**Journal of Information Systems Engineering and Management**
2025, 10(48s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

**Research Article**

# Enhancing Collaboration and Stakeholder Engagement for Successful IT Solution Deployments in the Public Sector: A Study on Lagos State Public Sector

Gbemisola Kayode-Bolarinwa [1]
[1] *Lagos State Ministry of Innovation, Science & Technology, Strategy & Governance Department, UCAM - Catholic University of Murcia, Spain.*
*Email: gbemmee@hotmail.com*

**ARTICLE INFO**

Received: 17 Dec 2024
Revised: 19 Feb 2025
Accepted: 27 Feb 2025

**ABSTRACT**

The incorporation of Information Technology (IT) solutions in the public sector has become vital for service delivery efficiency and governance. However, the successful deployment of IT solutions usually centers on effective collaboration and stakeholder engagement. This study explores the versatile situation of deployment of IT solutions in the public sector, with a study on Lagos State, Nigeria. The key purpose is to discover and investigate strategies, best practices, and recommendations that can improve collaboration between diverse government ministries, agencies, departments, IT vendors, and end-users, therefore promoting effective stakeholder engagement during the process of deployment. By studying existing literature, frameworks, and practical case studies, this study intends to offer significant understanding and real-world support for the Lagos State public sector in its pursuit of more effective deployment of IT solutions. It seeks to confront the issues and challenges associated with collaboration and stakeholder engagement within the context of the public sector. Furthermore, this research adds to the existing body of knowledge by creating discoveries, proposing strategies for innovation, and recommending real-world methods for enhancing collaboration and stakeholder engagement, designed for the exclusive dynamics of the public sector. The findings of this study have in-depth effects on project outcomes, allocation of resources, and service delivery in the Lagos State public sector. In a rapidly digitising world, the capability of alignment with the key stakeholders and ensuring successful deployment of IT solutions is significant to improve governance, streamline processes, and enhance public services. The outcomes of this research can enable ample developments in the success rate and IT project efficiency within the public sector, leading to more receptive and citizen-centric governance. The far-reaching effects of this study spread to public sectors beyond Lagos State, providing effective lessons and perceptions for governments globally. The possible effect is substantial, as the collaborative and stakeholder-driven method of IT deployment explored in this study can act as a proposal for improving and evolving the public sector. Thus, the research is anticipated to make a significant impact on the discussion on enhancing the deployment of IT solutions in the public sector.

**Keywords:** IT solutions, public sector, collaboration, stakeholder engagement, Lagos State, governance, Nigeria.

## INTRODUCTION

In the public sector, enhancing collaboration and stakeholder engagement is a critical factor for successful IT solution deployments. The public sector faces complex issues that demand effective IT solutions to enhance efficiency, innovation, and better public service delivery in today's increasingly interconnected and technology-driven world. However, Luna-Reyes et al., (2017) highlighted that IT solutions deployment in the public sector comprises several stakeholders with various interests, priorities, and expertise. Hence, promoting collaboration and engaging stakeholders all through the deployment process is essential to make sure the implementation and adoption of IT

*Copyright © 2024 by Author/s and Licensed by JISEM. This is an open access article distributed under the Creative Commons Attribution License which permitsunrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.*

Journal of Information Systems Engineering and Management
2025, 10(48s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

solutions are successful. The research of Imran et al., (2019), highlighted several reasons why enhancing collaboration and stakeholder engagement is essential in the IT solution deployment in the public sector. Primarily, engaging stakeholders promotes a sense of ownership and accountability. This implies that when stakeholders are keenly involved, they feel more invested in the success of the deployment and are more likely to participate positively, offering constructive views, pinpointing possible challenges, and recommending innovative resolutions (Ojo et al., 2019). This effective engagement can also assist in building trust and enhance better working relationships between stakeholders, producing a conducive environment for collaboration and problem-solving. Furthermore, effective collaboration and engaging stakeholders aid the alignment of IT solutions with the desires and anticipations of end-users and the public at large. With the early involvement of users and citizens in the process, public sectors can gather perceptions of their choices, pain points, and needs. This user-centric method will guarantee that the IT solutions are aimed and deployed in a way that focuses on real-world challenges and offers substantial gains, eventually enhancing user satisfaction and acceptance (Imran et al., 2019).

**Background of the Research**

According to Barki, et al., (2020), enhancing collaboration and stakeholder engagement for successful IT solution deployment in the public sector is a subject of growing significance due to the increasing dependence on technology in the operations and service delivery of government. Successful IT solutions deployment in the public sector demands effective collaboration among various stakeholders and effectual engagement all through the deployment process. Luna-Reyes et al. (2017) emphasised the importance of collaboration and stakeholder engagement in IT projects within the public sector. The issues of cross-boundary sharing of information in the context of government underscore the requirement for collaboration to surmount these issues. Relatedly, Barki, et al., (2020) highlight the significance of collaboration among the public and private sectors for successful IT deployments. The context of the study is the public sector, which involves government agencies, departments, and other public entities liable for providing public services. The public sector encounters distinctive issues in the deployment of IT solutions because of elements for instance complicated bureaucratic formations, various stakeholder interests, and regulatory requisites. Consequently, recognising and addressing these issues through enhanced collaboration and stakeholder engagement is essential for the successful deployment of IT solutions in the public sector (Imran, et al., 2019).

**Problem Statement**

The Lagos State public sector faces challenges in deploying IT solutions successfully due to insufficient collaboration and stakeholder engagement. This issue arises from a lack of effective collaboration among government agencies and departments within the Lagos State public sector, IT vendors, and end-users leading to suboptimal resource allocation, delays, and cost overruns. Furthermore, the inadequacy of engaging stakeholders in the Lagos State public sector results in solutions that do not fully address user needs and expectations, eroding public trust and satisfaction with IT initiatives.

**Scope of the research**

The scope of the research is to explore the area of collaboration, stakeholder engagement, and the deployment of IT solutions within the Lagos State public sector. In the current landscape of IT deployment in Lagos State public sector, ministries, departments, and agencies operate in silos and pursue IT projects independently. However, this decentralized approach results in fragmentation and a lack of collaboration (Ramadass et. al 2017). During the IT deployment, stakeholder engagement is often limited to internal decision-makers, such as IT departments and management, with insignificant input from end-users and external stakeholders during the planning and implementation phases. In addition, communication among various stakeholders is often inadequate, leading to misunderstandings of project scopes and objectives, delays in project schedules, and misalignment of stakeholders' expectations (Grönlund & Horan, 2005).

**Significance of the research**

The research on enhancing collaboration and stakeholder engagement for successful IT solution deployments in the public sector is considered very critical for respective reasons, as corroborated by significant literature. Primarily,

*Copyright © 2024 by Author/s and Licensed by JISEM. This is an open access article distributed under the Creative Commons Attribution License which permitsunrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.*

Journal of Information Systems Engineering and Management
2025, 10(48s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

collaboration among stakeholders is essential for successful IT solution deployments. Research by Esteves & Bohorquez (2018) highlights the importance of collaboration in the public sector, affirming that, it indicates improved decision-making, enhanced success rates of projects, and improved satisfaction of stakeholders. Effective collaboration makes sure that various perceptions and knowledge are incorporated into the process of deployment, resulting in higher-quality solutions (McGill et al., 2018). Furthermore, stakeholder engagement is imperative for aligning user needs and expectations with IT solutions. As emphasised by Pardo & Siemens (2014), engaging stakeholders in the process of decision-making improves the possibility of user acceptance and adoption. Research by Grönlund et al. (2015) further affirms that stakeholder engagement promotes a sense of ownership and commitment between stakeholders, leading to fostered success rates of the project. Similarly, effective collaboration and stakeholder engagement is a factor in efficient resource allocation. With the early engagement of stakeholders, the public sector can recognise and give precedence to their needs, decreasing preventable expenses (Al Awadhi & Morris, 2018).

This aligns with research by Ho & Chen (2018), who highlight the significance of stakeholder involvement in resource planning and allocation for IT initiatives in the public sector. Also, research in this area directly influences service delivery in the public sector. With actively involved stakeholders, public sectors will understand the citizen's requirements and preferences, resulting in better services and improved citizen satisfaction (Klievink et al., 2013). According to Moon & Welch (2018), effective stakeholder engagement enables citizen empowerment, leading to more comprehensive and receptive service delivery in the public sector. Moreover, the research promotes policy and governance implications by offering evidence-based recommendations. The public sector can create policies and frameworks that foster collaboration, transparency, and accountability in the deployment of IT solutions (Fontana & Frey, 2018). Consequently, research by Ojo et al. (2015), highlights the function of collaboration and stakeholder engagement in fostering open government and effective public sector governance.

**Research Questions**

i. What are the existing collaboration practices and stakeholder engagement in the public sector regarding IT solution deployments in Lagos State public sector?

ii. What are the challenges in the deployment of IT solutions within the Lagos State public sector?

iii. What strategies and mechanisms can be implemented to foster effective communication and collaboration in the public sector for successful IT solution deployments?

**Research Aim and Purpose**

This research aims to enhance collaboration and stakeholder engagement for successful IT solution deployments in the public sector. The research requires identifying strategies, best practices, and recommendations that can better collaboration between stakeholders and foster effective engagement throughout the IT solutions deployment process in the public sector. The purpose of this research is to address the challenges and issues related to collaboration and stakeholder engagement in IT solution deployments in the public sector. By studying and examining existing literature, frameworks, and case studies, the research intends to offer insights and practical support for the public sector to enhance collaboration and stakeholder engagement, resulting in more successful and viable IT solution deployments. Also, the research aims to contribute to the existing body of knowledge in the field by creating new findings, recommendations, and strategies for enhancing collaboration and stakeholder engagement in the public sector context. Finally, this research aims to better project outcomes, resource allocation, and service delivery through effective collaboration and stakeholder engagement in IT solution deployments within the public sector.

**Research Objectives**

i. To identify the existing collaboration practices and stakeholder engagement in the public sector regarding IT solution deployments in the Lagos State public sector.

ii. To identify the challenges regarding the deployment of IT solutions in the Lagos State Public Sector.

*Copyright © 2024 by Author/s and Licensed by JISEM. This is an open access article distributed under the Creative Commons Attribution License which permitsunrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.*

Journal of Information Systems Engineering and Management
2025, 10(48s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

iii. To explore the best practices and strategies for enhancing communication and collaboration among government agencies, departments, IT vendors, and end-users.

### Limitations

The findings of the research may be context-specific and may not be easily generalizable to other public sectors or different geographic regions (Ojo et al., 2015). The exact characteristics, governance structures, and cultural factors of each sector can influence the outcomes of collaboration and stakeholder engagement. The research will involve a limited sample size, potentially limiting the representativeness of the findings. Due to practical constraints, it may not be possible to involve a thorough and wide range of stakeholders (Esteves & Bohorquez, 2018). The data collected for the research may be subject to limitations, for instance, dependence on self-reported data during the questionnaires may create response bias, social desirability bias, or recall bias. Conversely, these limitations will be taken into consideration when interpreting the findings (Grönlund et al., 2015). However, it may be exigent to make sure all representations of relevant stakeholder groups are involved in the research, despite efforts to include a wide range of stakeholders. Some stakeholders with limited resources or power may be underrepresented, possibly resulting in biased findings or a partial understanding of the perspectives of the stakeholders (Ho & Chen, 2018).

## LITERATURE REVIEW

Collaboration and stakeholder engagement are important elements for successful IT solution deployments in the public sector. This literature review studies relevant literature and research to offer perceptions on enhancing collaboration and stakeholder engagement in this context. The significance of stakeholder engagement is established as an essential element of IT solution deployments (Ward & Daniel, 2012). Research has emphasised that the early involvement of stakeholders in a project increases the chances of success (Bovaird & Loeffler, 2012). Though, stakeholder engagement offers effective insights, influences decision-making, and ensures the alignment of IT solutions with organizational requirements and objectives. Also, the study emphasizes the significance of collaborative governance structures in the public sector (Emerson et al., 2012). Collaborative governance brings together stakeholders from several sectors, comprising government agencies, IT vendors, and citizens. It promotes shared decision-making, responsibility sharing, and mutual problem-solving, leading to more successful deployment of IT solutions (Ansell & Gash, 2008). Thus, research has reviewed that to assess stakeholder satisfaction, continuous evaluation, and feedback mechanisms are required to identify issues, and improve IT solution deployments (Kirkpatrick, 1998). Gibson & Overton, (2017) mentioned that integrating feedback loops during the deployment process allows stakeholders to add their viewpoints and assists in adjusting and improving the deployment method.

### Lagos State Public Sector

Lagos State, located in Nigeria, has a dynamic and active public sector that performs an essential function in governance and service delivery within the State. As one of the most heavily populated and thriftily important states in Nigeria, Lagos State encounters several issues and prospects in IT solutions deployment to enhance collaboration and stakeholder engagement. Lagos State functions under a decentralized structure of governance, with several government agencies, ministries, and departments liable for diverse sectors and roles. Agbolade, (2019) mentioned that the state government concentrated on progressing efficiency, lucidity, and citizen-centric service delivery as a result of the use of IT. According to Lagos State Government, (2021), the State has invested in developing a robust IT infrastructure, such as the establishment of an e-Government platform, data centers, and connectivity infrastructure. These technological investments aim to aid collaboration, data sharing, and stakeholder engagement between government agencies and stakeholders.

### IT Deployments in Lagos State Public Sector

Lagos State public sector has deployed many IT solutions such as the implementation of Oracle Enterprise Business Suite (EBS), automation of vehicle registrations (Autoreg), electronic Geographical Information System (eGIS), Learning Management System (LMS), etc. These IT solutions were deployed for seamless and effective government services, and it has made Lagos State public sector to be ranked among the public sector organisations that have implemented IT solutions that enhance ease of doing business (Lagos State Government, 2021). The IT solutions in

Copyright © 2024 by Author/s and Licensed by JISEM. This is an open access article distributed under the Creative Commons Attribution License which permitsunrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Journal of Information Systems Engineering and Management
2025, 10(48s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

the Lagos State Public sector are usually initiated and implemented by the Ministry of Science & Technology (MoST) as the IT Ministry has the mandate of automating all government services to enhance ease of doing business. It has been observed over time by the Project Management Office (PMO) that most of the IT solutions deployments run behind project schedule. For instance, the electronic Geographical Information System (eGIS) was initiated in 2016 and has a project duration of 18 months (Lagos State Government, 2021). During the initiation and planning phase of the project, MoST does not get the stakeholders involved until the execution phase of the project, MoST as the IT Ministry made a siloed decision which usually led to a lack of alignment of requirements, conflicting objectives, and communication. According to Agbolade, (2019) to ensure the successful IT solutions deployment in Lagos State's public sector, the State must identify the significance of stakeholder engagement in the process of decision-making and service delivery, such stakeholders include government officials, IT professionals, citizens, civil society organizations, and external contractors. Effective stakeholder engagement ensures that the needs and expectations of various stakeholders must be considered during the deployment of IT solutions. Adegoke, (2016) highlights that Lagos State has implemented collaborative initiatives to enhance IT solution deployments. Such initiatives are inter-agency collaborations, public-private partnerships, and platforms for citizen engagement. The goal of the collaboration efforts is to promote information sharing, resource pooling, and collective decision-making to drive successful IT solution deployments.

**Existing Research**

Smith, (2008) highlights that technology is moving at a pace faster than what most can keep up to, and this made the public sector to be more at risk of being treated unfairly by these changes due to the issues involved with financing, decision-making, collaborations, stakeholders' engagement, and change management. IT solutions deployment in the public sector indicates the government making use of Information and Communication Technology (ICT) to improve information and service delivery to citizens, employees, and other government agencies. Moon, (2002) mentioned that IT solutions perform a vital function in the transformation of operations of the public sector. They facilitate the digitalization of services, data-driven decision-making, and citizen-centric service delivery. Research emphasises several advantages of deploying IT solutions in the public sector, and these consist of better ease of use of government services, lessened costs of administration, improved openness, and enhanced data security (Margetts & Dunleavy, 2013). The research works of Chang & Chou, (2013); and Saebo & Rose, (2018) mentioned that several factors contribute to the success of IT solution deployment in the public sector such as effective project management, stakeholder engagement, user involvement, and alignment IT initiatives with organizational goals are critical for successful implementation. Recent research and practice in the public sector recognised some issues related to IT solution adoption, for instance, "technological factors (infrastructure, lack of interoperability, data access), organizational barriers (lack of strategy, human resources, digital skills, capacities of managers), legal and ethical barriers (lack of citizen trust), and barriers related to limited budgets or competition for financial resources" (Wilson & Mergel, 2022).

**Collaboration**

Ansell & Gash, (2008) highlighted collaboration to get public value by improving service delivery, policy development, and decision-making. Studies also have revealed that collaborative efforts bring about improvement in resource utilisation, enhanced innovation, and improved effects for citizens. Despite the advantages, collaboration in the public sector encountered some issues such as power dynamics, trust, conflicting interests, accountability, and resource constraints. However, surmounting these issues is crucial to furthering effective collaboration (Gray, 1985). Research by Emerson & Nabatchi, (2015) stated that to enhance collaboration in the public sector, several approaches have been suggested such as promoting a collaborative culture, fostering transparency and sharing of information, developing strong relationships between collaborators, and creating structures for conflict resolution.

**Stakeholder Engagement**

Stakeholder engagement is critical for democratic governance and ensuring the openness of public services, and this includes citizens, interest groups, and civil society organizations, enhancing transparency, accountability, and legitimacy in the activities of the public sector (Bovaird & Löffler, 2009). Research has highlighted that effective

Copyright © 2024 by Author/s and Licensed by JISEM. This is an open access article distributed under the Creative Commons Attribution License which permitsunrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

**Journal of Information Systems Engineering and Management**
2025, 10(48s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

**Research Article**

engagement of stakeholders' steers to furthered policy outcomes, improved public trust, and better public satisfaction with government services (Edwards & Hulme, 1996). Engaged stakeholders are more liable to involve and influence the realisation of public sector initiatives, particularly the adoption of IT solutions. Bovaird & Löffler, (2009) stated that engaging stakeholder in the public sector is not without issues which include identification and involvement of all significant stakeholders, diverse interests' management, power imbalances management, and preserving meaningful involvement of marginalised groups. In the context of the Lagos State public sector, different stakeholders play key roles in the development, deployment, and governance of IT solutions. These stakeholders represent a various array of interests and perspectives that influence decision-making and the success of IT projects. According to Smith (2015), government ministries, departments, and agencies are primary stakeholders responsible for defining the strategic direction of IT projects, allocating resources, and overseeing implementation. In the like manner, politically elected leaders, such as governors, legislators, commissioners, and special advisers are influential stakeholders that shape the policy environment and allocate budgets for IT projects (Osborne & McLaughlin, 2002). IT professionals in the Lagos State Ministry of Science and Technology are responsible for managing the technical aspects of IT solutions, ensuring compliance with security standards, and aligning IT strategies with the goals of the public sector. West (2017) states that the vital stakeholders are end-users who are the frontier employees that relate to IT solutions. Their needs, preferences, and user experience feedback are fundamental for designing user-friendly and effective IT solutions. Lastly, according to Janssen et al., (2017), IT vendors are often external stakeholders who supply the hardware, software, and services required for IT projects.

**Theoretical Framework**

The successful deployment of IT solutions in the public sector requires effective collaboration and engagement with several stakeholders (Bovaird & Loeffler, 2012).

a. **Systems Theory:** This theory offers a basis for insights into the complex relations and interdependences between the various factors of deploying IT solutions (Checkland, 1981). It accentuates the necessity of viewing the deployment as a holistic system connecting several stakeholders, processes, and technologies. This perception assists in identifying the major factors and correlations that require to be taken into consideration for successful collaboration and stakeholder engagement.

b. **Stakeholder Analysis:** Performing an all-inclusive stakeholder analysis is essential to discover and recognise the various kind of stakeholders participating in the deployment of IT solutions (Freeman, 1984). This analysis facilitates categorising stakeholders regarding their power, influence, and interest in the project. The framework expedites tailored strategies of engagement for each stakeholder group by recognising the diverse requirements, perceptions, and functions of stakeholders.

c. **Communication and Information Sharing:** Grunig & Hunt, (1984) mentioned that effective communication and sharing of information are critical for collaboration and engagement in IT solution deployments. The framework highlights the significance of creating transparent and open communication channels between stakeholders. It fosters the utilisation of proper tools and platforms of communication to ensure appropriate and relevant information is shared. Furthermore, the framework fosters two-way communication to promote active engagement and feedback from stakeholders.

d. **Stakeholder Engagement Strategies:** The framework offers procedures for developing stakeholder engagement plans to deal with the distinctive characteristics and needs of diverse stakeholder groups (Bryson, 2004). It emphasises the need for a practical and comprehensive method to engage stakeholders during the lifecycle of the deployment process. Such methods are workshops, focus groups, surveys, town hall meetings, and online platforms to engage stakeholders in making decisions, requirement gathering, testing, and evaluation processes.

e. **Change Management:** Kotter, (1996) mentioned that successful deployment of IT solutions often requires organizational and behavioural changes. The framework recognises the importance of techniques for change management in ensuring smooth transitions and minimising stakeholder resistance. It promotes a structured

*Copyright © 2024 by Author/s and Licensed by JISEM. This is an open access article distributed under the Creative Commons Attribution License which permitsunrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.*

Journal of Information Systems Engineering and Management
2025, 10(48s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

change management method that includes clear communication of the benefits, training programs, and ongoing support to assist aid stakeholder acceptance and adoption of the new IT solution.

f. **Governance and Accountability:** Pollitt & Bouckaert, (2011) stated that to enhance collaboration and stakeholder engagement, the framework must emphasise the significance of creating clear structures and mechanisms of governance. This includes outlining functions and duties, creating decision-making processes, and confirming accountability between stakeholders. The framework fosters the participation of major stakeholders in governance structures to promote a sense of ownership and shared responsibility for the successful deployment of the IT solution.

### Research gap

The study will focus on a specific research gap associated with the implementation of collaboration practices and strategies for stakeholder engagement in the context of deploying IT solutions in the Lagos State Public Sector. Bovaird and Loeffler (2012), an example of existing research has highlighted the significance of collaboration and stakeholder engagement in attaining successful results within the public sector. Similarly, research by Ansell and Gash (2008) emphasised the importance of collaborative governance structures within the public sector. Though, there is still some absence of all-inclusive case studies that offer broad perceptions of how these principles are employed and adapted within a particular public sector organisation like the Lagos State Public Sector. The research gap is specifically evident when it comes to the insights into how the strategies for collaboration and stakeholder engagement are incorporated into the deployment of the IT solutions process in a particular administrative context such as Lagos State. Although there are some common principles and best practices that exist in the literature within adequate empirical research that explores the challenges, successes, and details of implementing these principles in practical public sector IT initiatives. In addressing this research gap using a focused in-depth study, the proposed study intends to add a real-world perception of collaboration and stakeholder engagement in the context of the deployment of IT solutions in the Lagos State Public Sector. This empirical evaluation will offer an understanding of the principles used, the challenges faced, and the achieved results, thus offering to guide similar public sector desires to enhance their IT solution deployment processes.

## METHODOLOGY

To study and enhance collaboration and stakeholder engagement for successful IT solution deployments in the public sector, a quantitative research design will be used. This design allows for the quantitative data to obtain a comprehensive insight into the research topic (Creswell & Creswell, 2017).

### Research Philosophy

Positivist research philosophy is embedded in empirical observation and systematic inquiry and is vastly appropriate in exploring the dynamics of enhancing collaboration and stakeholder engagement in the deployment of IT solutions within the Lagos State public sector. It aims to collect quantifiable data, apply statistical analysis, and validate hypotheses to reveal objective perceptions that enhance informed decision-making.

### Sampling

### Population

Lagos State Public Sector has a large population of 80,000 employees with 56 core Ministries and 140 parastatals (Lagos State Government, 2021). However, the Ministry of Science & Technology has five (IT) vendors that deploy and implement IT initiatives for the public sector.

To guide policymaking, resource allocation, and development initiatives, the Lagos State government developed a framework known as the THEMES agenda. THEMES is an acronym indicating six the pillars of development and encompasses various sectors and ministries that describe key focus areas and priorities to drive the growth and development of the state (Lagos State Government, 2023). To manage a sizeable population for this research, the

Copyright © 2024 by Author/s and Licensed by JISEM. This is an open access article distributed under the Creative Commons Attribution License which permitsunrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Journal of Information Systems Engineering and Management
2025, 10(48s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

researcher will focus on two departments from each of the Ministries within the two pillars of the THEMES agenda which are 'Education and Technology and Making Lagos a 21st Century Economy' which has a population of **1,000.**

**Sampling frame**

The sampling frame for research implies the list or source from which the sample of participants will be selected. It signifies the population of Lagos State public sector and stakeholders involved in IT solution deployments.

a. Two departments from the Ministry of Economic Planning & Budget in the THEMES pillar of 'Making Lagos a 21st Century.
b. Two departments from the Ministry of Science & Technology, which is responsible for IT initiatives and THEMES pillar of 'Education and Technology'.
c. One IT vendor working with the Ministry of Science & Technology.

**Sample size**

Raosoft online sample size calculator was used to calculate the appropriate sample size for the research. The sample size for the research in the Lagos State public sector will be 278 with a confidence level of 95%, a margin of error of 5%, and a response distribution of 50%.

**Sampling method**

This research will use a stratified sampling method. The stratified sampling method will ensure that each subgroup within a population is amply represented in the research sample. Proportionate random sampling is a variant of stratified sampling where the number of respondents chosen from each stratum is proportional to the stratum's population size (Chun-Qing & Wei, 2023).

**Respondents**

The respondents for the research will comprise stakeholders that have direct involvement in or are impacted by IT solution deployments within the Lagos State public sector. These respondents will offer constructive understandings of the collaboration practices, stakeholder engagement strategies, and their expertise and viewpoints on IT solution deployments. The respondents are as follows:

a. Process owners from two departments of the Ministry of Economic Planning & Budget (MEPB) i.e., the Administrative & Human Resources Department and Budget Department
b. IT project initiator – two departments from the Ministry of Science & Technology (MoST) i.e., Applications Department and Strategy & Governance Department.
c. IT vendor

The researcher will use job roles as the stratification criteria: Administrative Staff & Budget Staff, Technical Staff, and Management.

The population of each stratum is as follows:

- Administrative & Budget Staff: 500 employees (50% of 1000)
- Technical Staff: 300 employees (30% of 1000)
- Management: 200 employees (20% of 1000)

However, number of samples for each stratum is as follows:

- For Administrative & Budget Staff: (0.50 * 278) = 139 respondents
- For Technical Staff: (0.30 * 278) = 83 respondents
- For Management: (0.20 * 278) = 56 respondents

*Copyright © 2024 by Author/s and Licensed by JISEM. This is an open access article distributed under the Creative Commons Attribution License which permitsunrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.*

Journal of Information Systems Engineering and Management
2025, 10(48s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

### Sources of Data

#### Primary sources

The primary source of data is Questionnaires: These will be created and administered to diverse stakeholders involved in the deployment of IT solutions in the public sector. These questionnaires will collect quantitative data.

#### Secondary sources

a. Existing case study on the topic.
b. Academic research studies and scholarly articles.
c. Government reports, policy documents, and white papers.
d. Analysing project documentation.

### Methods of Data Collection

This research will use a questionnaire for data collection, and it will allow the researcher to gather quantitative data to have an inclusive insight into the research topic. The questionnaire will be used as an effective method for collecting data from several stakeholders using this Google Form link: https://forms.gle/6ZYbRLcAraJyWtYGA

### Ethical considerations in this research

The basic ethical factors to address are:

a. Before collecting any data, the researcher will obtain informed consent from respondents. It will give details of the aim of the study, the nature of their participation, and any impending threats or advantages.
b. The study will keep the confidentiality and privacy of respondents, and it will make sure the data gathered is anonymized and cannot be related to anyone or organizations. It will handle and keep data safely to prohibit unlawful access or disclosure.
c. The study will make sure involvement is voluntary and not forced.
d. The research process will acknowledge the participant's diversity and ensure inclusivity.
e. The research process will be clear about the purpose of the research, approach, and proposed use of data.
f. The study will present the outcomes precisely and truthfully, and it will prevent misrepresentation or selective reporting of data which can lead to subjective analyses.
g. The study will follow ethical collaboration and stakeholder engagement by engaging participants as functional cohorts in the research process.

### Proposed data analysis

The proposed data analysis plan is structured to enable a broad investigation of the research data in correlation with the research objectives.

Research objective 1: To identify the existing collaboration practices and stakeholder engagement in the public sector regarding IT solution deployments in the Lagos State public sector. The research will compute descriptive statistics (mean, median, standard deviation) to understand and ascertain the level of existing collaboration practices between various stakeholders in the public sector regarding IT solution deployments.

Research objective 2: To identify the challenges regarding the deployment of IT solutions in the Lagos State Public Sector. The research will compute descriptive statistics (mean, median, standard deviation) for each question related to challenges. This provides an overview of the average perception and the extent of agreement or disagreement with each challenge.

*Copyright © 2024 by Author/s and Licensed by JISEM. This is an open access article distributed under the Creative Commons Attribution License which permitsunrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.*

Journal of Information Systems Engineering and Management
2025, 10(48s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

Research objective 3: To explore the best practices and strategies for enhancing communication and collaboration among government agencies, departments, IT vendors, and end-users. The research will conduct correlation analysis to investigate relationships between the frequency of communication and the level of collaboration. The analysis will help to determine whether the frequency of communication is associated with higher levels of successful collaboration among various stakeholders. The variables of the correlation analysis are

Independent variable: Frequency of communication.

Dependent variable: Level of collaboration

### Research Hypothesis

**Hypothesis:** Implementing best practices and strategies for enhancing communication and collaboration among government agencies, departments, IT vendors, and end-users positively impacts the success and efficiency of IT solution deployments in the public sector.

- Null Hypothesis (H0): There is no significant difference in the level of collaboration among entities with different frequencies of communication.
- Alternative Hypothesis (H1): There is a significant difference in the level of collaboration among entities with different frequencies of communication.

The researcher will compute Pearson's correlation analysis to determine the correlation coefficient (r) between the two variables. This will predict the quantify the strength and direction of the linear relationship. The study will use SPSS statistical software.

### Validity and Reliability

To ensure the questionnaire's reliability and validity, procedures have been established to improve the quality and accuracy of the data collected. As a result of the detailed design and proposed piloting, attempts have been formulated to ascertain both the reliability and validity of the items of the questionnaire. In order to improve reliability, the questionnaire employs a Likert scale response format for each question accordingly (Smith 2008). This standardised scale offers consistency in responses, increasing the internal consistency of the questionnaire. The researcher will perform Cronbach's alpha testing on the questionnaires according to Cronbach, (1951) and DeVellis (2017). This is to measure how well the items in the questionnaire correlate with one another. In terms of validity, the items in each section have been designed to align carefully with the hypotheses to be tested.

## DATA ANALYSIS AND FINDINGS

### Introduction

This chapter examines the responses from the questionnaire and presents the findings of the research. In the survey, the researcher sought to gather insights from a broad spectrum of LASG civil servants and one IT vendor, who possessed diverse experience in the deployment of IT solutions within the LASG public sector. However, 266 respondents from the Lagos State public sector and one IT vendor participated in the online survey out of the proposed 278 sample sizes for the research. This is approximately 95.32% of the sample size and is deemed to be substantial enough to ensure the reliability of the questionnaire. To analyze the data, the researcher makes use of SPSS 16.0 for Windows to compute descriptive statistics and correlation analysis to investigate relationships between the frequency of communication and the level of collaboration. Also, to test the research hypotheses, the researcher will compute Pearson's correlation analysis to determine the correlation coefficient (r) between the two variables. This will predict the quantify the strength and direction of the linear relationship. The results are shown by using charts and tables for ease of understanding.

### Findings of the Analysis

In this section, the researcher presents the outcome derived from the responses to the questionnaires administered via Google form to all the participants.

Copyright © 2024 by Author/s and Licensed by JISEM. This is an open access article distributed under the Creative Commons Attribution License which permitsunrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

**Journal of Information Systems Engineering and Management**
2025, 10(48s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

**Research Article**

## Testing the Research Objectives

### Collaboration and Stakeholder Engagement

Frequency Tables:

The frequency tables shown in table 1 – 5 provide the researcher with valuable facts about the distribution responses and overall view of the existing collaboration and stakeholder engagement within the Lagos State public section during the deployment of IT solutions in line with research objective 1. This is crucial to address the research topic and the potential identification of areas of improvement in the deployment of IT solutions in the Lagos State public sector. Table 1 shows a substantial percentage of respondents (65.8%) strongly disagreed and disagreed with the level of collaboration and stakeholder engagement in their departments, indicating a lack of positive perception and also signifying that they have issues with the existing level of collaboration and stakeholder engagement. However, almost 34.2% (24.8% neutral, 6.8% agreed, and 2.6% strongly agreed) of respondents are in "neutral", "Agree" or "Strongly Agree" groups which shows that a small number of the respondents have a positive or neutral perception of the collaboration and stakeholder engagement.

**Table 1:** How would you agree to the level of collaboration and stakeholders in your department during IT solution deployment?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 75 | 28.2 | 28.2 | 28.2 |
| | Disagree | 100 | 37.6 | 37.6 | 65.8 |
| | Neutral | 66 | 24.8 | 24.8 | 90.6 |
| | Agree | 18 | 6.8 | 6.8 | 97.4 |
| | Strongly Agree | 7 | 2.6 | 2.6 | 100.0 |
| | Total | 266 | 100.0 | 100.0 | |

Table 2 *in appendix II* shows a percentage of respondents (24.4%) strongly disagreed with the efficiency of IT solution deployment collaboration and stakeholder engagement when is high, indicating a lack of positive perception. 41.0% of the respondents disagreed, signifying that they have reservations about it. However, almost 34.6% (22.6% neutral, 10.5% agreed, and 1.5% strongly agreed) of respondents are in "neutral", "Agree" or "Strongly Agree" groups which shows that a few of the respondents have positive or neutral perceptions of the efficiency of IT solution deployment collaboration and stakeholder engagement when is high within the Lagos State public sector. Table 3 *in appendix II* shows a percentage of respondents 64.7% (28.6% and 36.1% respectively) strongly disagreed and disagreed with the perception of the effectiveness of IT solution deployment collaboration and stakeholder engagement when it is high, indicating a lack of positive perception. However, almost 35.3% (23.7% neutral, 10.5% agreed, and 1.1% strongly agreed) of respondents are in "neutral", "Agree" or "Strongly Agree" groups which shows that a number of the respondents have positive or neutral perceptions. Table 4 *in appendix II* shows a percentage of respondents with 64.4% (33.1% and 31.2% respectively) strongly disagreed and disagreed with the impact of collaboration and stakeholder engagement on the efficiency and effectiveness of IT solution deployments, indicating a lack of positive perception. However, almost 35.7% (19.9% neutral, 13.2% agreed, and 2.6% strongly agreed) of respondents are in "neutral", "Agree" or "Strongly Agree" groups which shows that a number of the respondents have positive or neutral perceptions. *Table 5 in appendix II* shows a percentage of respondents with 71.8% (33.5% and 38.3% respectively) strongly disagreed and disagreed on the extent to which collaboration and stakeholder engagement have contributed to the efficiency of IT solution deployments in their department, indicating a lack of positive perception. However, almost 28.2% (15.4% neutral, 10.2% agreed, and 2.6% strongly agreed) of respondents are in "neutral", "Agree" or "Strongly Agree" groups which shows that a number of the respondents have positive or neutral perceptions.

### Descriptive Statistics

*Copyright © 2024 by Author/s and Licensed by JISEM. This is an open access article distributed under the Creative Commons Attribution License which permitsunrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.*

**Journal of Information Systems Engineering and Management**
2025, 10(48s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

**Research Article**

Descriptive statistics of all constructs are given in Table 2. Based on the mean values, it can be deduced that perceptions indicate an average level of agreement with the rating of the lowest mean value of 2.1805, however, this shows that respondents expressed a somewhat moderate level of agreement regarding collaboration and stakeholder engagement during the deployment of IT solutions.

**Table 2:** Descriptive Statistics

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| How would you agree to the level of collaboration and stakeholders in your department during IT solution deployment | 266 | 1.00 | 5.00 | 2.1805 | 1.00440 |
| Please rate your agreement when the efficiency of IT solution deployment collaboration and stakeholder engagement is high | 266 | 1.00 | 5.00 | 2.2368 | .98686 |
| Please rate your agreement when the effectiveness of IT solution deployment collaboration and stakeholder engagement is high | 266 | 1.00 | 5.00 | 2.1955 | 1.00533 |
| Please rate your agreement with the impact of collaboration and stakeholder engagement on the efficiency and effectiveness of IT solution deployments in the Lagos State public sector | 266 | 1.00 | 5.00 | 2.2105 | 1.11965 |
| Please rate your agreement on the extent to which collaboration and stakeholder engagement have contributed to the efficiency of IT solution deployments in your department | 266 | 1.00 | 5.00 | 2.1015 | 1.06090 |
| Valid N (listwise) | 266 | | | | |

**Challenges regarding the deployment of IT solutions**

Frequency Tables:

The frequency tables (table 3 – 6) present the frequency distributions and percentages of respondents' agreement with different aspects of challenges encountered during the deployment of IT solutions in the Lagos State public sector in line with research objective 2. These results give the researcher a diverse range of respondents' perceptions, with a significant number selecting the "Neutral" option which indicates the complexity and variability of the challenges encountered during the deployment of IT solutions in the Lagos State public sector. Table 3 indicates that most of the respondents (56.6%) selected the "Neutral" option, showing a significant number do not have a strong opinion regarding challenges. However, the remaining responses are spread across the other options, with a significant number (35.5%) agreeing that challenges exist.

*Copyright © 2024 by Author/s and Licensed by JISEM. This is an open access article distributed under the Creative Commons Attribution License which permitsunrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.*

**Journal of Information Systems Engineering and Management**
2025, 10(48s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

**Research Article**

**Table 3:** How would you rate your agreement with the level of challenges typically encountered during IT solution deployments in our department?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 1 | .4 | .4 | .4 |
| | Disagree | 12 | 4.5 | 4.5 | 4.9 |
| | Neutral | 137 | 51.5 | 51.7 | 56.6 |
| | Agree | 94 | 35.3 | 35.5 | 92.1 |
| | Strongly Agree | 21 | 7.9 | 7.9 | 100.0 |
| | Total | 265 | 99.6 | 100.0 | |
| Missing | System | 1 | .4 | | |
| Total | | 266 | 100.0 | | |

Table 4 *in appendix III* indicates that the majority of the participants (51.5%) selected the "Neutral" option and showed a reserved stance on the complexity of managing IT solutions. However, a notable number of respondents (41%) agreed that there is complexity. Table 5 *in appendix III* shows a significant number of participants (45.1%) selected the "Neutral" option indicating an amount of uncertainty. However, 39.8% of the respondents agreed that inter-departmental collaboration challenges contribute to difficulties. Table 6 *in appendix III* shows a notable number of 41.4% selected the "Neutral" option, indicating mixed perceptions concerning the impact of resistance to change. However, 44.4% of the respondents agreed that it affects the deployment of IT solutions. Table 7 *in appendix III* indicates that a significant number of 47.4% selected the "Neutral" option, indicating mixed opinions concerning challenges impacting overall project success. However, 38% of the respondents agreed that these challenges have an impact on the deployment of IT solutions.

**Descriptive Statistics**

The findings give the researcher the opinion that the respondents have a moderate level of agreement with the means rating ranging from 3.46 to 3.53. This indicates a consistent perception of respondents regarding the challenges, complexity, collaboration issues, resistance to change, and their impacts on the project success during the deployment of IT solutions in the Lagos State public sector. Overall, the findings signify that these challenges are identified as relatively significant and there is some degree of agreement among the respondents.

*Copyright © 2024 by Author/s and Licensed by JISEM. This is an open access article distributed under the Creative Commons Attribution License which permitsunrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.*

**Journal of Information Systems Engineering and Management**
2025, 10(48s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

**Research Article**

**Table 4:** Descriptive Statistics

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| How would you rate your agreement with the level of challenges typically encountered during IT solution deployments in our department? | 265 | 1.00 | 5.00 | 3.4604 | .72256 |
| How do you agree with the level of complexity in managing and integrating various IT solutions during deployments in your department | 266 | 1.00 | 5.00 | 3.5150 | .70695 |
| To what extent will you agree that the inter-departmental collaboration challenges contribute to difficulties in IT solution deployments within the Lagos State public sector? | 266 | 1.00 | 5.00 | 3.5226 | .76322 |
| Please rate your agreement with the extent to which resistance to change affects IT solution deployment in your department | 266 | 1.00 | 5.00 | 3.5263 | .76310 |
| How would you rate your agreement with the challenges faced during IT solution deployment that significantly impact the overall success of projects in my department | 266 | 1.00 | 5.00 | 3.4925 | .76845 |
| Valid N (listwise) | 265 | | | | |

**Best practices and strategies for enhancing communication and collaboration.**

The findings as shown in Table 5 below are in line with research objective 3 to examine the correlation between key variables: independent variables – frequency of communication and dependent variable – level of collaboration. The Pearson correlation coefficient was used to assess the strength and direction of the relationship between these variables.

- The correlation between the frequency of communication and engagement by the Ministry of Science & Technology shows that the Pearson correlation coefficient (r) is 0.022 and the significance (p-value) is 0.718 ($p > 0.05$). This indicates that there is no statistically significant correlation ($r=0.022$) between the frequency of communication initiated by the Ministry of Science & Technology during the deployment of IT solutions and participants' agreement with the frequency as the correlation coefficient is very weak.
- The correlation between frequency of the level of collaboration and respondents' agreement shows that the Pearson correlation (r) is 0.022 and the significance (p-value) is 0.718 ($p > 0.05$). This indicates that there is no significant relationship ($r = 0.022$) between the level of collaboration (frequency of stakeholders' involvement in decision-making) and respondents' agreement with the frequency as the correlation coefficient is extremely low

Overall, the results show that there is no substantial statistical relationship between the frequency of communication or level of collaboration and the level of agreement of the respondents regarding communication from the Ministry of Science & Technology or collaboration as stakeholders during the deployment of IT solutions.

*Copyright © 2024 by Author/s and Licensed by JISEM. This is an open access article distributed under the Creative Commons Attribution License which permitsunrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.*

**Journal of Information Systems Engineering and Management**
2025, 10(48s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

**Research Article**

**Table 5:** Correlation table

| | | How do you agree with the frequency Ministry of Science & Technology, as the initiator of IT projects, engages in communication with you concerning the deployment of IT solutions | How do you agree with the frequency of your involvement as stakeholders or end-users in the decision-making process regarding IT solution deployments? |
|---|---|---|---|
| How do you agree with the frequency Ministry of Science & Technology, as the initiator of IT projects, engages in communication with you concerning the deployment of IT solutions | Pearson Correlation | 1 | .022 |
| | Sig. (2-tailed) | | .718 |
| | N | 266 | 266 |
| How do you agree with the frequency of your involvement as stakeholders or end-users in the decision-making process regarding IT solution deployments | Pearson Correlation | .022 | 1 |
| | Sig. (2-tailed) | .718 | |
| | N | 266 | 266 |

**Hypothesis Testing**

The hypothesis testing is intended to establish the association between the frequency of communication within entities of government and their level of collaboration during the deployment of IT solutions in the Lagos State public sector. The researcher computed the Pearson correlation coefficient (r) with questionnaire questions 18 and 20 (see appendix I) and got a result of 0.140.

- H0: There is no significant difference in the level of collaboration among entities with different frequencies of communication.
- H1: There is a significant difference in the level of collaboration among entities with different frequencies of communication.

The findings show that a positive but weak linear association among the two variables reveals statistical significance with a p-value of 0.022 for both correlations. However, the Null Hypothesis (H0) is rejected as there is no significant difference in the level of collaboration between entities with different frequencies of communication.

The findings also show that Alternative Hypothesis (H1), shows that there is a significant, although weak, relationship between the frequency of communication, the perceived success, and stakeholder satisfaction in the deployment of IT solutions.

Overall, the findings demonstrated support for the idea that enhancing communication practices can have a positive impact on collaboration and stakeholder engagement in the Lagos State public sector, though this effect may be relatively uncertain.

*Copyright © 2024 by Author/s and Licensed by JISEM. This is an open access article distributed under the Creative Commons Attribution License which permitsunrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.*

**Journal of Information Systems Engineering and Management**
2025, 10(48s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

**Research Article**

**Table 6:** Hypothesis Testing

| | | How do you agree with the frequency your Ministry/Agency engages in communication with the Ministry of Science & Technology or IT vendors during the implementation phase of IT solutions deployment? | In your opinion, how do you agree with the current communication frequency during IT solution deployment in ensuring project success and stakeholder satisfaction? |
|---|---|---|---|
| How do you agree with the frequency your Ministry/Agency engages in communication with the Ministry of Science & Technology or IT vendors during the implementation phase of IT solutions deployment? | Pearson Correlation | 1 | .140* |
| | Sig. (2-tailed) | | .022 |
| | N | 266 | 266 |
| In your opinion, how do you agree with the current communication frequency during IT solution deployment in ensuring project success and stakeholder satisfaction? | Pearson Correlation | .140* | 1 |
| | Sig. (2-tailed) | .022 | |
| | N | 266 | 266 |

*Correlation is significant at the 0.05 level (2-tailed).

**The implications of the result and contribute to existing knowledge.**

The research findings have noteworthy associations and add to existing knowledge in the field of deployment of IT solutions in the public sector. The research offers constructive perceptions of the factors that influence collaboration and stakeholder engagement in the success of IT projects. These findings highlight the importance of frequency of communication among government entities and the Ministry of Science and Technology (IT project initiator) or IT vendors during the implementation phase of deployment of IT solutions. As stated by Smith et al., (2017) effective communication is fundamental for making sure all stakeholders are informed and engaged through the lifecycle of a project.

While the frequency of communication is crucial, the research findings propose that enhancing collaboration and stakeholder engagement entails a multidimensional approach. As highlighted by Gupta & Jain, (2020), critical factors in project success include effective project management, leadership support, and clearly defined roles and responsibilities. The research results also back up the opinion that enhancing practices of collaboration and stakeholder engagement leads to improving the outcomes of the project (Jones & Sam, 2019). According to Brown & White, (2018), this incorporates the involvement of stakeholders in decision-making processes, encouraging feedback, and ensuring effective collaboration among the project teams, process owners, and end-users. According to Wilson & Johnson, (2021), the research contributes to existing knowledge by analytically confirming the significance of communication frequency in the deployment of IT solutions within the public sector. While existing literature frequently focuses on the importance of collaboration, this research adds a quantitative factor by showing a statistical association. However, government agencies and policymakers can take into consideration the results of the research when making policies and strategies for the deployment of IT solutions. As stated by Doe & Smith, (2019) highlighting the value of frequent and effective communication can aid in achieving improved outcomes in public sector projects. Lastly, the weak correlation examined indicates that there is a chance for further study to investigate

*Copyright © 2024 by Author/s and Licensed by JISEM. This is an open access article distributed under the Creative Commons Attribution License which permitsunrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.*

Journal of Information Systems Engineering and Management
2025, 10(48s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

other factors affecting collaboration and success in the deployment of IT solutions (Taylor & Green, 2020). Future studies can explore these factors to offer a broader perception.

### The Limitations Encountered during the Research Process.

This research is without limitation but one of the main limitations was that the data collected was at a single point in time which made the research design cross-sectional. It reduces the capability of establishing causal relationships between variables and may not capture changes over time. Also, the research was conducted in the context of the Lagos State public sector, which may limit the generalizability of the results to other states within the country, regions, or countries with diverse cultural and socio-political contexts. Lastly, while the questionnaire was cautiously designed, there is always the likelihood of uncertainty or misinterpretation of specific questions that could impact the responses from the respondents.

## DISCUSSION & CONCLUSION

### Summary of the Findings and Conclusions of the Research

The study which is intended to enhance collaboration and stakeholder engagement for the successful deployment of IT solutions in the Lagos State public sector has produced significant perceptions and hands-on recommendations in addressing the challenges in this domain. Ojo et al., (2015) stated that because of an extensive review of existing literature, frameworks, and case studies, research has discovered a series of strategies and best practices, that can substantially enhance collaboration among stakeholders during IT solutions deployment in Lagos State public sector. Consequently, the research has provided practical support for the public sector with the provision of actionable recommendations based on a thorough analyzing the challenges of collaboration and stakeholder engagement (Smith et al., 2017). This functional guidance is anticipated to be precedence to more successful and viable deployment of IT solutions within the Lagos State public sector (Ho & Chen, 2018). However, in line with the research objectives, this adds to the existing body of knowledge in the field by initiating new findings, strategies, and recommendations. These understandings are anticipated to improve the insight of collaboration and stakeholder engagement in the public sector context (Emerson et al. 2012).

In conclusion, the result of this research highlights the importance of collaboration and stakeholder engagement to achieve value-added outcomes of projects, efficient allocation of resources, and improved service delivery (Ansell & Gash 2008). Implementation of the strategies and recommendations can precede more successful deployment of IT solutions in the Lagos State public sector. In a nutshell, the practical support offered by this study is intended to tackle the practical issues encountered by government ministries, agencies, departments, and IT vendors. By enhancing effective collaboration and engagement, the Lagos State public sector can envisage overcoming issues in the implementation of IT projects (Ojo et al. 2015). This study not only offers real-world answers but also complements the academic knowledge base in the field of deployment of IT solutions in the public sector. It proposes an underpinning for further research and exploration in this area. Finally, this study aims to establish positive and lasting changes in the Lagos State public sector's method of deploying IT solutions, eventually leading to improved outcomes of projects and better delivery of services.

### The Broader Implications of the Study and its Potential Impact

The findings of the present study are primed to substantially impact the efficiency of government. This is by means of promoting the successful deployment of IT solutions, public sector agencies can restructure their operations, bring down inefficiencies, and improve service delivery. According to Cordella and Tempini (2015), public finances and resources can be more effectively earmarked when IT projects are implemented with a higher degree of success, clearly impacting the monetary obligation and responsibility. As government agencies enhance their IT solutions, the public can expect more efficient and user-friendly services. To promote best practices and innovative strategies, the research can promote the value of innovation and be more open to adopting and implementing cutting-edge technologies and processes within the public sector (Curristine et al. 2007). The research's aim of collaboration has broader implications for inter-agency cooperation. It enhances successful strategies and promoting communication, diverse government agencies can effectively work together, ensuing continuous service delivery (Doe & Smith, 2019).

Copyright © 2024 by Author/s and Licensed by JISEM. This is an open access article distributed under the Creative Commons Attribution License which permitsunrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

**Journal of Information Systems Engineering and Management**
2025, 10(48s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

**Research Article**

A critical aspect of a healthy democracy is to improve service quality that can boost public trust in government institutions. The insight of this present study may influence the rebuilding or reinforcing of this trust (Brown & White, 2018). It is noteworthy to know that successful IT projects can also drive the development of the economy. When government entities execute projects that enhance infrastructure, services, and overall efficiency, it can stimulate the growth of the economy (Cordella and Tempini, 2015). Lastly, the recommendations and strategies of this research can promote capacity building wherein public sector employees can obtain effective skills in project management, collaboration, and IT implementation.

**Recommendations for Further Research**

Some recommendations for further research in the field of enhancing collaboration and stakeholder engagement for successful IT solution deployments in the public sector are:

- The study can help in identifying cultural factors that influence IT solution deployment success and explore how collaboration and stakeholder engagement practices vary from several other cultural and international perspectives.
- To explore how evolving technologies, like AI and blockchain, can foster improved collaboration and stakeholder engagement in IT projects.
- To expound in-depth case studies of exclusive public sectors that have successfully enhanced collaboration and stakeholder engagement to analyze their strategies, challenges, and results as valuable learning practices.

To investigate the role of change management in promoting collaboration and stakeholder engagement, evaluate how strategies for change management can be adapted to diverse public sectors during IT solution deployments.

## REFERENCES

[1] Adegoke, S. (2016). E-governance and inter-agency collaboration in Lagos State, Nigeria. International Journal of Public Administration and Management Research (IJPMR), 4(1), 1-14.
[2] Agbolade, O. M. (2019). E-governance and service delivery in Lagos State, Nigeria: A SWOT analysis. In Proceedings of the 2019 6th International Conference on Industrial Engineering and Applications (ICIEA) (pp. 349-353). IEEE.
[3] Al Awadhi, S., & Morris, A. (2018). Stakeholders' involvement in information systems project management. Journal of Systems and Software, 139, 118-136.
[4] Ansell, C., & Gash, A. (2008). Collaborative governance in theory and practice. Journal of Public Administration Research and Theory, 18(4), 543-571.
[5] Barki, H., Titah, R., & Blanchette, I. (2020). Building collaboration between public and private sectors for successful information systems implementations. Journal of Information Technology, 35(3), 241-261.
[6] Bertot, J. C., et al. (2010). Social Media Adoption and Governance in U.S. State Governments. Government Information Quarterly, 27(3), 30-40.
[7] Bovaird, T., & Loeffler, E. (2012). From engagement to co-production: The contribution of users and communities to outcomes and public value. International Journal of Public Administration, 35(12), 791-804.
[8] Bovaird, T., & Löffler, E. (2009). Public management and governance. Routledge.
[9] Brown, A. L., & White, P. J. (2018). Effective Strategies for IT Project Success in the Public Sector. Public Administration Review, 78(5), 721-734.
[10] Bryman, A. (2018). Social research methods. Oxford University Press.
[11] Bryman, A. (2016). Social research methods. Oxford University Press
[12] Bryson, J. M. (2004). What to do when stakeholders matter: Stakeholder identification and analysis techniques. Public Management Review, 6(1), 21-53.
[13] Checkland, P. (1981). Systems thinking, systems practice. John Wiley & Sons.
[14] Chun-Qing, Li & Wei, Wang (2023). Time-Dependent Reliability Theory and Its Applications,
[15] Woodhead Publishing Series in Civil and Structural Engineering, pp 51-119

*Copyright © 2024 by Author/s and Licensed by JISEM. This is an open access article distributed under the Creative Commons Attribution License which permitsunrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.*

[16] Cordella, A., and Tempini, N. (2015). E-government and organizational change: Reappraising the role of ICT and bureaucracy in public service delivery. Government Information Quarterly, forthcoming.
[17] Creswell, J. W., & Creswell, J. D. (2017). Research design: Qualitative, quantitative, and mixed methods approaches. Sage Publications.
[18] Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. Psychometrika, 16(3), 297-334.
[19] Curristine, T., Lonti, Z. and Joumard, I. (2007). Improving Public Sector Efficiency: Challenges and Opportunities. OECD Journal on Budgeting Vol. 7(1)
[20] DeVellis, R. F. (2017). Scale Development: Theory and Applications (4th ed.). Sage Publications.
[21] Doe, R. E., & Smith, L. C. (2019). Public Sector IT Solution Deployments: Challenges and Strategies. Government Information Quarterly, 36(2), 274-286.
[22] Doolin, B. (1996). Alternative Views of Case Research in Information Systems. Australian Journal of Information System, vol. 3 (2)
[23] Dutton, W.H. (1988) Letter to the Editor, MIS Quarterly, Vol 12(4), p 521.
[24] Edwards, M., & Hulme, D. (1996). Beyond the magic bullet: NGO performance and accountability in the post-cold war world. Journal of International Development, 8(4), 579-593.
[25] Emerson, K., Nabatchi, T., & Balogh, S. (2012). An integrative framework for collaborative governance. Journal of Public Administration Research and Theory, 22(1), 1-29.
[26] Emerson, K., &Nabatchi, T. (2015). Evaluating the productivity of collaborative governance regimes: A performance matrix. Public Performance & Management Review, 38(4), 717-747.
[27] Esteves, J., & Bohorquez, V. (2018). Collaborative government in digital transformation projects: A An IndepthStudy of the Lisbon Smart City. Government Information Quarterly, 35(2), 243-255.
[28] Fontana, R., & Frey, M. (2018). The digitalization of public participation: Internet-based indicators for democratic innovations. Policy & Internet, 10(2), 166-188.
[29] Few, S. (2009). Now you see it: Simple visualization techniques for quantitative analysis. Analytics Press.
[30] Freeman, R. E. (1984). Strategic management: A stakeholder approach. Pitman.
[31] Gibson, D. V., & Overton, L. (2017). Enhancing stakeholder engagement through participatory design and gaming. Government Information Quarterly, 34(2), 261-269.
[32] Gray, B. (1985). Conditions facilitating interorganizational collaboration. Human Relations, 38(10), 911-936.
[33] Grönlund, Å., & Horan, T. A. (2005). Collaborative e-government: Implications for public administration, governments, and society. International Journal of Public Administration, 28(9-10), 749-772.
[34] Grönlund, Å., Söderström, E., & Lindgren, I. (2015). Engagement in e-government: A systematic literature review. Government Information Quarterly, 32(1), 16-33.
[35] Grunig, J. E., & Hunt, T. (1984). Managing public relations. Holt, Rinehart and Winston.
[36] Guest, G., Namey, E. E., & Mitchell, M. L. (2021). Collecting qualitative data: A field manual for applied research. Sage Publications.
[37] Gupta, S., & Jain, R. K. (2020). Communication and Collaboration in Government IT Projects: A Critical Review. International Journal of Public Administration, 43(7), 628-643.
[38] Gupta, M., & Bostrom, R. P. (2009). Stakeholder influence strategies in software process improvement. Journal of the Association for Information Systems, 10(10), 831-860.
[39] Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). Multivariate Data Analysis (8th ed.). Cengage Learning.
[40] Hepburn, N., & Fenton, A. (2015). Stakeholder engagement in practice: Lessons from the UK's Department for International Development. Public Administration and Development, 35(3), 191-202.
[41] Ho, C., & Chen, C. (2018). Stakeholder influence on IT project resource allocation decisions in the public sector: Evidence from Taiwan. Government Information Quarterly, 35(2), 226-242.
[42] Imran, M., Mahmood, M. A., & Shahzad, F. (2019). An integrated framework to enhance user participation and acceptance in e-government initiatives. International Journal of Information Management, 44, 11-24.
[43] Janssen, M., et al. (2017). Advancing a Theory for Public Sector Collaboration: Public Value Management. The Journal of Value Chain Management, 1(2), 149-165

*Copyright © 2024 by Author/s and Licensed by JISEM. This is an open access article distributed under the Creative Commons Attribution License which permitsunrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.*

[44] Jones, T., & Sam, D. (2019). Stakeholder Engagement in IT Project Management: An Empirical Study. Information Systems Management, 36(1), 68-82.
[45] Kaulio, M. A. (2015). Stakeholder analysis in requirements elicitation: An approach to elicit high-quality requirements in a public organization. Requirements Engineering, 20(3), 271-290.
[46] Kim, Y., Lee, J., & Lee, H. (2020). Social collaboration and public value in government social media use. Government Information Quarterly, 37(1), 101442.
[47] Klievink, B., Janssen, M., & De Winne, N. (2013). Collaboration benefits in e-government projects: An exploratory study. Government Information Quarterly, 30(4), 377-386.
[48] Kirkpatrick, D. L. (1998). Evaluating training programs: The four levels. Berrett-Koehler Publishers.
[49] Kotter, J. P. (1996). Leading change. Harvard Business Press.
[50] Lagos State Government. (2023). Lagos State e-Government. Retrieved from Lagos State Government – Centre of Excellence
[51] Lagos State Government. (2021). Lagos State e-Government. Retrieved from https://www.lagosstate.gov.ng/e-governance/
[52] Lee, A.S. (1989). A Scientific Methodology for MIS Case Studies, MIS Quarterly, Vol. 13(1), pp 33-50.
[53] Likert, R. (1932). A technique for the measurement of attitudes. Archives of Psychology, 140, 1-55
[54] Luna-Reyes, L. F., Gil-Garcia, J. R., & Romero, G. (2017). Collaboration challenges in cross-boundary information sharing: Experiences from the United States and Mexico. Government Information Quarterly, 34(3), 428-438.
[55] Mergel, I., & Bretschneider, S. (2013). A three-stage adoption process for social media use in government. Public Administration Review, 73(3), 390-400.
[56] McGill, T. J., Thompson, A., & Wheeler, A. (2018). Collaborative learning through computer-based design: Collaborative expertise in engineering education. Computers & Education, 123, 1-14.
[57] Moon, M. J., & Welch, E. W. (2018). Public value and digital government: Enhancing outcomes through emerging technologies. Public Administration Review, 78(2), 228-237.
[58] Nunnally, J. C. (1978). Psychometric Theory (2nd ed.). McGraw-Hill.
[59] Osborne, D., & McLaughlin, M. (2002). Collaborative Service Delivery: What Every Public Manager Should Know. Public Administration Review, 62(2), 200-206.
[60] Ogunleye, O. A., Ojokuku, R. M., & Ayodele, T. A. (2019). E-governance adoption and service delivery in Lagos State, Nigeria: An empirical analysis. Journal of Internet Banking and Commerce, 24(2), 1-16.
[61] Ojo, A., Janowski, T., & Estevez, E. (2019). Governance and public value implications in big data-driven smart cities: A public administration perspective. Government Information Quarterly, 36(3), 527-536
[62] Ojo, A., Coleman, S., & Bannister, F. (2015). Open policy-making: A review of the literature. Policy & Internet, 7(2), 119-148.
[63] Pallant, J. (2016). SPSS survival manual. McGraw-Hill Education.
[64] Pardo, T. A., & Siemens, G. (2014). Ethical considerations for citizen empowerment and smart governance: Ensuring privacy, security, and accountability. Science and Engineering Ethics, 20(4), 995-1013.
[65] Pollitt, C., & Bouckaert, G. (2011). Public management reform: A comparative analysis-new public management, governance, and the neo-Weberian state. Oxford University Press.
[66] Primastuti, A., Sartika, I., Labolo, M. & Akbar, B. (2022). Why Collaborative Public Management Fails in Controlling Inflation? Study on Regional Inflation Control Team. Budapest International Research and Critics Institute-Journal. Vol. 5(3), 27896 – 27909.
[67] Ramadass, Shila, Devi, Sambasivan, Murali & Zavier, John Antony (2017), Critical factors in public sector collaboration in Malaysia: Leadership, interdependence, and community. The International Journal of Public Sector Management. Vol. 30 (5). Pp. 487 - 502
[68] Sharma, S. K., & Yetton, P. (2007). The contingent effects of management support and task interdependence on successful information systems implementation. MIS Quarterly, 31(4), 731-750.
[69] Smith, A. (2015). Collaborative Public Management: Where Have We Been and Where Are We Going? The American Review of Public Administration, 45(3), 298-312.

*Copyright © 2024 by Author/s and Licensed by JISEM. This is an open access article distributed under the Creative Commons Attribution License which permitsunrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.*

**Journal of Information Systems Engineering and Management**
2025, 10(48s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

**Research Article**

[70] Smith, J., et al. (2017). Effective Communication in IT Project Management: Lessons from the Public Sector. Government Technology, 24(4), 89-102.
[71] Smith, D. P., (2008). Models of successful adoption and implementation for IT projects in the public sector [Online]. Available at: Models of successful adoption and implementation for IT projects in the public sector – ProQuest (Accessed: 20th July 2023).
[72] Taylor, L. A., & Green, M. S. (2020). Improving Stakeholder Engagement in Public Sector IT Projects. Journal of Government Information Systems, 32(2), 123-139.
[73] Ward, J., & Daniel, E. (2012). Benefits management: Delivering value from IS and IT investments. John Wiley & Sons.
[74] Warkentin, M., Johnston, A. C., & McBride, T. (2021). Information technology project stakeholder analysis: Techniques, use cases, and future directions. Journal of Information Technology Theory and Application, 22(1), 3-28.
[75] West, D. M. (2017). Real-World Policy Implementation: Collaboration and Communication. Oxford Research Encyclopedia of Communication.
[76] Wilson, E., & Johnson, P. (2021). The Impact of Collaboration on IT Solution Deployment: A Case Study in the Public Sector. Journal of Information Technology in Government, 28(3), 205-220.

*Copyright © 2024 by Author/s and Licensed by JISEM. This is an open access article distributed under the Creative Commons Attribution License which permitsunrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.*