile app, SMS).
2	E-governance services are available 24/7, making it easier to access services anytime.
3	The mobile app allows me to access all necessary information easily.
4	The app/platform is responsive and functions well on all devices.
5	The platform is optimized for use on mobile devices, ensuring accessibility on the go.

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6 I can access the e-governance platform through multiple devices such as smartphones, tablets,  
and computers.  
7 The platform provides a seamless experience across various devices (iOS, Android, web).  
8 I find it convenient that the platform works across different operating systems (Windows,  
Android, iOS).  
9 I can access and use all of the platform's features without experiencing compatibility issues.  
10 The platform's design allows for easy switching between tasks (e.g., checking benefits, making  
payments).  
11 I find the online registration process to be quick and convenient.  
12 I do not need to visit a physical office because I can complete transactions online.  
13 I am able to make transactions from home, which saves me time and effort.  
14 The digital services offered save me from long queues at the office.  
15 I can make payments, check records, and apply for services without going to the office.  
16 The process of getting a loan or other services online is more convenient than before.  
17 I can apply for services and pay fees directly through the platform without visiting a branch.  
18 I can complete transactions through the platform without needing to visit multiple sites or  
platforms.  
19 I find it efficient that the platform includes all features required to complete various government  
transactions.  
20 I am pleased with how the platform integrates my personal, payment, and transaction details in a  
single account.  
21 The online payment system is user-friendly and efficient.  
22 The platform allows for easy tracking of my service requests and records.  
23 I am satisfied with the speed of service delivery through e-governance platforms.  
24 I can view and verify all relevant records and transactions via the e-governance platform.  
25 I am able to access all relevant government services in one place.  
26 The platform integrates various services, making transactions simpler and faster.  
27 The platform integrates various services into a single, cohesive interface.  
28 The e-governance platform integrates all the essential services in one place.  
29 The platform links my records across all services, allowing me to access everything I need in one  
account.  
30 The platform offers an intuitive integration with payment gateways, making transactions easier.  
31 The e-governance platform has an easy-to-use interface, even for non-tech-savvy users.  
32 I find the platform's navigation intuitive and straightforward.  
33 The platform's layout and design are clear, making it easy to find the information I need.  
34 The website/app loads quickly without unnecessary delays.  
35 I can easily navigate the system to complete any transaction or task.  
36 The platform includes helpful instructions or tutorials to guide me through the process.  
37 I appreciate the user-friendly interface which makes the system easy to understand.  
38 The app is simple to navigate, even for older users or people with limited technical skills.  
39 The system provides a clear step-by-step process for completing tasks or applications.  
40 I am satisfied with the visual design of the e-governance platform, as it is both functional and  
appealing.  
41 I feel confident that my personal information is protected on the e-governance platform.  
42 The platform uses secure methods, such as biometric authentication or facial recognition, for  
verifying users.  
43 I trust the system's security features to protect my data from unauthorized access.  
44 The platform uses encryption to ensure the privacy of my personal and financial information.  
45 I feel that my online transactions are secure and protected from fraud.  
46 I am reassured that my information is stored safely on the platform.

- 47 I appreciate the secure login methods, such as OTP (One-Time Password) or two-factor authentication.
- 48 The system provides clear information on how my personal data is handled and protected.
- 49 I am notified immediately if there's an unusual activity on my account.
- 50 The platform's security features are easy to understand and reassure me of my privacy.
- 51 I am satisfied with the protection of my financial data during online transactions.
- 52 The platform offers regular updates on the security measures in place.
- 53 I trust that my personal data will not be shared without my consent.
- 54 I feel safe making payments and transactions online through the platform.
- 55 I am confident that the platform uses the latest technology to protect my information.
- 56 The platform alerts me if there are any security concerns related to my account.
- 57 I feel secure using the platform for sensitive transactions, like loan applications or payments.
- 58 The platform's security measures make me feel comfortable using it regularly.
- 59 I trust the platform's security to prevent any data breaches or unauthorized access.
- 60 I am confident that my records will remain confidential and not be exposed.
- 61 The platform offers quick updates on my transactions and services in real time.
- 62 The platform provides clear and timely updates about my transactions.
- 63 I can view real-time updates on the status of my applications and requests.
- 64 The system notifies me immediately if any issues arise during my transactions.
- 65 I can track the progress of my claims or applications through the platform.
- 66 I am always informed of any changes or updates to the policies via the platform.
- 67 The system provides transparent communication about any delays or problems with my requests.
- 68 I appreciate receiving timely and accurate notifications about my transactions.
- 69 I trust that the system will update me immediately on important events or changes.
- 70 I find the real-time updates on my payments and claims to be helpful and informative.
- 71 I can access help and support if I have difficulty using the platform.
- 72 The system provides sufficient feedback when actions are taken (e.g., successful payment, registration).
- 73 The platform provides helpful notifications to guide users through the process.
- 74 I receive prompt and clear responses when I ask questions or seek assistance through the platform.
- 75 The platform provides real-time error notifications if something goes wrong with my transaction.
- 76 I am satisfied with how the platform keeps me informed about the services I use.
- 77 The platform allows me to access detailed information about my claims or benefits.
- 78 I receive notifications for important deadlines or necessary actions that I must take.
- 79 I am pleased with how the platform provides timely feedback and status updates on all my transactions.
- 80 I appreciate the platform's ability to support multi-channel communication (SMS, email, social media).
- 81 I can easily check the status of my applications through the platform.
- 82 The e-governance system provides a clear overview of all my activities.
- 83 The user interface is customized to meet the needs of different user groups (e.g., senior citizens).
- 84 The platform allows me to complete all necessary tasks without switching to other websites or platforms.
- 85 The platform's services are well-integrated with third-party services such as payment gateways and other government platforms.
- 86 I can seamlessly switch between devices while using the platform without losing any data or progress.
- 87 The platform integrates my personal and transaction details across multiple government services.

- 88 The system ensures that all services are available in one place, preventing users from navigating between different systems.
- 89 I can view and download all necessary documents in one place without navigating through multiple systems.
- 90 The integration of various government services into one platform improves my overall experience.
- 91 I feel confident using the e-governance platform, knowing that all functionalities are clearly labeled.
- 92 I am satisfied with the organization of the platform's content and services.
- 93 The platform makes it easy to update personal information or make adjustments to transactions.
- 94 I feel that the design of the platform enhances my overall satisfaction with the service.
- 95 The platform gives me access to view the history of my previous interactions or transactions.
- 96 I can easily track the status of my payments and know when they are processed.
- 97 The system provides transparency in how my data is used and processed.
- 98 I feel that the platform communicates with me clearly regarding the status of my application or claim.
- 99 The platform ensures that any changes in government policies or services are communicated efficiently.
- 100 The platform's multi-language support ensures accessibility for diverse users across the nation.

Using the Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity, table 2 revealed the outcomes of the assessment conducted to ascertain the adequacy and appropriateness of the sample for exploratory factor analysis (EFA). The Kaiser-Meyer-Olkin (KMO) measure, gauging sampling adequacy, yielded a robust value of 0.97. This figure surpasses the widely acknowledged threshold of 0.5, affirming the data's high suitability for EFA. Per Kaiser's standards (1974), such a lofty

KMO value signifies the dataset's aptness for identifying distinct factors. Furthermore, Bartlett's test of sphericity yields a value of approximate chi-square equivalent to 34376.63 and the degree freedom of 3403.00. The findings of this examination also unveiled statistical significance of 0.00, denoting that the variables within the dataset are interrelated and manifest patterned associations. Simply put, the presence of identified factors that influence e-governance satisfaction among GOCCs merits the acceptance of the assumption.

*Table 2*  
*Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity*

<b>Kaiser-Meyer-Olkin Measure of Sampling Adequacy</b>		0.97
<b>Bartlett's Test of Sphericity</b>	Approx. Chi-Square	34376.63
	df	3403.00
	Sig.	0.00

In Table 3, the table shows the results of factor analysis through the initial eigenvalues, percentage of variance, and cumulative percentage of variance explained by each factor. Specifically, Factor 1 has an eigenvalue of 46.795 and accounts for 56.38% of the total variance, which means that more than half of the variability in the dataset can be explained by a single dominant factor. Factor 2 has an eigenvalue of 2.591 and explains 3.12% of the variance, raising the cumulative variance explained to 59.50%. Factor 3 contributes an additional

1.97% (eigenvalue = 1.637), Factor 4 contributes 1.57% (eigenvalue = 1.307), Factor 5 contributes 1.47% (eigenvalue = 1.219), and Factor 6 contributes 1.26% (eigenvalue = 1.042). Altogether, these six factors explain 65.77% of the total variance. Since all six have eigenvalues greater than 1, Kaiser's criterion suggests retaining them. However, given that Factor 1 alone explains the majority of the variance, it is clear that the dataset is strongly influenced by one underlying construct, while the other five factors provide only modest additional explanatory power.

**Table 3**  
**Total Variance Explained**

Factor	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	46.795	56.379	56.379
2	2.591	3.122	59.501
3	1.637	1.972	61.473
4	1.307	1.574	63.047
5	1.219	1.469	64.516
6	1.042	1.255	65.771

In figure 3 is shown the graphical explanation of the total variance explained and the graph of the eigenvalues against all the factors. The Scree Plot displays the gradual trailing of the eigenvalues and also identifies the relative fit of each component based on its relative importance. This graph is handy for

determining how many factors should be reasonably retained. The point of interest is where the curve starts flattening. In the context of the presented scree plot, the conspicuous decline in the plotted line after the fourth factor substantiates this observation.

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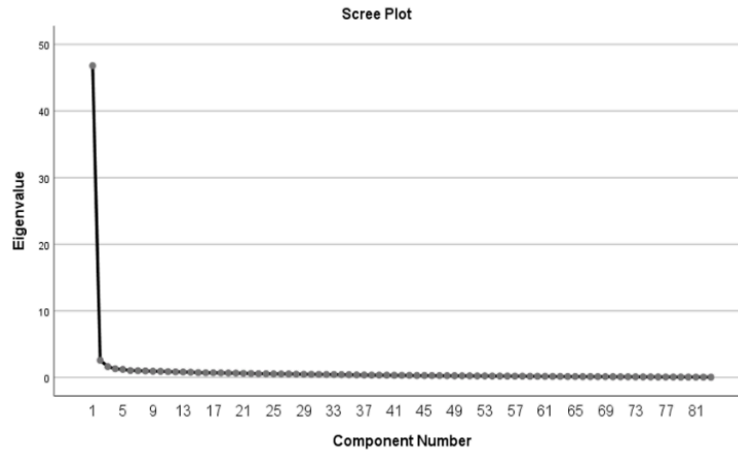


Figure 3. Scree Plot

Table 4 presents the rotated component matrix which shows how the items group together under six extracted factors after applying Varimax rotation. Factor 1 is the strongest, with a large cluster of items which have high loadings ranging from 0.713 to 0.40. This suggests that Factor 1 represents the primary underlying dimension in the dataset, as it captures the greatest number of strongly associated items. Factor 2 also emerges as a meaningful dimension, loading between 0.60 and 0.44, indicating a secondary but distinct construct. Factor 3

appears to be the most cohesive, with very strong and consistent loadings above 0.70 suggesting that this factor represents a clearly defined concept. Factor 4 shows moderate loadings between 0.57 and 0.45, reflecting a supporting sub-dimension of the overall structure. Factor 5 is also identifiable loading strongly at 0.673 and 0.650, though it involves fewer items compared to the dominant factors. Finally, Factor 6 is weak, as it contains only one item (31) with a relatively low loading of 0.41, which makes it unstable and unlikely to represent a meaningful construct.

Table 4.  
Rotated Component Matrix

Item Number	Factor Loading					
	1	2	3	4	5	6
66	0.713					
61	0.705					
79	0.671					
42	0.664					
78	0.663					
73	0.604					
49	0.599					
62	0.585					
67	0.576					
86	0.566					

82	0.557	
90	0.555	
84	0.552	
75	0.546	
89	0.543	
64	0.539	
70	0.529	
50	0.519	
39	0.517	
77	0.517	
88	0.509	
99	0.496	
58	0.468	
46	0.462	
74	0.449	
72	0.448	
51	0.447	
69	0.444	
48	0.437	
19	0.423	
56	0.402	
76		0.6
94		0.593
95		0.593
98		0.562
60		0.532
47		0.531
57		0.528
59		0.528
96		0.501
80		0.485
55		0.478
37		0.467
91		0.466
54		0.453
71		0.448
97		0.442
5		0.735
4		0.717
3		0.715
2		0.714
9		0.641
7		0.618
1		0.571
11		0.553
8		0.545
6		0.544
10		0.476
13		0.476
14		0.474
25		0.468

38	0.454	
23	0.451	
16		0.571
22		0.571
26		0.568
28		0.545
24		0.529
17		0.519
30		0.496
18		0.494
33		0.475
21		0.454
45		0.673
43		0.65
41		0.565
44		0.496
63		0.49
53		0.439
36		0.438
40		0.418
31		0.41

Extraction Method: Principal Component Analysis.  
 Rotation Method: Varimax with Kaiser Normalization.  
 A Rotation converged in 13 iterations.

Furthermore, researcher present the factor loading and thematic analysis findings concerning the constructs of e-governance satisfaction in government-owned and controlled corporations. Following the exploratory factor analysis, the researchers identified a set of 81 items, which were then grouped into five distinct factors or dimensions reflecting the different attitudes of e-user’s satisfaction in government-owned and controlled corporations, namely system reliability and transparency, platform security and user assurance, accessibility and service efficiency, integrated service delivery, and privacy and confidence.

In Table 5.1, transparency and real-time update as the first factor or construct is being presented. Transparency and real-time updates are considered as vital constructs in shaping e-governance satisfaction among e-users of GOCCs. Since these GOCCs’ e-governance platforms involve member’s contribution, transparency and real-time

update is being considered as it warrants those processes, documentary requirements, status feedback, and results are communicated clearly. Transparency is essential in promoting accountability and trust in government activities, as it involves open access to information and decision-making processes (Haque & Rattan, 2020). While the information quality of the e-governance platform is essential by providing timely, accurate, comprehensive, concise, and relevant information in line with e-user’s needs (Li & Shang, 2020). This suggests that enhancing digital governance and transparency can lead to increased public trust and effective government operations (Jopang, Aryatama, Muazzinah, Qamal, & Ansar 2024). Hence, this construct imitates the current expectations of openness, responsiveness, and trustworthiness in digital governance, making them essential indicators of how effectively GOCCs deliver citizen-centered services.

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*Table 5.1*  
**Factor 1: Transparency and Real-Time Update**

Item	Item Statement	r-value
66	I am always informed of any changes or updates to the policies via the platform.	0.713
61	The platform offers quick updates on my transactions and services in real time.	0.705
79	I am pleased with how the platform provides timely feedback and status updates on all my transactions.	0.671
42	The platform uses secure methods, such as biometric authentication or facial recognition, for verifying users.	0.664
78	I receive notifications for important deadlines or necessary actions that I must take.	0.663
73	The platform provides helpful notifications to guide users through the process.	0.604
49	I am notified immediately if there's an unusual activity on my account.	0.599
62	The platform provides clear and timely updates about my transactions.	0.585
67	The system provides transparent communication about any delays or problems with my requests.	0.576
86	I can seamlessly switch between devices while using the platform without losing any data or progress.	0.566
82	The e-governance system provides a clear overview of all my activities.	0.557
90	The integration of various government services into one platform improves my overall experience.	0.555
84	The platform allows me to complete all necessary tasks without switching to other websites or platforms.	0.552
75	The platform provides real-time error notifications if something goes wrong with my transaction.	0.546
89	I can view and download all necessary documents in one place without navigating through multiple systems.	0.543
64	The system notifies me immediately if any issues arise during my transactions.	0.539
70	I find the real-time updates on my payments and claims to be helpful and informative.	0.529
50	The platform's security features are easy to understand and reassure me of my privacy.	0.519
39	The system provides a clear step-by-step process for completing tasks or applications.	0.517
77	The platform allows me to access detailed information about my claims or benefits.	0.517
88	The system ensures that all services are available in one place, preventing users from navigating between different systems.	0.509
99	The platform ensures that any changes in government policies or services are communicated efficiently.	0.496
58	The platform's security measures make me feel comfortable using it regularly.	0.468
46	I am reassured that my information is stored safely on the platform.	0.462
74	I receive prompt and clear responses when I ask questions or seek assistance through the platform.	0.449
72	The system provides sufficient feedback when actions are taken (e.g., successful payment, registration).	0.448
51	I am satisfied with the protection of my financial data during online transactions.	0.447
69	I trust that the system will update me immediately on important events or changes.	0.444
48	The system provides clear information on how my personal data is handled and protected.	0.437
19	I find it efficient that the platform includes all features required to complete various government transactions.	0.423
56	The platform alerts me if there are any security concerns related to my account.	0.402

Table 5.2 presents the second factor or construct of e-governance satisfaction among e-users in GOCCs. The second construct emphasizes the relevance of e-user experience and interface with the digital platform of GOCCs. This construct determines how simple and easy e-users can navigate the digital platforms. A positive e-user experience reflects user-friendliness, responsiveness, and simplicity in completing transactions, while a well-designed interface with simple design and instinctive features improves usability and confidence in the system. According to Jane (2024), by analyzing various e-government services, the researcher identified key user experience

factors such as usability, information architecture, and visual design significantly impact user satisfaction. Sarahneh (2024) also suggests that a digital interface must imitate the user's needs, as a poorly designed interface can confuse and may complicate the user who uses the site. Together, they ensure that GOCC platforms deliver citizen-centered services that are efficient, user-friendly, and trustworthy. Hence, in the context of GOCCs' digital platform, where facilities such as payments, applications, and inquiries are progressively delivered online, a well-structured and user-friendly interface decreases errors, saves time, and reassures continued use of digital platforms.

**Table 5.2**  
**Factor 2: E-User Experience and Interface**

Item	Item Statement	r-value
76	I am satisfied with how the platform keeps me informed about the services I use.	0.6
94	I feel that the design of the platform enhances my overall satisfaction with the service.	0.593
95	The platform gives me access to view the history of my previous interactions or transactions.	0.593
98	I feel that the platform communicates with me clearly regarding the status of my application or claim.	0.562
60	I am confident that my records will remain confidential and not be exposed.	0.532
47	I appreciate the secure login methods, such as OTP (One-Time Password) or two-factor authentication.	0.531
57	I feel secure using the platform for sensitive transactions, like loan applications or payments.	0.528
59	I trust the platform's security to prevent any data breaches or unauthorized access.	0.528
96	I can easily track the status of my payments and know when they are processed.	0.501
80	I appreciate the platform's ability to support multi-channel communication (SMS, email, social media).	0.485
55	I am confident that the platform uses the latest technology to protect my information.	0.478
37	I appreciate the user-friendly interface which makes the system easy to understand.	0.467
91	I feel confident using the e-governance platform, knowing that all functionalities are clearly labeled.	0.466
54	I feel safe making payments and transactions online through the platform.	0.453
71	I can access help and support if I have difficulty using the platform.	0.448
97	The system provides transparency in how my data is used and processed.	0.442

In Table 5.3, integration and multi-platform support is presented as the third factor or

construct of e-governance satisfaction among e-users of GOCCs. Integration and

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multi-platform support serve as a single construct of e-governance satisfaction that reflects the continuous delivery of digital services transversely interconnected systems and accessible devices. In the context of GOCCs, this means that e-users can complete transactions proficiently without repetition or duplication while appreciating reliable access whether through computers, tablets, or mobile phones. By merging system connectivity with cross-platform availability, this paradigm ensures a smooth, inclusive, and reliable user experience that enables citizen trust and satisfaction with e-governance platforms.

This satisfaction level will not be attained without integrating all the services in an application that is accessible to the services of the GOCCs to its stakeholders (Arief, Sensuse, Latif, & Abbas, 2021). Furthermore, an integrated multidimensional standpoint helps in understanding the digital platform, particularly with respect to government initiatives promoting digitalization within society (Upadhyay, Kumar, Dwivedi, & Adlakha, 2022). Thus, this construct highlights the importance of delivering unified, accessible, and user-centered services that enhance overall satisfaction with e-governance in GOCCs.

*Table 5.3*  
*Factor 3: Integration and Multi-Platform Support*

Item	Item Statement	r-value
5	The platform is optimized for use on mobile devices, ensuring accessibility on the go.	0.735
4	The app/platform is responsive and functions well on all devices.	0.717
3	The mobile app allows me to access all necessary information easily.	0.715
2	E-governance services are available 24/7, making it easier to access services anytime.	0.714
9	I can access and use all of the platform's features without experiencing compatibility issues.	0.641
7	The platform provides a seamless experience across various devices (iOS, Android, web).	0.618
1	I can access e-governance platforms easily through various devices (web, mobile app, SMS).	0.571
11	I find the online registration process to be quick and convenient.	0.553
8	I find it convenient that the platform works across different operating systems (Windows, Android, iOS).	0.545
6	I can access the e-governance platform through multiple devices such as smartphones, tablets, and computers.	0.544
10	The platform's design allows for easy switching between tasks (e.g., checking benefits, making payments).	0.476
13	I am able to make transactions from home, which saves me time and effort.	0.476
14	The digital services offered save me from long queues at the office.	0.474
25	I am able to access all relevant government services in one place.	0.468
38	The app is simple to navigate, even for older users or people with limited technical skills.	0.454
23	I am satisfied with the speed of service delivery through e-governance platforms.	0.451

Table 5.4 presents e-governance accessibility and convenience as the fourth factor or

construct of e-governance satisfaction among e-users in GOCCs. Accessibility and

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convenience are vital constructs of e-governance satisfaction as they regulate how simply citizens can use GOCC digital platforms anytime and anywhere. Accessibility decreases barriers by warranting services are inclusive and accessible across devices, while convenience highlights the comfort and efficiency of completing transactions online. Accessibility and convenience also reflect how GOCCs provide inclusive, time-saving, and citizen-friendly digital services, which significantly shape user satisfaction with

e-governance platforms. According to Mohammad (2020), there is a positive impact of website accessibility on the satisfaction of the end-user on government website designs in Jordan, which also affects efficiency and effectiveness of website usage. Moreover, it is also the goal of digital platforms to make interactions more convenient, responsive, clear, and accessible among various stakeholders (Solinthone & Romyantseva, 2016). Hence, it shapes user trust and satisfaction by making government services more citizen-centered and time-saving.

*Table 5.4*  
*Factor 4: E-Governance Accessibility and Convenience*

Item	Item Statement	r-value
16	The process of getting a loan or other services online is more convenient than before.	0.571
22	The platform allows for easy tracking of my service requests and records.	0.571
26	The platform integrates various services, making transactions simpler and faster.	0.568
28	The e-governance platform integrates all the essential services in one place.	0.545
24	I can view and verify all relevant records and transactions via the e-governance platform.	0.529
17	I can apply for services and pay fees directly through the platform without visiting a branch.	0.519
30	The platform offers an intuitive integration with payment gateways, making transactions easier.	0.496
18	I can complete transactions through the platform without needing to visit multiple sites or platforms.	0.494
33	The online payment system is user-friendly and efficient.	0.475
21	The platform's layout and design are clear, making it easy to find the information I need.	0.454

In Table 5.5, presented is the last factor or construct of e-governance satisfaction. E-users' consideration to privacy and security has become a fundamental construct of e-governance satisfaction, as it safeguards their personal and financial data and information of citizens using GOCCs' digital platforms. Ensuring that systems are free against unauthorized access, scam, and data breaches builds trust and confidence among e-users. When digital platforms

assure the confidentiality of e-user data and deliver secure transactions, e-users are more likely to accept or adopt and rely on e-governance services. Privacy and security are two distinct aspects (Munyoka, 2020) that represents the level to which an individual feels safe in sharing personal and financial information by means of digital platforms and guarantee that the information will not be misused. According to Munyoka and Maharaj (2019), the main

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reason for an e-user's shortfall in trust include fear of mismanagement of confidential financial and personal information shared on e-governance services

and the potential deficiency of security of online transactions. Thus, privacy and security play a crucial role in strengthening user satisfaction and sustaining confidence in GOCC digital initiatives.

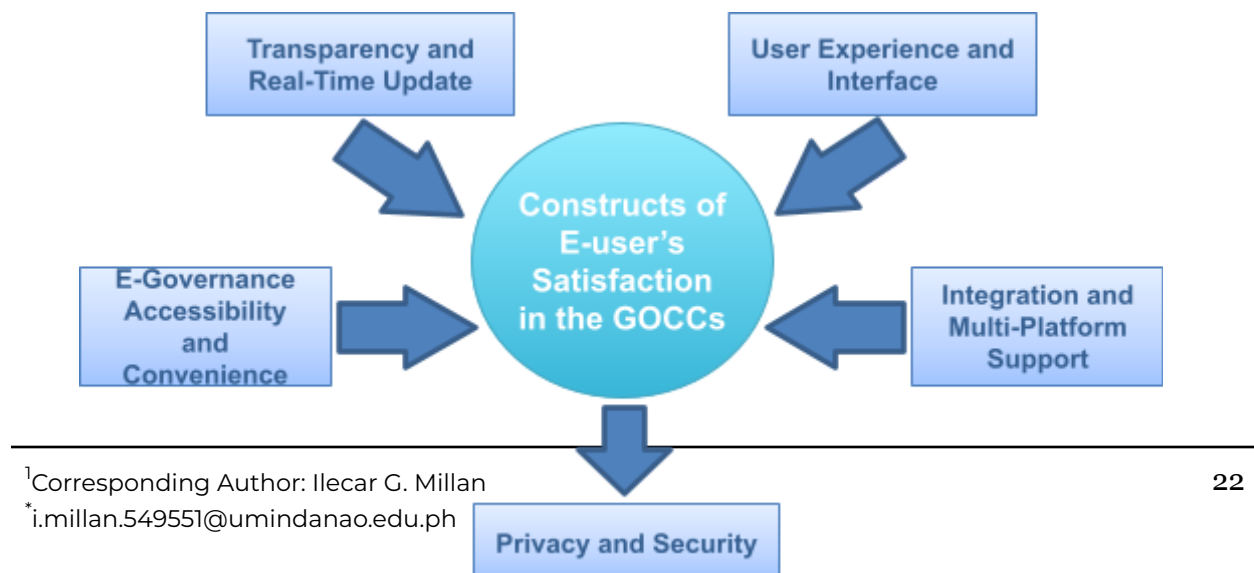
*Table 5.5*  
*Factor 5: Privacy and Security*

Item	Item Statement	r-value
45	I feel that my online transactions are secure and protected from fraud.	0.673
43	I trust the system's security features to protect my data from unauthorized access.	0.65
41	I feel confident that my personal information is protected on the e-governance platform.	0.565
44	The platform uses encryption to ensure the privacy of my personal and financial information.	0.496
63	I can view real-time updates on the status of my applications and requests.	0.49
53	I trust that my personal data will not be shared without my consent.	0.439
36	The platform includes helpful instructions or tutorials to guide me through the process.	0.438
40	I am satisfied with the visual design of the e-governance platform, as it is both functional and appealing.	0.418

Furthermore, presented in Figure 4 is the generated framework for the constructs of e-governance satisfaction in government-owned and controlled corporations. These constructs include transparency and real-time update, user experience and interface, integration and multi-platform support, e-governance accessibility and convenience, and privacy and security.

multi-platform support, e-governance accessibility and convenience, and privacy and security. These five factors or constructs significantly affects e-users' satisfaction in e-governance in GOCCs. The framework provides a schematic illustration of the measurement tool being developed.

Figure 4. Multidimensional Framework on E-user's Satisfaction in the GOCCs



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The constructs extracted reflect the features of digital platforms of e-governance in GOCCs possess to meet e-user's satisfaction. Following the key dimensions of Digital Governance Divide Framework of Lagura (2025) in assessing the Local Government Units (LGUs) websites, among the five constructs, the privacy and security matched

with the existing dimensions. However, in the case of the GOCCs' e-governance platform, four new constructs were identified. These are transparency and real-time update, user experience and interface, e-governance accessibility and convenience, and integration and multi-platform support.

## CONCLUSION AND RECOMMENDATION

The shift to the digital world has been continuously adapted by the Philippine government. In particular, government-owned and controlled corporations that present social services to the citizens has also tagged along with this development following their mandate in providing independence, transparency, accountability, and fairness. As part of this digital advancement, it is both a challenge and opportunity for the GOCCs to identify what more can satisfy the citizens, their e-users. With this, the study was conducted to identify the constructs of e-governance satisfaction among GOCCs' digital platform e-users. The five constructs of e-governance satisfaction among GOCCs developed using the exploratory factor analysis are transparency and real-time update, user experience and interface, e-governance accessibility and convenience, integration and multi-platform support, and privacy and security. The generated constructs concurred with the Technology Acceptance Model (TAM) by Davis (1989) that believed to demonstrate how users come to take and utilize a technology. This implies that the identified constructs bring into line with recognized theory, strengthening their significance in explaining user satisfaction and acceptance of e-governance platforms.

From the results of the study, it is recommended that GOCCs strengthen these areas by enhancing system responsiveness, ensuring secure platforms, and designing citizen-centered interfaces to advance trust and satisfaction among e-users. Distinct consideration should be specified to providing seamless multi-platform access and real-time feedback, as these are directly linked to efficiency and user confidence in public digital services.

For future research, it is recommended to scrutinize how these constructs interrelate and influence long-term adoption of e-governance platforms across different sectors and service types. Comparative studies between various GOCCs, or between GOCCs and other government institutions, may offer profound insights into satisfaction drivers. Additionally, future studies could deliberate moderating factors such as demographic profiles, digital literacy, and internet accessibility, which may outline how users perceive and value these constructs. Such investigations would further validate the framework and guide both policy development and system innovation in e-governance.

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Lastly, future studies are also encouraged to conduct a Confirmatory Factor Analysis (CFA) to validate the five identified constructs of e-governance satisfaction. This

will confirm the reliability and structural validity of the factors derived from the exploratory phase and strengthen the generalizability of the proposed model across different GOCC digital platforms.

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