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OPTIMIZING E-GOVERNANCE: ACCESSIBILITY AND LEARNABILITY OF THE BUREAU OF IMMIGRATION'S E-SERVICES IN DELIVERING QUALITY PUBLIC SERVICE

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ABSTRACT

In the present high-tech digital age, government offices globally are putting more of their services on the internet to further extend efficiency, accessibility, and responsiveness to changing public demands. With the current status that the Bureau of Immigration's E-services face challenges related to accessibility, learnability, and user satisfaction, this study aims to assess the accessibility and learnability of the Bureau of Immigration's E-Services and Client Support towards a quality public service. This study utilized a descriptive type of research design. The research method employed is quantitative. Using a convenience sampling method, the population were 25 clients and 25 Bureau of Immigration's employees in the Bureau of Immigration (BI) in Manila, Philippines. The research instrument used in this study was self-developed by the researcher. The study found that both clients and employees perceived the Bureau of Immigration's E-services and client support as moderately effective and accessible, with no significant difference in their assessments. The Bureau's digital services are generally functional and reliable but require improvements in user-friendliness, inclusivity, and proactive client support. It is recommended that the Bureau adopt the Proposed E-Service Enhancement Framework (ESEF) to enhance accessibility, efficiency, engagement, responsiveness, and system learnability.

KEYWORDS: *E-Services, Client Support, Accessibility, Operational Efficiency, Digital Transformation*

INTRODUCTION

1.1 Background of the Study

In the present high-tech digital age, government offices globally are putting more of their services on the internet to further extend efficiency, accessibility, and responsiveness to changing public demands. The Philippine Bureau of Immigration is no exception and installed several E-Services which made the immigration process easier and significantly improved the overall level of satisfaction. In spite of all these developments, the actual delivery of these E-Services remains an imperative issue. Issues on accessibility and learnability have far-reaching implications on the quality of public service, and thus there is a need for close scrutiny of the BI's electronic products.

There is increased international focus on digitalization of public services as a way of increasing transparency, efficiency, and citizen participation. International institutions such as the United Nations (UN) and the Organization for Economic Co-operation and Development (OECD) have made observations of the relevance of e-government initiatives to improving public service delivery. Yet, while these innovations have been made, research has identified that e-government services tend not to be implemented because of issues of accessibility, digital literacy, and user focus. They are likely to disproportionately harm the poor and vulnerable populations and therefore further enhance inequalities in the access to the basic services.

For example, Tanzania has markedly increased the use of electronic services in immigration processes, as stated by Tanzania's immigration agency (Authority, 2022). The government of Tanzania has also taken measures to enhance the efficiency and effectiveness of e-governance by providing such services (Kipingu & Shayo, 2021)). Nevertheless, in reviewing the available literature, little intensive work exists regarding Tanzanian e-immigration services. Although studies by Kipingu & Shayo (2021) and Mbilinyi & Werema (2019) show initiatives to improve the quality of services, there are concerns regarding the effectiveness of such e-services in addressing the needs and satisfaction of users, more so the quality of service delivery. Immigration statistics reports have caused concerns for visa applicants who make use of online procedures, raising questions regarding the overall credibility of these services (Gregory, 2023).

UN's 2020 E-Government Survey further highlights that even though a significant number of countries have been implementing e-government successfully, widespread digital divide remains. People with disabilities and marginalized groups will enjoy easier limited access to government services online (UN e-Government Knowledgebase, 2020). The foregoing discussion brings into perspective the need for an overall strategy for digital service delivery with emphasis on universal access and accessibility.

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Even in the Philippines, the government has been aware of the importance of digital transformation in enhancing public service delivery. Enhancement of government responsiveness and efficiency through the utilization of information and communications technologies (ICTs) was prioritized by the Philippine Development Plan 2017-2022. Actions by the Department of Information and Communications Technology (DICT) and involving the Government Web Accessibility Toolkit aim to make websites more usable and accessible in government websites and web portals (Dharmaraj, 2024). However, some studies in the Philippines document persistent setbacks when it comes to the use of e-government services, such as end-user adoption and end-user satisfaction. The nation's 93rd ranking place out of 193 nations in the EGDI report in 2020 (Facts in Figures, 2021) also supports that tremendous improvement needs to be made towards ensuring that government online services become more accessible, usable, and better in quality.

Locally, the BI has been striving to apply its E-Services platform to streamline the immigration procedures. The services include an array of functionalities, including online application submission, document tracking, and payment. Anecdotal reports and client feedback, however, indicate that there are still issues with the learnability and accessibility of these online services, particularly among clients whose technological literacy levels vary significantly. Additionally, internal BI surveys have also identified an essential necessity to improve the usability and user-friendliness of the E-Services platform, as well as the efficacy of training that has been imparted to BI personnel who are involved in the development and maintenance of such web-based services.

With these complex issues at hand, this study is necessary in identifying determinative areas of improvement and making evidence-based recommendations towards improving the overall quality of the BI's E-Services and public service delivery. By addressing these gaps, the study aims to contribute to the larger discourse on digital governance and its implications on citizens' engagement and service quality in the Philippines.

1.2 Review of Related Literature and Studies

Globally, service delivery through digital platforms, known as e-services, has significantly transformed traditional operations in both private and public sectors (Jain, 2024; Gregory, 2023). The shift toward online systems is fueled by technological innovations such as semantic web applications (Goundar, 2021), which improve communication, automate processes, and enhance accessibility. E-services span across banking, education, healthcare, and especially e-government, offering citizens convenient access to public information and transactions while promoting transparency and accountability (OECD, 2020). In immigration, several countries including EU and OECD members have adopted digital and AI-based systems for residence and citizenship applications to streamline processes and enhance security. However, despite their advantages, challenges like the digital divide and limited digital literacy persist (UN e-Government Knowledgebase, 2020), emphasizing the need for inclusive and user-friendly platforms.

In the Philippine context, the government has strengthened its commitment to digital transformation through initiatives such as the Bureau of Immigration's (BI) eServices platform to simplify transactions for foreign nationals (Casilao, 2023). This is supported by national policies including RA 8792 (E-Commerce Act of 2000), RA 9485 (Anti-Red Tape Act of 2007), and RA 11032 (Ease of Doing Business Act of 2018), all promoting transparency and efficiency. The Philippine Development Plan 2017–2022 also emphasizes ICT utilization for improved governance and public service delivery (PDP, 2022). Despite these advancements, the 2020 E-Government Development Index ranked the Philippines 93rd globally (Facts in Figures, 2021), indicating the need to address accessibility, usability, and data security concerns (Camus, 2019; Abadilla, 2019; Segumpan & Zahari, 2022). Building public trust through stronger cybersecurity and transparent data practices remains essential.

Foreign studies reinforce these findings. Patishman (2023) and Phate (2017) highlight the shift from paper-based to digital immigration systems such as e-passports and e-visas to enhance security. In the U.S., Donovan (2005), as cited by Gregory (2023), explains how the creation of the Department of Homeland Security reshaped immigration management for both security and service efficiency. Similarly, Okunola & Rowley (2019) in Nigeria and Kipingu & Shayo (2021) in Tanzania emphasize that while e-immigration improves convenience and efficiency, users still express concerns about website security, digital literacy, and feedback systems. In Kenya, Macotiende (2021) found that e-governance tools such as e-visa systems positively affect employee performance and customer satisfaction, though outcomes vary by user characteristics. Moreno et al. (2018) further argue for accessible design standards for e-government websites, advocating compliance with Web Content Accessibility Guidelines (WCAG) for inclusivity.

Local studies in the Philippines align with these global insights. Ramos et al. (2021) and Cereno (2024) note that digital advancements enable innovative public services that foster sustainable and collaborative governance. Pancho (2023) confirms a strong positive correlation between e-governance practices and quality of government-to-citizen service delivery, while Estrellana (2023) demonstrates how the BIR's Electronic Filing and Payment System (EFPS) enhances efficiency and user satisfaction. Moreover, Indama (2023)

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stresses that the success of e-government depends on adequate infrastructure, effective leadership, stakeholder collaboration, and user-centered design, while also identifying persistent challenges such as the digital divide, data privacy issues, and citizen trust.

1.3 Statement of the Problem

With the current status that the Bureau of Immigration's E-services face challenges related to accessibility, learnability, and user satisfaction, this study aims to assess the accessibility and learnability of the Bureau of Immigration's E-Services and Client Support towards a quality public service. Specifically, this study seeks to answer the following questions.

1. What is the level of implementation of the Bureau's E-services as perceived by the respondents in terms of:
   1.1 Accessibility;
   1.2 Operational Efficiency; and
   1.3 User Engagement?
2. What is the level of effectiveness of client support given by the E-services of the Bureau of Immigration as perceived by the respondents in terms of:
   2.1 Responsiveness on services;
   2.2 Problem resolution; and
   2.3 Client experience?

3. What is the level of learnability and accessibility of the Bureau of Immigration's E-services and Client Support in terms of:
   3.1 System learnability;
   3.2 Technical Accessibility;
   3.3 Inclusivity; and
   3.4 Barriers on connectivity and infrastructure?
4. Is there a significant difference in the level of learnability and accessibility of the Bureau of Immigration's E-services and Client Support of the two sets of respondents?
5. Based on the study's data, what E-Service Enhancement Framework (ESEF) can be proposed?

METHODOLOGY

2.1 Research Design

This study utilized a descriptive type of research design. A descriptive research design is used to describe the characteristics of a population or phenomenon being studied. In this study, the researcher aims to assess the accessibility and learnability of the Bureau of Immigration's (BI) E-Services from the perspective of the clients. The descriptive research design allows the researchers to gather information about the current state of the BI's E-Services.

2.2 Research Method

The research method employed in this study is quantitative. Quantitative research is a systematic and objective approach to investigating phenomena and relationships through the collection and analysis of numerical data. In this study, the quantitative research method allows the researcher to collect and analyze numerical data to measure the clients' assessment of the various E-Services, such as appointment scheduling, application submission, payment, verification status, document tracking, and feedback/complaint submission.

2.3 Population of the Study

In this study, the population were 25 clients and 25 Bureau of Immigration's employees for a total of 50 respondents. The researcher in this study used a convenience sampling method to choose the respondents. Convenience sampling is a non-probability sampling method where the respondents are selected according to their availability and accessibility to the researcher.

2.4 Locale of the Study

The locale of this study is the Bureau of Immigration (BI) in Manila, Philippines. This setting is highly relevant to the direction of the study, as it is the primary location where the BI's E-Services are developed, implemented, and utilized by both the BI employees and the clients. The researcher chose to conduct the study at the Manila office of the BI because it is the primary agency tasked with implementing and maintaining the E-Services, and where the stakeholders involved, including the employees and clients, are situated.

2.5 Data Gathering Tool/s

The research instrument was self-developed by the researcher due to the absence of existing tools that fully captured the study's scope and objectives. It was constructed based on the researcher's knowledge of the Bureau of Immigration's (BI) E-Services and related laws and guidelines. A panel of three experts validated the instrument for clarity, relevance, and alignment with the study's goals, and their

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feedback was incorporated to refine it. The finalized survey, covering demographics, accessibility, learnability, and user challenges, was found comprehensive and appropriate. Reliability testing using Cronbach's Alpha produced a coefficient of 0.997, indicating excellent internal consistency and high reliability.

2.6 Treatment of the Data

The study employed both descriptive and multivariate statistical methods for data analysis. For SOPs 1 to 3, descriptive statistics, specifically the median, were used to assess clients' perceptions of the Bureau of Immigration's E-services in terms of accessibility, operational efficiency, user engagement, responsiveness, problem resolution, system learnability, and technical accessibility. For SOP 4, a multivariate analysis was conducted to determine significant differences between clients' and employees' assessments, with a significance level set at $p < 0.05$.

RESULTS

I. Implementation of the Bureau's E-services

1.1 Accessibility

Table 1. ***Implementation Level of the Bureau's E-services in terms of Accessibility***

Statements	Client	Employee	Overall	Interpretation
1. The Bureau of Immigration's E-services website is easy to locate.	4.00	4.00	4.00	Highly Implemented
2. It takes me no more than two clicks to locate specific forms or services.	3.00	2.00	2.50	Slightly Implemented
3. The website of the Bureau of Immigration's E-services is responsive.	4.00	4.00	4.00	Highly Implemented
4. Loading the E-services website takes on average less than 5 seconds.	3.00	3.00	3.00	Moderately Implemented
5. Contact details for customer care are readily posted on the site.	3.00	3.00	3.00	Moderately Implemented
6. Logical structure/layout is found on the E-services web page.	3.00	3.00	3.00	Moderately Implemented
7. I encountered fewer than three technical errors on using the E-services.	3.00	3.00	3.00	Moderately Implemented
8. It is easy and concise to see instructions on filling out forms.	3.00	3.00	3.00	Moderately Implemented
9. Language options available are English and Filipino.	2.00	3.00	2.50	Slightly Implemented
10. It is possible to use the E-services alone.	3.00	3.00	3.00	Moderately Implemented
Overall	**3.00**	**3.00**	**3.00**	**Moderately Implemented**

Legend: 4 = Highly Implemented
3 = Moderately Implemented
2 = Slightly Implemented
1 = Not Implemented

As shown in Table 1, the Bureau of Immigration's E-services achieved an overall mean of 3.00, interpreted as moderately implemented. Both clients and employees shared this perception, indicating consistent ease in locating and using the platform but revealing room for improvement in navigation, language inclusivity, and site responsiveness. The website's visibility was rated highly implemented (4.00), confirming its accessibility through official portals, while limited language options and navigation efficiency scored lowest (2.50), suggesting that inclusivity and intuitive design remain areas for enhancement.

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1.2 Operational Efficiency

Table 2. ***Implementation Level of the Bureau's E-services in terms of Operational Efficiency***

Statements	Client	Employee	Overall	Interpretation
1. Action is taken on my requests through the E-services within 24 hours.	4.00	4.00	4.00	Highly Implemented
2. There have been no unplanned outages from using the E-services during the past month.	2.00	3.00	2.50	Slightly Implemented
3. The application process online is not more than five steps.	3.00	3.00	3.00	Moderately Implemented
4. I get notified of my application within 30 minutes after uploading.	3.00	3.00	3.00	Moderately Implemented
5. I have not been required to go to a physical office to access services online.	3.00	3.00	3.00	Moderately Implemented
6. I am able to monitor the status of my application in real-time on the website.	4.00	4.00	4.00	Moderately Implemented
7. The transaction process enables me to finish my work within less than 10 minutes.	3.00	3.00	3.00	Moderately Implemented
8. I have not experienced problems that have required me to restart my application.	3.00	3.00	3.00	Moderately Implemented
9. I can access all necessary services without visiting several websites.	3.00	3.00	3.00	Moderately Implemented
10. I have found the E-services to be reliable in terms of keeping deadlines.	3.00	3.00	3.00	Moderately Implemented
Overall	**3.00**	**3.00**	**3.00**	**Moderately Implemented**

Legend: 4 = Highly Implemented
3 = Moderately Implemented
2 = Slightly Implemented
1 = Not Implemented

Table 2 presents a moderate overall rating (3.00) for operational efficiency, showing that while the Bureau's E-services enable smooth online transactions, users still encounter occasional delays and technical issues. The prompt action on service requests within 24 hours was highly implemented (4.00), indicating strong responsiveness and workflow coordination. However, system reliability issues such as unplanned outages received the lowest rating (2.50), suggesting that infrastructure stability requires strengthening.

1.3 User Engagement

Table 3. ***Implementation Level of the Bureau's E-services in terms of User Engagement***

Statements	Client	Employee	Overall	Interpretation
1. I used the E-services at least twice over the past month.	3.00	3.00	3.00	Moderately Implemented
2. I consciously search for new features or updates on the E-services platform.	3.00	2.00	2.50	Slightly Implemented
3. I have given feedback on my experience with the E-services over the past year.	3.00	3.00	3.00	Moderately Implemented
4. I have instructed at least one person to use the E-services within the past month.	3.00	3.00	3.00	Moderately Implemented
5. I intend to use the E-services for future immigration services.	3.00	3.00	3.00	Moderately Implemented
6. I have studied study material or guides related to the E-services.	3.00	3.00	3.00	Moderately Implemented
7. I am confident in learning all the features of the E-services available.	3.00	3.00	3.00	Moderately Implemented
8. I have completed response questionnaires related to the E-services.	3.00	3.00	3.00	Moderately Implemented
9. I am aware of how to access all the services provided by the E-services platform.	4.00	4.00	4.00	Highly Implemented
10. I like the interactive aspects of the E-services.	3.00	3.00	3.00	Moderately Implemented
Overall	**3.00**	**3.00**	**3.00**	**Moderately Implemented**

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As shown in Table 3, user engagement was also rated moderately implemented with an overall score of 3.00, implying that both clients and employees actively use the platform but with limited initiative for deeper interaction. The highest-rated item was awareness of all available services (4.00), indicating users' confidence in navigating the system. Conversely, users were less likely to seek new features or updates (2.50), reflecting a passive interaction pattern.

II. Effectiveness of client support given by the E-services of the Bureau of Immigration

2.1 Responsiveness on services

Table 4. ***Effectiveness of client support given by the E-services of the Bureau of Immigration in terms of Responsiveness on Services***

Statements	Client	Employee	Overall	Interpretation
1. I received a response to my query within less than 2 hours.	4.00	4.00	4.00	Highly Effective
2. I was given a clear answer to my question during my previous experience with client support.	3.00	3.00	3.00	Moderately Effective
3. The response time for telephone support is under 5 minutes on average.	3.00	3.00	3.00	Moderately Effective
4. I have called client support on more than one occasion during the last month.	3.00	3.00	3.00	Moderately Effective
5. The support team gave me precise information about my problem.	3.00	3.00	3.00	Moderately Effective
6. I am able to contact the client support team by email or by chat.	3.00	3.00	3.00	Moderately Effective
7. Support staff are online during work hours when I have to ask for assistance.	4.00	4.00	4.00	Highly Effective
8. I was promised contact follow-up concerning my problem in 48 hours.	3.00	3.00	3.00	Moderately Effective
9. I never had to contact support twice to solve the same problem.	3.00	3.00	3.00	Moderately Effective
10. I believe my queries are replied to promptly.	3.00	3.00	3.00	Moderately Effective
Overall	**3.00**	**3.00**	**3.00**	**Moderately Effective**

Legend: 4= Highly Effective
3 = Moderately Effective
2 = Slightly Effective
1 = Not Effective

As shown in Table 4, both clients and employees rated the responsiveness of the Bureau of Immigration's E-services as moderately effective with an overall median of 3.00. This indicates that while responses are generally timely and staff are available during work hours, there is still a need for quicker and more personalized support. The consistently moderate ratings suggest that the system meets basic service expectations but has yet to reach an exceptional level of responsiveness.

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2.2 Problem Resolution

Table 5. ***Effectiveness of client support given by the E-services of the Bureau of Immigration in terms of Problem Resolution***

Statements	Client	Employee	Overall	Interpretation
1. My problem was solved on the first contact with client support.	3.00	3.00	3.00	Moderately Effective
2. I received a good explanation of how my problem was solved.	4.00	4.00	4.00	Highly Effective
3. My problem was solved by the support team within 24 hours.	3.00	3.00	3.00	Moderately Effective
4. I was given a reference number for me to trace my problem.	3.00	3.00	3.00	Moderately Effective
5. The solution was as expected from a performance standpoint.	3.00	3.00	3.00	Moderately Effective
6. I was told of the actions taken to solve my problem.	3.00	3.00	3.00	Moderately Effective
7. I was surprised to see that the support team acted proactively to address the problem.	3.00	3.00	3.00	Moderately Effective
8. I received suitable resources or hyperlinks to assist with my problem.	3.00	3.00	3.00	Moderately Effective
9. I was satisfied with the outcome of the problem-solving process.	3.00	3.00	3.00	Moderately Effective
10. I have no doubt that the support team can handle similar problems in the future.	3.00	3.00	3.00	Moderately Effective
Overall	**3.00**	**3.00**	**3.00**	**Moderately Effective**

Legend: 4 = Highly Effective
3 = Moderately Effective
2 = Slightly Effective
1 = Not Effective

Table 5 shows that the overall median rating for problem resolution is 3.00, interpreted as moderately effective. Both clients and employees perceive that their concerns are adequately addressed, though not always resolved on first contact. The finding that users receive clear explanations of solutions (median = 4.00) highlights the strength of the Bureau's communication, but the moderate scores on proactivity and follow-up indicate areas for improvement in providing faster and more consistent resolutions.

2.3 Client experience

Table 6. ***Effectiveness of client support given by the E-services of the Bureau of Immigration in terms of Client Experience***

Statements	Client	Employee	Overall	Interpretation
1. The E-services lived up to my expectation in terms of efficiency.	3.00	3.00	3.00	Moderately Effective
2. I did not have trouble using the E-services.	3.00	3.00	3.00	Moderately Effective
3. The design of the E-services was helpful to me.	3.00	3.00	3.00	Moderately Effective
4. I could finish my work without undue delay.	3.00	3.00	3.00	Moderately Effective
5. I think that the E-services give users enough information.	3.00	3.00	3.00	Moderately Effective
6. I have not found any confusing features when using the E-services.	3.00	3.00	3.00	Moderately Effective
7. I feel safe entering my personal information using the E-services.	3.00	3.00	3.00	Moderately Effective
8. I am satisfied with the overall quality of the E-services.	3.00	3.00	3.00	Moderately Effective
Overall	**3.00**	**3.00**	**3.00**	**Moderately Effective**

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Legend: 4= Highly Effective
3 = Moderately Effective
2 = Slightly Effective
1 = Not Effective

As presented in Table 6, the overall median rating for client experience is 3.00, corresponding to moderately effective. This means that users find the E-services functional, safe, and satisfactory but not exceptional in design or usability. While the system effectively supports users' needs and maintains acceptable levels of trust and data security, enhancements in interface design, responsiveness, and user engagement are needed to elevate the overall service experience.

III. Learnability and accessibility of the Bureau of Immigration's E-services and Client Support

3.1 System Learnability

Table 7. ***Learnability and accessibility of the Bureau of Immigration's E-services and Client Support in terms of System Learnability***

Statements	Client	Employee	Overall	Interpretation
1. I was able to learn how to use the E-services within one session.	3.00	3.00	3.00	Agree
2. The layout of the E-services helps me understand how to navigate easily.	3.00	3.00	3.00	Agree
3. I can perform basic tasks without needing any assistance.	3.00	3.00	3.00	Agree
4. The tutorials provided are clear and easy to follow.	3.00	3.00	3.00	Agree
5. I remember how to use the E-services after not using them for a month.	3.00	3.00	3.00	Agree
6. It took me less than 15 minutes to become familiar with the system.	3.00	3.00	3.00	Agree
7. I can easily locate help resources on the E-services platform.	3.00	3.00	3.00	Agree
8. The instructions for using features are straightforward.	3.00	3.00	3.00	Agree
9. I feel confident in my ability to use the E-services without training.	3.00	3.00	3.00	Agree
10. I am able to discover new features on the platform without difficulty.	3.00	3.00	3.00	Agree
Overall	**3.00**	**3.00**	**3.00**	**Agree**

Legend: 1 = Strongly Disagree
2 = Disagree
3 = Agree
4 = Strongly Agree

Findings show that both clients and employees rated system learnability with an overall median of 3.00 (Agree), indicating that users generally find the Bureau's E-services easy to learn and navigate. The platform's layout, tutorials, and instructions were perceived as clear and straightforward, enabling users to operate the system with minimal guidance. However, while users could easily perform basic functions, discovering new features required more effort, suggesting a need to enhance feature visibility and onboarding materials.

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3.2 Technical Accessibility

Table 8. ***Learnability and accessibility of the Bureau of Immigration's E-services and Client Support in terms of Technical Accessibility***

Statements	Client	Employee	Overall	Interpretation
1. I can use the E-services from my home internet connection with ease.	3.00	3.00	3.00	Agree
2. The website is fine on my mobile phone.	3.00	3.00	3.00	Agree
3. I have not experienced any technical issues when using the E-services over the past month.	3.00	3.00	3.00	Agree
4. I am able to download required documents from the E-services without any issues.	3.00	3.00	3.00	Agree
5. The website responds quickly and is adjustable according to screen size.	3.00	3.00	3.00	Agree
6. I am able to reach technical support in case of any problem.	3.00	3.00	3.00	Agree
7. I am able to fill out my applications without encountering any error messages.	3.00	3.00	3.00	Agree
8. I can apply the E-services dependably in cases where there is internet.	3.00	3.00	3.00	Agree
Overall	**3.00**	**3.00**	**3.00**	**Agree**

Legend: 1 = Strongly Disagree
2 = Disagree
3 = Agree
4 = Strongly Agree

Technical accessibility was also rated 3.00 (Agree) by both clients and employees, reflecting that the E-services function smoothly across devices and networks. Users agreed that the system performs well on mobile and desktop interfaces and allows easy access and document downloads. However, accessibility to technical support, while satisfactory, emerged as a minor limitation, implying that support responsiveness should be strengthened to maintain user trust and efficiency.

3.3 Inclusivity

Table 9. ***Learnability and accessibility of the Bureau of Immigration's E-services and Client Support in terms of Inclusivity***

Statements	Client	Employee	Overall	Interpretation
1. The options of language on the E-services are adequate to my needs.	3.00	3.00	3.00	Agree
2. I experience the E-services as being suited to disabled users.	3.00	3.00	3.00	Agree
3. I can find material related to my culture on the E-services system.	3.00	3.00	3.00	Agree
4. Navigation for the E-services is easy to use by individuals of all age groups.	3.00	3.00	3.00	Agree
5. I have access to resources that help users with limited digital skills.	3.00	3.00	3.00	Agree
6. The E-services offer various formats for information (e.g., audio).	2.00	3.00	2.50	Disagree
7. I am able to use the E-services without any disruption based on my background.	3.00	3.00	3.00	Agree
8. The design of the E-services takes into account the requirements of various users.	3.00	3.00	3.00	Agree
Overall	**3.00**	**3.00**	**3.00**	**Agree**

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Legend: 1 = Strongly Disagree
2 = Disagree
3 = Agree
4 = Strongly Agree

Inclusivity was rated 3.00 (Agree) overall, showing that the E-services are generally inclusive of diverse users regardless of age, background, or ability. The platform's design was considered easy to navigate and accessible for most users. Nonetheless, the lower rating (2.50) on the item concerning multiple information formats (e.g., audio) revealed a gap in serving users with disabilities or limited literacy, emphasizing the need to adopt more inclusive design features and multimedia options.

3.4 Barriers on connectivity and infrastructure

Table 10. ***Learnability and accessibility of the Bureau of Immigration's E-services and Client Support in terms of Barriers on connectivity and infrastructure***

Statements	Client	Employee	Overall	Interpretation
1. I have faced connectivity issues that prevented me from accessing the E-services.	3.00	3.00	3.00	Agree
2. My internet speed is adequate for using the E-services effectively.	3.00	3.00	3.00	Agree
3. I have experienced hardware limitations (e.g., outdated computer) when using the services.	3.00	3.00	3.00	Agree
4. Geographic location affects my ability to access the E-services reliably.	3.00	3.00	3.00	Agree
5. I have encountered issues with public internet access points when trying to use the services.	3.00	3.00	3.00	Agree
6. I believe improvements in local infrastructure would enhance my access to the E-services.	2.00	3.00	2.50	Disagree
7. I have faced difficulties due to inadequate internet coverage in my area.	3.00	3.00	3.00	Agree
8. I have had to seek alternative methods due to technical barriers.	3.00	3.00	3.00	Agree
9. I often use my mobile data to access the E-services due to poor Wi-Fi.	3.00	3.00	3.00	Agree
Overall	**3.00**	**3.00**	**3.00**	**Agree**

Legend: 1 = Strongly Disagree
2 = Disagree
3 = Agree
4 = Strongly Agree

This domain received an overall rating of 3.00 (Agree), meaning that while users encounter some connectivity and infrastructure challenges, these do not severely hinder access to E-services. Users acknowledged limitations in internet coverage and hardware but adapted through alternative means such as mobile data. The lowest rating (2.50) for infrastructure improvement suggests that users have adjusted to existing conditions, though upgrades in connectivity and hardware support would still enhance user experience.

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IV. Difference in the level of learnability and accessibility of the Bureau of Immigration's E-services and Client Support

Table 11. ***Difference in the Level of Learnability and Accessibility of the Bureau of Immigration's E-Services and Client Support between Clients and Employees***

Domain	Respondent Type	Mean	Std. Error	F-value	Sig. (p-value)	Interpretation
System Learnability	Client	3.024	0.126	0.000	1.000	No significant difference
	Employee	2.916	0.153			
Technical Accessibility	Client	3.004	0.129	0.000	1.000	No significant difference
	Employee	2.973	0.153			
Inclusivity	Client	2.937	0.118	0.000	1.000	No significant difference
	Employee	2.906	0.155			
Barriers on connectivity and infrastructure	Client	3.004	0.111	0.000	1.000	No significant difference
	Employee	2.862	0.159			

Note: *Significance level set at $p < 0.05$.*

As shown in Table 11, the comparison between clients and employees revealed no statistically significant differences in their assessments across all four domains of learnability and accessibility. Clients consistently reported slightly higher mean scores than employees, most notably in system learnability (3.024 vs. 2.916) and barriers on connectivity and infrastructure (3.004 vs. 2.862), but the differences were negligible as indicated by identical F-values of 0.000 and p-values of 1.000. This suggests that the perspectives of both groups converge, highlighting a shared experience of the Bureau's E-services and client support systems.

V. Proposed E-Service Enhancement Framework (ESEF)

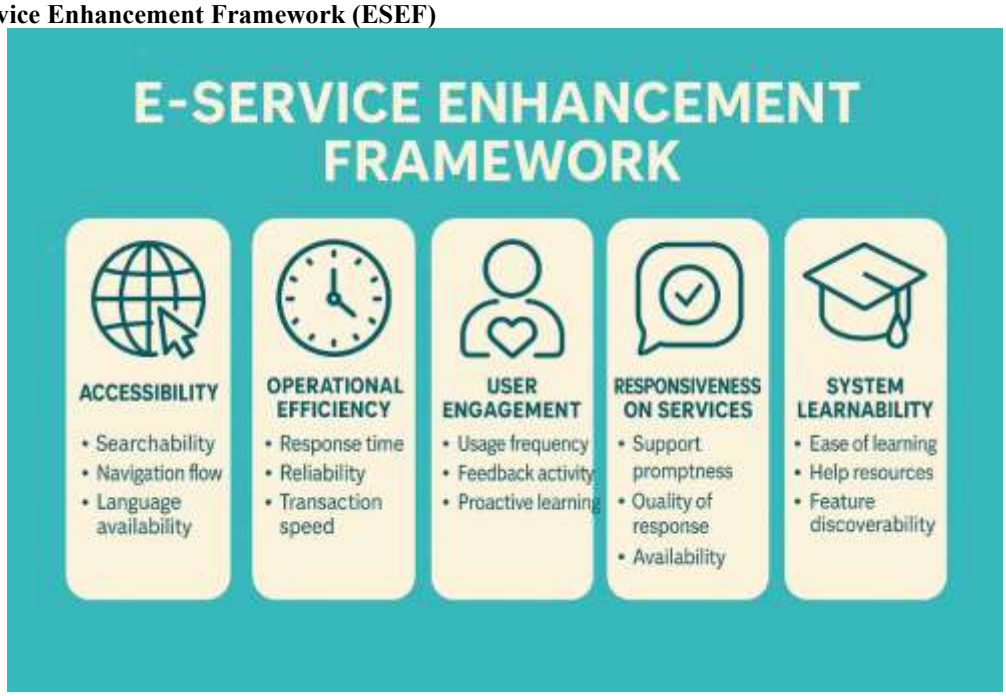


Figure 1. ***The Proposed E-Service Enhancement Framework (ESEF)***

The E-Service Enhancement Framework provides a comprehensive blueprint for improving digital service delivery, particularly within government institutions like the Bureau of Immigration. It focuses on five critical pillars: Accessibility, Operational Efficiency, User Engagement, Responsiveness on Services, and System Learnability. Each of these components plays an essential role in ensuring that digital platforms are user-centered, efficient, and inclusive.

A. Objectives

- To improve accessibility of e-services across diverse user groups regardless of digital literacy or language proficiency.
- To enhance operational efficiency by reducing system downtime, transaction delays, and technical glitches.

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- To strengthen user engagement through active feedback mechanisms and user-friendly platforms.
- To ensure responsive and high-quality support services for all system users.
- To promote system learnability for first-time and less tech-savvy users, thereby encouraging broader adoption.

B. Implementation Plan

Phase/Activity	Description	Responsible Unit	Expected Output
System Assessment & Upgrade	Audit existing platforms, upgrade infrastructure (servers, bandwidth, software)	IT Division, MIS Unit	Updated and stable system infrastructure
User-Centered Redesign	Redesign interface, add multilingual support, mobile optimization	IT & Communications Division	Accessible and user-friendly digital portal
Capacity Building & Training	Train staff on new features; conduct digital literacy workshops for users	HR, Training Department	Skilled staff and informed end-users
Support and Engagement Mechanisms	Integrate chatbots, FAQs, 24/7 live support; establish feedback systems	IT, Customer Support Unit	Active support channels and feedback loops

C. Budgetary Considerations

Budget Item	Description	Estimated Cost (₱)	Funding Source
Infrastructure Upgrades	Hardware, servers, cloud storage, bandwidth improvements	1,800,000	Agency IT Modernization Fund
Software Development	Platform redesign, coding, testing, integration	2,200,000	National ICT Development Program
Capacity Building	Staff training, digital literacy campaigns, user manuals	600,000	HRD Budget Allocation
Support Systems	Chatbot integration, 24/7 helpdesk, customer service tools	900,000	Operations & Maintenance Fund
Monitoring & Evaluation	Analytics software, audit tools, survey administration	400,000	General Administrative Budget
Total		**5,900,000**	

D. Timeframe

Phase	Timeline	Key Activities	Expected Output
Phase 1	0–4 months	System audit, requirements gathering, infrastructure upgrades	Upgraded and reliable system foundation
Phase 2	5–9 months	Platform redesign, multilingual support integration, pilot testing	User-friendly and accessible pilot system
Phase 3	10–14 months	Full deployment, staff training, public awareness campaigns	Fully operational e-service platform
Phase 4	15–18 months	Continuous improvement, scaling of features, adoption evaluation	Sustained service with improved public trust

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E. Monitoring and Evaluation (M&E)

Focus Area	Indicators / Metrics	Method / Tool	Frequency	Responsible Unit
Performance Metrics	Response time, uptime %, transaction speed, error rates	System logs, analytics software	Monthly	IT Division / MIS Unit
User Feedback	Satisfaction ratings, complaints resolved, suggestions	Online surveys, focus groups, feedback forms	Quarterly	Customer Support Unit
Engagement Tracking	Usage frequency, feedback activity, new user adoption	Web analytics, usage reports	Monthly	IT & Communications Division
Accountability Reviews	Progress on targets, compliance with standards	Quarterly reports, external audits	Quarterly	Agency Management, Audit Team
Impact Assessment	Improvements in transparency, service delivery, trust	Long-term evaluation studies, adoption surveys	Annually	Research & Planning Division

F. The Five Pillars of the ESEF

1. **Accessibility** – Ensuring services are easy to navigate, multilingual, and inclusive for all users.
2. **Operational Efficiency** – Improving system speed, reliability, and uninterrupted transactions.
3. **User Engagement** – Encouraging active participation, feedback, and repeat use of services.
4. **Responsiveness on Services** – Providing quick, reliable, and high-quality support through multiple channels.
5. **System Learnability** – Designing intuitive interfaces and user guides that simplify learning and reduce dependency on staff.

DISCUSSION

The findings revealed that both clients and employees perceived the Bureau of Immigration's E Services as moderately implemented, particularly in terms of accessibility, operational efficiency, and user engagement. While the system effectively delivers core services, challenges remain in navigation, inclusivity, and interface design. These results support the studies of Moreno et al. (2018) and Mahlangu and Ruhode (2021), who emphasized that e government systems require continuous refinement to ensure inclusivity and ease of use.

Client support was also rated as moderately effective, with respondents acknowledging timely responses and clear communication but identifying the need for more proactive and personalized assistance. This observation is consistent with Okunola and Rowley (2019) and Macotiende (2021), who found that while digital public services enhance speed and transparency, they often lack adaptability to individual user needs.

The evaluation of system learnability and technical accessibility showed that users find the platform generally easy to use and functional across different devices. However, challenges related to infrastructure and internet reliability persist, particularly in rural areas. Similar findings by Segumpan and Zahari (2022) highlighted that equitable access to e government platforms depends on reliable infrastructure and user-oriented design.

Multivariate analysis revealed no significant difference between clients and employees in their assessments of learnability and accessibility, with a significance value of p equal to 1.000. This result indicates a shared digital experience and consistent system performance. It supports the findings of Tanhueco Tumapon (2020) and Mehvar et al. (2021), who observed that both internal and external users of public digital systems often encounter similar conditions due to common technological frameworks.

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These results suggest that improvements to the Bureau of Immigration's E Services, such as interface enhancement, capacity building, and infrastructure development, will benefit both groups equally. To address this, the study proposes an E Service Enhancement Framework (ESEF) anchored on five core pillars: Accessibility, Efficiency, Engagement, Responsiveness, and Learnability. The framework serves as a strategic guide for improving inclusivity, reliability, and user satisfaction, enabling the Bureau to achieve a fully optimized and citizen centered digital service system.

CONCLUSION

The Bureau of Immigration's E Services are performing at a satisfactory level, especially in accessibility, efficiency, and ease of use. Both clients and employees find the platform generally reliable and effective in delivering online services. However, improvements are still necessary in navigation design, language inclusivity, system stability, and user engagement. The findings also showed no significant difference between clients and employees in their assessment of learnability and accessibility, indicating consistent service delivery and shared digital experiences. The Proposed E Service Enhancement Framework provides a practical guide for improvement by emphasizing accessibility, operational efficiency, user engagement, responsiveness, and system learnability to ensure a more inclusive and user centered service environment.

Recommendations

Based on the insights and conclusions drawn from this study, the following recommendations are put forward to guide meaningful improvements and future initiatives.

1. Redesign the e services platform for easier navigation and include multiple language options for inclusivity.
2. Strengthen client support through proactive issue resolution, staff training, and chatbot integration.
3. Provide simple user guides, short videos, and alternative formats to enhance system learnability.
4. Improve accessibility for users with slow or unstable internet connections.
5. Collect regular feedback from both clients and employees for continuous improvement.
6. Implement the E Service Enhancement Framework to guide system upgrades and training.
7. Conduct further studies with more respondents to assess long term impact on user satisfaction and trust.

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