



E-Governance and Administrative Efficiency in Rivers State University, 2007-2025.

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ABSTRACT

The advancement of information and communication technologies has significantly improved governance and service delivery within public institutions. E-governance as a result, emerged as a central mechanism for enhancing transparency, accountability, and administrative efficiency. In higher education sector, where administrative processes are complex and stakeholder expectations are increasingly demanding, the adoption of digital governance tools has become essential for improving institutional effectiveness, responsiveness, and service quality. This study examined the impact of e-governance initiatives on administrative efficiency at Rivers State University between 2007 and 2025. Anchored in the Technology Acceptance Model (TAM) and Systems Theory, the research investigated the implementation, effectiveness, and challenges of e-governance systems within the university's administrative framework. Anchored on the Technology Acceptance Model (TAM) and Systems Theory, the study assessed the level of implementation, effectiveness, and challenges associated with e-governance initiatives in the university's administrative processes. A survey research design was adopted, and a sample size of 327 respondents was determined from a population of 1,800 academic and administrative staff using Taro Yamane's formula. Purposive and simple random sampling techniques were employed to select respondents from key administrative units. Data were collected using a structured four-point Likert-scale questionnaire, and responses were quantified using mean scores and the Relative Importance Index (RII). Data analysis was carried out using descriptive statistics (frequency, percentage, mean, and RII) and inferential statistics, specifically the Chi-Square (χ^2) test, with the aid of SPSS version 25 at a 0.05 level of significance. The findings revealed that e-record systems and e-procurement significantly enhanced administrative efficiency, while e-communication and e-participation tools were largely ineffective. Administrative processes such as course registration, fee payment, and records management showed substantial improvement, whereas student admissions processing remained relatively weak. Major challenges identified included poor internet connectivity, inadequate ICT infrastructure, and staff resistance to technological change. The findings reveal uneven digital transformation. Adoption did not significantly exceed the acceptable benchmark ($\bar{x} = 3.054$; $p = .844$), though transactional systems such as fee payment and student records were strongly implemented, while strategic tools including dashboards, transcript processing, and e-participation remained weak. Significant differences were found in system effectiveness ($\chi^2 = 174.293$, $p < .001$), with e-records and e-procurement outperforming e-communication and e-participation. Administrative impact also varied significantly ($\chi^2 = 247.195$, $p < .001$): registration, records management, and fee payment improved markedly, but admissions processing lagged. Implementation barriers were systemic ($\chi^2 = 189.464$, $p < .001$), driven primarily by poor internet connectivity, staff resistance, and inadequate ICT infrastructure. The study recommends urgent upgrading of ICT infrastructure and improvement of internet connectivity, as well as continuous staff capacity building, to strengthen the effectiveness and sustainability of e-governance implementation in the university.

Keywords: E-Governance, Administrative Efficiency, Digital Governance, Technology, University.

INTRODUCTION

The development of information and communication technologies (ICTs) has transformed the way governments and institutions deliver services across the globe (Bwalya, 2018). E-government, defined as the

application of ICTs in administrative and governance processes, serves as an important mechanism for enhancing transparency, accountability, and efficiency in public administration (Setyarto, Alimuddin, Mulyaningsih, & Judijanto, 2025). Through digitizing records, automating processes, and improving communication channels, e-government offers opportunities to reduce bureaucratic bottlenecks, limit corruption, and increase access to public services.

Since the late 1990s, governments worldwide have increasingly adopted information and communication technologies (ICTs) for public sector reform, with e-government emerging as a key global framework for improving communication, service delivery, and administrative efficiency (Abubakar, Dan'Isah, Egwuatu, & Jaachike, 2025). This approach is regarded as a strategy for controlling costs, enhancing organizational efficiency, and promoting more transparent, citizen-oriented governance (Larsson & Grönlund, 2014). In Nigeria, the formal introduction of e-governance can be traced to 2000, when the administration of Olusegun Obasanjo launched the National Policy on Information Technology, thereby institutionalizing ICT as a mechanism for governance reform and improved service delivery (Olatokun & Adebayo, 2012). Its primary objectives were to improve access to public services, enhance transparency in government operations, and restructure interactions between government, citizens, and businesses to promote efficiency and accountability (FRN, 2001). The policy also emphasized shifting the dynamics of information access and control, enabling public servants to move from passive execution of duties to active participation in decision-making processes (FRN, 2001).

Universities play a central role in developing the skilled human capital required for socio-economic development and technological advancement, functioning as knowledge hubs that prepare graduates to address both national and global challenges (Jaradat, 2013). To effectively fulfill this mandate, efficient and effective administration is crucial. Maylasari and Rakhma (2025) observe that the adoption of e-governance strategies in universities improves administrative processes such as admissions, registration, record management, fee payment, and stakeholder communication, while e-governance itself refers to the use of information and communication technologies (ICT) to enhance institutional administration, service delivery, and interaction with stakeholders (UNESCO, 2005). Scholars have defined e-governance in various ways: Kumar (2013) describes it as an ICT-enabled system for delivering electronic services to the public, while Bhatnagar (2013) emphasizes its features such as accountability, transparency, reliability, usability, and efficiency. Mahundu (2015) further notes that e-governance involves automating paper-based systems, generating new ways of leadership, facilitating citizen engagement, and improving information management. E-governance targets three main groups: government, citizens, and businesses, enabling efficient and low-cost interaction among them (Sexana, 2014).

Universities in Nigeria, including Rivers State University (RSU), have historically relied on conventional manual methods of administration, which often limited participation by students, staff, and other stakeholders in institutional processes. Decision-making in administrative matters was frequently centralized, while routine service delivery, such as student admissions, registration, fee payments, records management, and transcript processing, remained slow, bureaucratic, and prone to errors. These challenges were further compounded by irregular power supply, inadequate ICT infrastructure, limited technical expertise among staff, and entrenched bureaucratic procedures. Consequently, Ajibade, Ibietan, and Ayelabola (2017) noted that administrative inefficiency became a significant problem, resulting in delays, loss or damage of records, limited transparency, and reduced satisfaction among students and staff.

The specific objectives of the study was to. Identify the major e-governance initiatives introduced at Rivers State University within the period 2007–2025.

The study's research question is: what major e-governance initiatives were introduced at Rivers State University between 2007 and 2025?

The study was guided by the null hypothesis (**H₀**) that; the mean adoption level of e-governance initiatives at Rivers State University is not significantly higher than the minimum threshold for adequate implementation between 2007 and 2025 and the alternate (**H₁**) that; the mean adoption level of e-governance

initiatives at Rivers State University is significantly higher than the minimum threshold for adequate implementation.

THEORETICAL REVIEW

Technology Acceptance Model (TAM)

This study adopts the Technology Acceptance Model (TAM) developed by Davis (1987) as a theoretical framework to explain and predict user acceptance of information systems. TAM was developed by combining research from three different traditions: "Human-Computer Interaction (HCI) study, MIS laboratory research, and Management Information Systems (MIS) attitude research" (Davis, 1987). The model builds upon the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975) from social psychology, particularly drawing from their work on the relationship between beliefs, attitudes, intentions, and behaviour. However, TAM adapts these psychological principles specifically to the context of technology adoption in organizational settings. According to Davis (1987), the model was designed to address two fundamental research questions:

- (1) "Why do users accept or reject information technology?" and
- (2) "What is the impact of a system's design features on user acceptance?"

These inquiries directly relate to comprehending how e-governance solutions are implemented and used at Rivers State University. According to Davis (1987), the Technology Acceptance Model outlines the causal connections between system design elements, user attitudes and perceptions, and actual usage behaviour. The model comprises four principal constructs:

Perceived Usefulness (PU): Davis (1987) defines perceived usefulness as the degree to which an individual believes that using a particular system would enhance his or her job performance. In the context of this study, perceived usefulness relates to how university staff and administrators believed that e-governance systems would improve their work efficiency, reduce processing time, and enhance service delivery (Davis, 1987). Research has consistently demonstrated that perceived usefulness is a strong predictor of technology acceptance (Davis, 1987; Venkatesh & Davis, 2000). Davis (1987) found that "perceived usefulness was 50% more influential than ease of use in determining usage behaviour," accounting for significant variance in system utilization. The importance of perceived usefulness is rooted in expectancy theory models of work motivation (Robey, 1979; Vroom, 1964). When users perceive that a system will enhance their job performance, they are more likely to develop positive attitudes toward its use and subsequently adopt it (Davis, 1987). In university administration, this could manifest in perceptions that e-governance systems would facilitate faster student registration, more efficient financial processing, or improved record management.

Perceived Ease of Use (PEOU): This construct is defined as the degree to which an individual believes that using a particular system would be free of physical and mental effort (Davis, 1987). Systems that are perceived as easier to use are more likely to be accepted by users because they require less cognitive effort and learning investment (Davis, 1987). For university administrators and staff who may have varying levels of computer literacy, the ease of use of e-governance platforms would significantly influence their willingness to adopt these systems (Davis, 1987). Davis (1987) argues that "perceived ease of use has both direct and indirect effects on system usage". Directly, easier systems reduce the effort required to accomplish tasks, making them more attractive to users. Indirectly, ease of use influences perceived usefulness, if two systems perform identical functions, users will find the easier one more useful because it allows them to reallocate saved time to other productive activities or perform tasks more thoroughly (Davis, 1987).

These two ideas affect how the user feels about using the system, which in turn affects their behavioural intention to use it, which eventually results in actual system use (Davis, 1987). Crucially, TAM also emphasizes how PEOU affects PU: people are more likely to think a system is helpful if it is simple to use (Davis, 1987).



Attitude Toward Using: Following Fishbein and Ajzen's (1975) attitude theory, Davis (1987) defines attitude toward using as "the degree of evaluative affect that an individual associates with using the target system in his or her job". This represents "the user's positive or negative feelings about employing the technology" (Davis, 1987). Attitude toward using serves as a mediating variable between perceived usefulness, perceived ease of use, and actual system use (Davis, 1987). When university personnel develop positive attitudes toward e-governance systems based on their perceptions of usefulness and ease of use, they are more likely to integrate these systems into their daily administrative routines (Davis, 1987).

Actual System Use: This represents the dependent variable in the model, the actual usage behaviour of the technology system (Davis, 1987). Davis (1987) notes that "user acceptance, reflected in actual usage, is often the pivotal factor determining the success or failure of an information system project." In the context of Rivers State University, actual system use would encompass the extent to which staff utilized e-governance platforms for registration, financial transactions, record keeping, and other administrative functions during the 2007–2025 period (Davis, 1987).

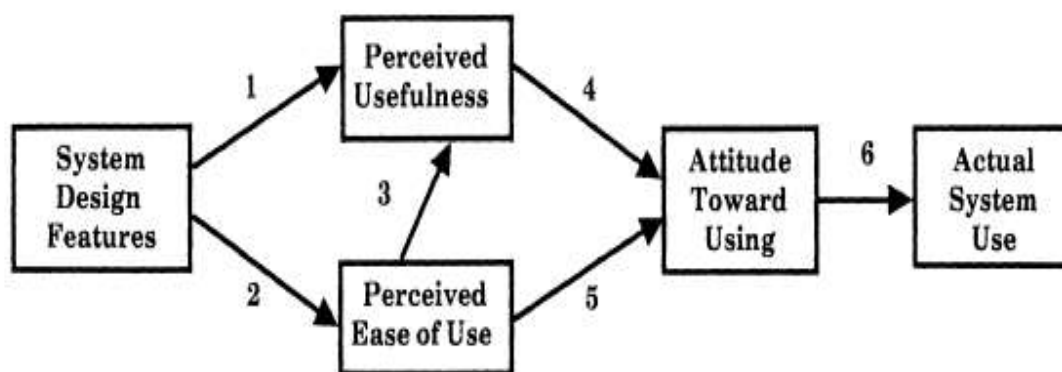
The Technology Acceptance Model posits specific causal relationships among its constructs (Davis, 1987). System design features serve as external stimuli that directly influence both perceived usefulness and perceived ease of use (Davis, 1987). These perceptions, in turn, shape users' attitudes toward using the system (Davis, 1987). Attitude toward using then determines whether users will actually employ the system in their work (Davis, 1987).

Additionally, the model specifies that perceived ease of use has a causal effect on perceived usefulness, creating an indirect pathway through which ease of use influences usage behaviour. In his empirical validation, Davis (1987) found that "the model accounted for 36% of the variance in usage behaviour," demonstrating substantial explanatory power. The study revealed that perceived usefulness was significantly more influential than ease of use in determining usage, suggesting that users are willing to overcome usability challenges if they believe the system will substantially improve their performance.

The Technology Acceptance Model (TAM) offers a useful framework for analysing how e-governance initiatives were adopted and used at Rivers State University between 2007 and 2025 (Davis, 1987). Since the study seeks to understand the effect of e-governance on administrative efficiency (Davis, 1987), TAM helps explain not only whether systems were put in place but also the extent to which they were embraced by staff and integrated into daily university operations. The model highlights two main factors, perceived usefulness and perceived ease of use, as the strongest influences on whether technology is accepted and consistently applied. This makes it particularly relevant in examining the adoption patterns of e-governance initiatives within the university.

TAM connects the study's objectives by linking system design and user perceptions with actual usage patterns and efficiency outcomes. It explains why some systems improved university administration while others stalled or were abandoned. The model provides not only a framework for analysing past initiatives but also guidance for future improvements. Moreover, the Technology Acceptance Model provides a foundation for assessing the interplay between individual user characteristics, organizational context, and system attributes (Davis, 1987).

Factors such as prior experience with technology, computer self-efficacy, and organizational support can moderate the relationships proposed by TAM, influencing both "perceived usefulness and perceived ease of use" (Venkatesh & Davis, 2000). By explaining why staff accepted or rejected e-governance systems, TAM illuminates the mechanisms through which technological investments translated, or failed to translate, into administrative efficiency improvements during the 2007-2025 period. The model's diagnostic capabilities also enable identification of specific barriers and facilitators of e-governance adoption, supporting evidence-based recommendations for enhancing future implementations in Rivers State University and similar Nigerian higher education institutions.



Source: (Davis, 1987).

Fig 1: Technology Acceptance Model (Davis, 1987).

CONCEPTUAL REVIEW

Governance

Governance can be understood as the government's capacity to make and enforce rules, as well as to deliver services, regardless of whether the political system is democratic or not (Fukuyama, 2013). In this study, the focus is on what Michael Mann (1984) describes as "infrastructural power," the state's ability to implement decisions and organize society, rather than "despotic power," which is the arbitrary exercise of authority. Democratic accountability is excluded from this initial definition so that governance and democracy can be examined as distinct, rather than overlapping, concepts.

Distinguishing governance from democracy, Fukuyama (2013) argues that we can empirically investigate the relationship between these concepts rather than conflating them definitionally. This instrumental conceptualization treats governance as fundamentally about execution and implementation, the performance of agents (government officials and bureaucrats) in carrying out the wishes of principals (political leadership or the public) (Fukuyama, 2013). Fukuyama (2013) notes that governance concerns how organizations perform their functions, falling within the traditional domain of public administration as distinct from politics. From this perspective, an authoritarian regime can exhibit high-quality governance just as a democracy can suffer from maladministration, because governance quality depends on administrative capacity and effectiveness rather than regime type or democratic accountability. Governance goes beyond the traditional functions of government to encompass the collective efforts of both public and private actors in addressing societal issues (Fukuyama, 2013). According to Kooiman, Bavinck, Jentoft, and Pullin (2005), governance is the whole of public as well as private interactions taken to solve societal problems and create societal opportunities. It includes the formulation and application of principles guiding those interactions and care for institutions that enable them. This perspective emphasizes that effective governance depends on collaboration, institutional strength, and shared responsibility among all stakeholders.

According to Muo (2006), governance can be defined as the fundamental process by which the lives and dreams of a people are jointly pursued through deliberate and systematic strategies and policies for the attainment of their maximum potential. It is the combination of responsible leadership and enlightened public participation (Muo, 2006). He further explained that governance, rather than being limited to political institutions, should be understood as the management of the lives of the people in a systematic, organized way for the best possible results, using the consensus of the people's will, vision, and wisdom (Muo, 2006). This perspective broadens the concept of governance to include collective human efforts beyond the boundaries of formal government structures. Similarly, Bello-Imam (1997) views governance as the mechanisms through which institutions or organizations, whether families, nation-states, or their components, ensure the participation of relevant interest groups in defining their objectives and activities.



He adds that governance involves mediating among conflicting interests and ensuring accountability to stakeholders who support or are affected by its operations. This conception underscores participation, inclusiveness, and accountability as essential elements of governance in any organized system.

Governance is conceptualized differently by major international organizations, reflecting its diverse applications and significance in political, economic, and social contexts. The World Bank Group defined governance as "the manner in which power is exercised through a country's economic, political, and social institutions" (World Bank Group, 2011). It emphasizes that governance involves the traditions and institutions by which authority in a country is exercised for the common good (World Bank Group, 2011). This includes the processes by which those in authority are selected, monitored, and replaced; the capacity of government to effectively manage resources and implement sound policies; and the respect of citizens and the state for institutions that guide economic and social interactions (World Bank Group, 2011).

Similarly, the United Nations Development Programme (UNDP, 1997) describes governance as the exercise of economic, political, and administrative authority to manage a country's affairs at all levels. It involves the mechanisms and processes through which states promote social cohesion, integration, and the well-being of their citizens (UNDP, 1997). Governance, in this sense, includes all methods used to distribute power and manage public resources, particularly those that allow citizens and groups to articulate their interests, exercise legal rights, fulfill obligations, and resolve conflicts (UNDP, 1997). Thus, governance is understood as both a process of decision-making and the implementation of those decisions (Fukuyama, 2013).

In the same vein, the Asian Development Bank (ADB, 2005) defines governance as the manner in which power is exercised in the management of a country's social and economic resources for development, and how those with authority use that power. The ADB (2005) identifies key aspects of governance, including the processes by which governments are chosen, monitored, and changed; the systems of interaction among the administration, legislature, and judiciary; the capacity of government to formulate and implement policies; and the mechanisms through which citizens and institutions interact and express their interests (ADB, 2005). These perspectives collectively present governance as a comprehensive framework involving authority, accountability, participation, and institutional capacity, all directed toward the effective management of public affairs and societal development (ADB, 2005).

In the context of higher education, governance takes on a more specific meaning (Areiqata et al., 2020). University governance can be understood at two interconnected levels: the system level and the institutional level (Jaradat, 2013). At the system level, governance refers to the national frameworks, policies, and legal instruments that define the regulatory environment in which universities operate (Areiqata et al., 2020). This includes aspects such as the degree of institutional autonomy, funding mechanisms, and external accountability structures (Bennetot Pruvot, Estermann, & Popkhadze, 2025). At the institutional level, university governance involves the formal and informal structures, rules, and processes that guide decision-making, leadership, and accountability within individual universities (Jaradat, 2013). It determines how universities are managed, how responsibilities are distributed, and how decisions are made regarding academic, administrative, and financial matters. Institutional governance also extends beyond formal arrangements to include informal governance, which is shaped by organizational culture, unwritten norms, and internal power relations.

Furthermore, many universities establish consultative bodies that, while not having formal decision-making powers, play an influential role in shaping institutional strategy through advisory and participatory mechanisms. These may include committees, councils, or task forces that engage various stakeholders such as faculty, students, and external partners. According to Bennetot Pruvot, Estermann, & Popkhadze (2025), some of these structures are created in response to emerging challenges like digital transformation, artificial intelligence, and sustainability, and may exist as either permanent advisory boards or temporary task-oriented groups.

What distinguishes governance from administrative decisions is its strategic and foundational role in setting institutional policies and directions, whereas administration primarily concerns the implementation of those policies. Governance in higher education institutions varies significantly across countries, ranging from



highly centralized government control to decentralized, market-driven, or private systems. These variations reflect the unique historical, political, and cultural contexts of each nation and the specific needs of their educational institutions. The diversity of governance systems can be attributed to several factors, including the absence of a unified regulatory authority, the influence of strong public and private interests, and differing institutional structures involving boards of trustees, presidents, and departmental leadership (Areiqata et al., 2020). In many contexts, the competence and composition of governing boards have facilitated a decentralized governance framework, where authority and autonomy are widely distributed. Furthermore, within democratic societies, governance in higher education often mirrors broader societal values by emphasizing representation, participation, and collective decision-making (Areiqata, Zamil, Alheet, Ahmad, & Abushaare, 2020).

Thus, governance in higher education can be understood as the framework of relationships, processes, and structures through which institutions are directed and controlled. It involves balancing authority, responsibility, and participation to achieve institutional goals, ensure quality assurance, and adapt effectively to societal and market changes (Jaradat, 2013).

The quality of governance should be distinguished from the goals it seeks to achieve. Governance is concerned with the ability of state institutions to effectively carry out tasks, rather than with the nature of the tasks themselves. This approach emphasizes the performance of public administration rather than the politics behind decision-making. As such, an authoritarian government may still be well-governed in terms of efficiency, just as a democratic government may be poorly governed. Rothstein (2011) observes that it is not always easy to separate governance as implementation from the normative purposes of government. For example, it would be problematic to describe a state with highly efficient but morally questionable institutions, such as concentration camps, as "well governed." To address such challenges, Rothstein proposes impartiality as a central standard for evaluating governance, since impartiality captures what many people mean by "good government". Nevertheless, Fukuyama (2013) contends that impartiality alone is insufficient as a metric for governance quality. The governance concept must encompass not only fairness in policy implementation but also the state's capacity to formulate appropriate policies, mobilize resources effectively, coordinate across agencies, adapt to changing circumstances, and achieve substantive outcomes that serve public welfare.

Accepting governance as the object of study, at least four approaches emerge for evaluating its quality: procedural measures, input measures, output measures, and bureaucratic autonomy (Fukuyama, 2013). One of the most influential procedural perspectives comes from Max Weber's description of the modern bureaucracy. In his classic work *Economy and Society* (1978), Weber outlined the ideal characteristics of bureaucracy, including clear hierarchies, defined areas of competence, recruitment based on technical qualifications, merit-based promotion, fixed remuneration, and formalized procedures. Although not all of Weber's conditions hold in modern administrations, his framework remains central to understanding governance. In practice, the most relevant indicators are whether bureaucrats are recruited and promoted on the basis of merit or patronage, the technical expertise required for office, and the overall level of procedural formality (Fukuyama, 2013). These elements continue to shape debates on what constitutes quality governance in both democratic and authoritarian contexts (Fukuyama, 2013).

E-Governance

E-Governance, a portmanteau of "electronic" and "governance," represents a multifaceted concept that redefines how governments interact with their citizens, manage resources, and administer public services (Palvia & Sharma, 2007). It embodies the integration of Information and Communication Technology (ICT) into governmental operations and decision-making processes, with the overarching goal of enhancing transparency, efficiency, accessibility, and participation (Ndou, 2004). In an era characterized by rapid technological innovation and increasing global interconnectivity, e-governance has emerged as a transformative force reshaping the landscape of public administration (Heeks, 2006). It transcends traditional governance models by leveraging digital tools and platforms to facilitate real-time communication, streamline bureaucratic procedures, and promote accountability in public institutions (Heeks, 2006).

The concept of e-governance, like many other concepts in public administration, has been approached from diverse perspectives by scholars whose definitions reflect their ideological orientations, personal experiences, and socio-political contexts (Palvia & Sharma, 2007). E-governance emerged in the late 1990s alongside the evolution of e-commerce and gained global prominence at the dawn of the new millennium with the widespread commercialization of the Internet (Dawes, 2008). It has since been recognized as "an innovative mechanism for delivering governmental services to three major societal groups: citizens (Government-to-Citizens, G2C), other government agencies (Government-to-Government, G2G), and businesses (Government-to-Business, G2B)" (Palvia & Sharma, 2007; Wadhawa, 2020).

The evolution of e-governance is rooted in the global recognition of ICT as a catalyst for social and economic development (Ndou, 2004). Historically, governance relied heavily on manual administrative systems that were often constrained by inefficiency, limited accessibility, and bureaucratic delays (Heeks, 2006). Over time, the concept evolved from referring to the act or manner of governing to embodying broader connotations relating to the regulation of societal affairs and the exercise of legitimate authority. Traditionally, governance was often used interchangeably with *government*, particularly in contexts where it signified institutional authority, power, and administrative structures responsible for maintaining law and order in the state (Arora, 2007).

Governance extends beyond the formal structure of government institutions as it includes the processes, mechanisms, and relationships through which public affairs are managed and through which the state interacts with civil society, private sector actors, and the citizenry (Fukuyama, 2013). Governance, therefore, emphasizes participation, accountability, transparency, and responsiveness, reflecting a shift from hierarchical control to more collaborative and inclusive management of public resources and authority (UNDP, 1997).

E-Governance represents a transformative approach to public administration in the digital age, redefining the relationship between citizens and government institutions. It emphasizes the delivery of efficient, transparent, and citizen-centred services through the strategic use of Information and Communication Technologies (ICT). According to Nwinyokpugi and Bestman (2020), e-governance "encompasses multiple dimensions such as e-participation, e-education, e-registration, e-service delivery, e-feedback, and e-taxation, among others, which collectively contribute to enhanced administrative efficiency and civic engagement". E-Governance seeks to simplify the interaction between the government and its citizens (Palvia & Sharma, 2007); hence, through digital platforms, individuals can access essential services such as obtaining permits, paying taxes, registering businesses, or retrieving public records with ease and convenience (Ndou, 2004). This digital transformation reflects a fundamental shift toward governance that is inclusive, accessible, and responsive to the evolving needs of society (Heeks, 2006).

The integration of E-Governance into administrative processes serves to strengthen the principles of good governance, particularly transparency, accountability, citizen participation, and equity (Lee-Geiller & Lee, 2019). By embedding digital technologies within public institutions, governments are better positioned to reduce bureaucratic bottlenecks, minimize corruption, and promote efficient decision-making. This approach also facilitates the decentralization of power, enabling citizens to engage more actively in policy formulation and monitoring. Furthermore, as Bonina, Koskinen, Eaton, and Gawer (2021) observe, advances in digital technologies such as the internet, mobile devices, and networked systems have significantly expanded the scope of E-Governance. Governments and non-governmental organizations alike can now conduct administrative and service transactions seamlessly, improving operational efficiency while fostering collaboration between the public and private sectors. Within the field of e-governance, emphasis is placed not only on the adoption of digital technologies but also on the efficiency and performance of governance systems, as reliable digital infrastructures streamline administrative processes, improve service delivery, enhance transparency, and enable timely data exchange, accurate record management, and responsive policy implementation (Dawes, 2008).

As Arora (2007) notes, governance embodies the pursuit of public welfare, implying that those entrusted with authority must act in the interest of citizens by promoting efficiency, service delivery, and problem-solving for societal wellbeing. In essence, governance is concerned not only with exercising power but

doing so in a manner that enhances societal welfare, equity, and development. Governance is "the exercise of political, economic, and administrative authority to manage a nation's affairs (Frey, 2008). It encompasses the structures and processes by which societies distribute power, allocate resources, and ensure accountability in public administration" (Frey, 2008). Thus, governance is multidimensional and includes mechanisms for steering public institutions, facilitating stakeholder participation, enforcing rule of law, and fostering socio-economic development (Fukuyama, 2013).

Unlike traditional modes of governance, which rely heavily on manual and paper-based administrative processes, e-governance emphasizes the use of internet-enabled digital platforms to facilitate interaction, service delivery, and information exchange. Palvia and Sharma (2007) describe e-governance as "the strategic application of Information and Communication Technology (ICT) and the Internet by public officials to enhance administrative effectiveness, service quality, and transparency in government operations" (Sharma, 2007). Similarly, Qaisar and Khan (2010), as cited in Aftaab (2019), define e-governance as "the utilization of ICT to execute governmental functions, deliver essential public services, and promote active engagement with citizens for their collective well-being" (Aftaab, 2019). Their perspective underscores the paradigm shift from conventional, paper-based bureaucracies to digitally driven systems that prioritize efficiency, accountability, and responsiveness. According to Obasanjo (2004), e-governance involves the application of information and communication technologies (ICTs) to improve efficiency, effectiveness, transparency, and accountability in government operations, particularly through the use of integrated systems such as data warehouses and decision-support frameworks to manage modern governance.

According to Abasilim and Edet (2015), e-governance represents "a shift from the traditional top-down, sequential model of government operations to one that leverages internet technologies to deliver information and services". This transition allows citizens to access public information and services at their convenience, without the constraints of office hours or bureaucratic delays (Abasilim & Edet, 2015).

Worku (2016) categorizes e-governance reforms into three main dimensions: internal, external, and relational.

- i. **Internal e-governance** focuses on the use of digital platforms to connect various government departments and agencies, thereby enhancing the efficiency of internal operations, reducing paperwork, and streamlining administrative processes (Worku, 2016).
- ii. **External e-governance** emphasizes transparency and collaboration by granting access to government-generated information and facilitating interaction between the government, private sector, and civil society (Worku, 2016).
- iii. **Relational e-governance** concerns the transformation of relationships between governments and citizens, and even between nations, through integrated ICT platforms. This integration enhances service delivery and democratic participation by merging data and services from multiple agencies into unified, user-friendly systems (Ayoade, 2019).

METHOD

The study adopted a survey research design to examine the relationship between e-government initiatives and administrative efficiency at Rivers State University, Port Harcourt, covering the period 2007–2025. The study area was selected because of its gradual transition from manual administrative processes to digital governance systems, making it suitable for assessing e-government implementation. The population comprised 1,800 academic and non-academic administrative staff, while a sample of 327 respondents was determined using the Taro Yamane formula. A combination of purposive and simple random sampling techniques was employed to select respondents from relevant administrative units. Data were collected through a structured questionnaire administered physically and online using a four-point Likert scale, while secondary data were obtained from textbooks, journal articles, institutional reports, and government publications. The instrument was subjected to face and content validity through expert review and its

reliability was confirmed using Cronbach's Alpha following a pilot study conducted among staff of the University of Port Harcourt, with all reliability coefficients exceeding the acceptable threshold of 0.70. Data were analysed using SPSS Version 25, applying descriptive statistics such as frequencies, percentages, means, and standard deviations, alongside inferential statistics including the Chi-square (χ^2) test and Cramer's V at the 0.05 level of significance to determine the relationships between e-government initiatives and administrative efficiency.

Data Presentation

Analysis of Questionnaire Distribution and Retrieval

A total of 327 questionnaire were distributed to academic and administrative staff of Rivers State University. Table 1 provides a summary of the distribution and retrieval of the questionnaires.

Table 1: analysis of the distribution and Retrieval of Questionnaire

S/N	Respondent	Questionnaire Administered	Questionnaire Returned	Percentage of Returned Questionnaire
1	Academic Staffs	163	145	88.95 %
2	Administrative staffs	164	139	84.75%
	Total	327	284	86.9%

Source: Researchers field survey, 2025.

The data presented in Table 1 reveal that out of 327 questionnaire administered, 284 were duly completed and returned, representing an overall response rate of 86.90%. Specifically, 145 out of 163 questionnaire distributed to academic staff were returned (88.95% response rate), while 139 out of 164 questionnaire distributed to administrative staff were returned (84.75% response rate).

This high response rate of 86.90% is considered excellent for survey research and exceeds the threshold of 70% generally regarded as adequate for drawing valid conclusions in social science research (Mugenda & Mugenda, 2003). The strong response rate enhances the reliability and generalizability of the findings presented in this study, as it minimizes non-response bias and ensures adequate representation of the target population.

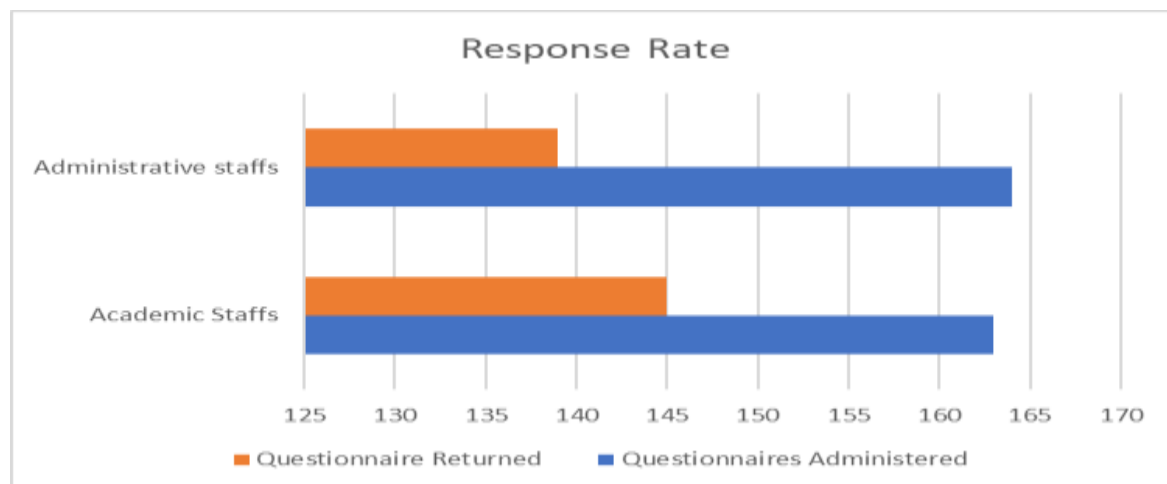


Fig 1 Questionnaire response rate

Demographic Characteristics of Respondents

This section presents the personal and professional characteristics of the respondents who participated in the study. Table 2 provides a comprehensive breakdown of the demographic information collected.

Table 2 Personal Data of Respondents.

Variable	Categories	Frequency	Percentage
Gender	Male	179	63.1%
	Female	105	36.9.%
	Total	284	100%
Age	20 – 29	6	2.1%
	30 – 39	88	31%
	40 – 49	147	51.8%
	50 - above	43	15.1%
	Total	284	100%
Department/Unit	Academic Affairs (Teaching/Research)	145	51%
	Administration	78	27.5%
	Finance/Accounts	17	6%
	ICT/IT Services	6	2.1%
	Student Affairs	10	3.5%
	Library Services	11	3.9
	Health Services	17	6%
	Total	284	100%
Position/Rank	Academic Staff – Lecturer I / Assistant Lecturer	92	32.4%
	Academic Staff – Senior Lecturer / Reader	47	16.5%
	Academic Staff – Professor / Associate Professor	6	2.1%

	Non-Academic Staff – Junior/Support Staff	72	25.4%
	Non-Academic Staff – Senior Administrative/Management Staff	67	23.5
	Total	284	100%
Educational Qualification	First Degree / Equivalent (<i>HND, B.Tech, B.Sc., B.A., LL. B</i>)	28	9.8%
	Master's Degree (<i>M.Sc.</i>).	154	54.2%
	Doctoral Degree (<i>Ph.D.</i>).	102	36%
	Total	284	100%
Years of Experience	0-5 Years	49	17.2%
	6-10 Years	103	36.3%
	11- 15 Years	59	20.8%
	16 - 20 Years	35	12.3%
	21 - Above	38	13.4%
	Total	284	100%

Source: Researchers field survey,2025.

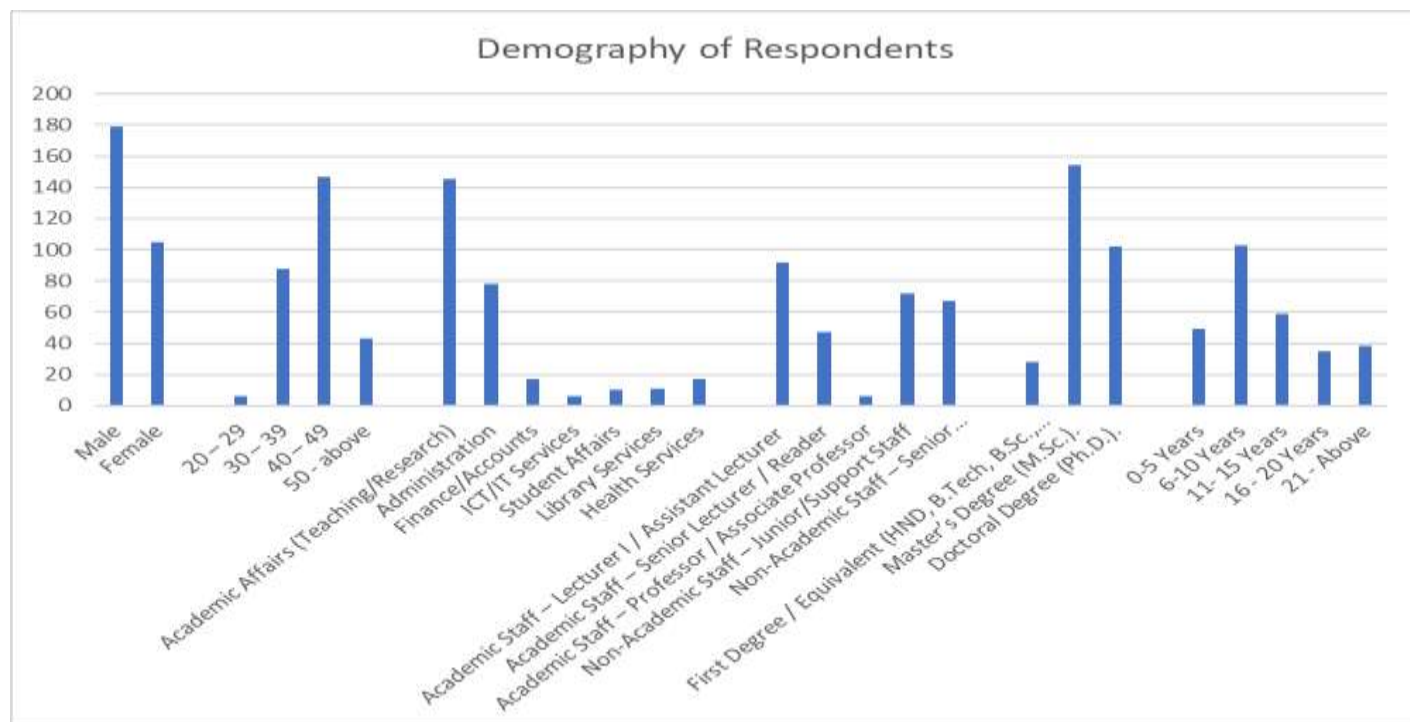


Fig 2 Respondents Data



Data Analysis

Research Objective: Identify the major e-governance initiatives introduced at Rivers State University within the period 2007–2025.

Research Questions: What major e-governance initiatives were introduced at Rivers State University between 2007 and 2025?

Table 3: major e-governance initiatives introduced at Rivers State University within the period 2007–2025.

Variables	SD	D	A	SA	ΣX	ΣFX	Mean	RII
Implementation of e-procurement systems for goods and services.	0	22	91	171	284	1001	3.52	0.88
Introduction of electronic student record (e-record) systems for managing student information.	0	0	83	201	284	1053	3.71	0.93
Adoption of e-communication platforms (emails, university intranet, portals) for internal and external communication.	0	0	102	182	284	1034	3.64	0.91
Deployment of e-participation tools such as online feedback, forums, and suggestion portals.	56	96	56	76	284	720	2.54	0.63
Automation of student admissions and registration processes through online portals.	0	0	106	178	284	1030	3.63	0.91
Integration of online fee payment systems for students and staff.	0	0	72	212	284	1064	3.75	0.94
Use of digital transcript and certificate processing systems.	65	89	55	75	284	708	2.49	0.62
Introduction of management information systems (MIS) for administrative decision-making.	44	65	79	96	284	795	2.80	0.70
Deployment of e-governance dashboards and performance monitoring systems.	167	117	0	0	284	401	1.41	0.35

Source: Researcher's Field Survey, 2025

Note: Decision criterion - Mean ≥ 2.50 and RII ≥ 0.63 indicates acceptance; Mean < 2.50 or RII < 0.63 indicates rejection.

The analysis of Table 3 indicates notable differences in the level of adoption of e-governance initiatives at Rivers State University within the period studied. Applying the acceptance criteria of a mean score of 2.50 and above and a Relative Importance Index (RII) of at least 0.63, the results show that six of the nine



initiatives were effectively implemented, while three recorded low levels of adoption or were largely rejected by respondents.

Online fee payment for students and staff emerged as the most successfully implemented initiative. It recorded the highest mean score of 3.75 and an RII of 0.94, reflecting overwhelming acceptance. A total of 212 respondents strongly agreed and 72 agreed that this system is in use, with no recorded disagreement. This level of consensus suggests that online payment platforms are now fully integrated into the university's financial processes and are widely regarded as efficient and reliable by users.

The electronic student record system also recorded strong acceptance, with a mean score of 3.71 and an RII of 0.93. The high number of positive responses (201 strongly agreed and 83 agreed) points to the successful digitization of student data management. This development has likely improved record accuracy, ease of access, and overall administrative efficiency. In a similar vein, the adoption of electronic communication platforms such as emails, intranet services, and university portals was positively rated, with a mean of 3.64 and an RII of 0.91. The strong endorsement from respondents indicates that digital communication has become an effective tool for information dissemination and institutional coordination.

Automation of student admissions and registration through online portals also recorded a high level of acceptance, with a mean score of 3.63 and an RII of 0.91. The large proportion of respondents who agreed or strongly agreed suggests that the university has made significant progress in digitizing key academic administrative processes. This has likely reduced delays, minimized manual errors, and improved the overall experience for prospective and returning students. Similarly, the implementation of e-procurement systems for goods and services was positively rated, with a mean of 3.52 and an RII of 0.88. Despite a small number of dissenting responses, the majority agreement implies that digital procurement has enhanced transparency and efficiency in the university's purchasing operations.

Management Information Systems (MIS) for administrative decision-making met the acceptance threshold, recording a mean score of 2.80 and an RII of 0.70. However, it was the least positively rated among the accepted initiatives. The mixed responses suggest that while MIS tools exist within the institution, their usage may be uneven across departments, possibly due to limited access, insufficient training, or incomplete system deployment. In contrast, three initiatives failed to meet the acceptance criteria. The use of e-governance dashboards and performance monitoring systems recorded the lowest scores, with a mean of 1.41 and an RII of 0.35. The overwhelmingly negative responses indicate that such systems are either not implemented or are largely unknown to respondents, pointing to a major gap in the university's e-governance framework. Digital transcript and certificate processing also recorded low acceptance, with a mean score of 2.49 and an RII of 0.62. The predominance of negative responses suggests limited automation of credential processing or dissatisfaction with existing procedures. Given the importance of timely transcript and certificate issuance, this shortcoming may have serious implications for student satisfaction and institutional credibility.

Lastly, e-participation tools such as online feedback platforms, discussion forums, and suggestion portals recorded marginal acceptance, with a mean score of 2.54 and an RII of 0.63. Although the RII met the minimum threshold, the mean score fell slightly below the acceptance criterion. The mixed responses suggest that mechanisms for stakeholder participation and engagement are either weakly implemented or underutilized, limiting their effectiveness in promoting participatory governance within the university.

Test of Hypotheses

H₀: The mean adoption level of e-governance initiatives at Rivers State University is not significantly higher than the minimum threshold for adequate implementation (Mean = 3.0 or RII = 0.75) between 2007 and 2025.

H₁: The mean adoption level of e-governance initiatives at Rivers State University is significantly higher than the minimum threshold for adequate implementation.

Table 4: One-Sample Statistics

Measure	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)	Mean Difference	95% CI Lower
Mean Adoption Score	9	3.054	0.803	0.203	8	0.844	0.054	-0.563
Mean RII	9	0.763	0.129	0.197	8	0.848	0.013	-0.143

Decision and Interpretation: The results indicate that the observed mean adoption score ($\bar{x} = 3.054$) and mean RII (0.763) are slightly above the threshold values; however, the differences are not statistically significant. The t-calculated values for both measures ($t = 0.203$ and $t = 0.197$) are well below the critical t-value ($t = 1.860$ at $\alpha = 0.05$, one-tailed), and the corresponding p-values (.844 and .848) exceed the 0.05 significance level. The 95% confidence intervals for the mean differences $[-0.563, 0.672]$ and $[-0.143, 0.169]$ both include zero, further confirming that the population mean cannot be confidently considered above the threshold.

The wide standard deviation reflects uneven adoption across initiatives. There were five initiatives, namely; e-procurement, e-record, e-communication, e-admissions, and online fee payment, they all showed mean scores above the threshold (3.52–3.75), while e-participation, digital transcripts, MIS, and dashboards recorded lower means (1.41–2.80). Based on these results, the null hypothesis H_{01} is not rejected.

DISCUSSION OF FINDINGS

E-Governance Initiatives Introduced at Rivers State University, 2007–2025

The objective sought to identify the major e-governance initiatives introduced at Rivers State University between 2007 and 2025. The findings revealed a mixed pattern of implementation success, with six initiatives achieving strong adoption while three recorded poor uptakes.

The highest implementation success was recorded by the online fee payment system (mean = 3.75, RII = 0.94), reflecting near-universal acceptance among respondents. This finding aligns with the global trend toward cashless transactions in higher education and resonates with the observations of Agbor et al. (2024), who noted that financial digitization tends to achieve rapid adoption due to its tangible convenience benefits for both institutions and users. The success of online payment systems at Rivers State University can be attributed to their direct utility in reducing queuing time, minimizing cash handling risks, and enabling remote transactions, benefits that are immediately perceptible to users, consistent with the perceived usefulness construct of the Technology Acceptance Model (TAM). Statistically, The t-calculated values for both measures ($t = 0.203$ and $t = 0.197$) are well below the critical t-value ($t = 1.860$ at $\alpha = 0.05$, one-tailed), and the corresponding p-values (.844 and .848) exceed the 0.05 significance level. The 95% confidence intervals for the mean differences $[-0.563, 0.672]$ and $[-0.143, 0.169]$ both include zero, further confirming that the population mean cannot be confidently considered above the threshold.

Similarly, the electronic student record system (mean = 3.71, RII = 0.93) demonstrated strong implementation, indicating successful digitization of student data management. This finding corroborates the work of Chukwuemeka, Ubochi, and Okechukwu (2017), who found that e-record systems significantly improved administrative processes in Nigerian universities by enhancing data accuracy, accessibility, and security. The high acceptance of this system suggests that administrative staff recognized its value in reducing manual record-keeping burdens and improving information retrieval speed.

The adoption of e-communication platforms (mean = 3.64, RII = 0.91) and automated admissions and registration systems (mean = 3.63, RII = 0.91) also recorded high implementation levels. These findings

reflect institutional efforts to modernize core administrative functions and align with the recommendations of Arora and Kaur (2014) that universities should prioritize digitization of high-volume, routine processes to maximize efficiency gains. The Technology Acceptance Model helps explain this success: when systems demonstrably reduce processing time and effort (perceived ease of use), users are more likely to embrace them (Davis, 1987).

E-procurement systems (mean = 3.52, RII = 0.88) achieved moderate-to-high implementation, suggesting that the university has made progress in digitizing procurement processes. This finding is consistent with Nwinyokpugi and Nwosu (2020), who identified e-procurement as an effective tool for promoting transparency and reducing corruption in public sector procurement. However, the slightly lower score compared to student-facing systems suggests that administrative process automation may lag behind customer-facing services, possibly due to greater complexity or resistance to change in back-office operations.

In contrast, e-governance dashboards and performance monitoring systems recorded the lowest implementation (mean = 1.41, RII = 0.35), indicating a critical gap in management information infrastructure. This finding aligns with observations by Chopra (2019) that many Indian universities possess basic e-governance tools but lack sophisticated management dashboards for data-driven decision-making. The absence of performance monitoring systems represents a missed opportunity for evidence-based administration and strategic planning.

Digital transcript and certificate processing (mean = 2.49, RII = 0.62) and e-participation tools (mean = 2.54, RII = 0.63) also recorded weak implementation. The poor adoption of transcript processing systems contradicts expectations, given that credential issuance is a high-priority service for students and alumni. This gap likely reflects technical challenges in integrating transcript systems with existing academic records or institutional reluctance to fully automate verification processes. The weakness of e-participation platforms resonates with findings by Yildiz and Saylam (2014), who noted low student engagement with e-governance applications due to limited awareness, poor platform design, and lack of institutional commitment to participatory governance.

From a Systems Theory perspective, these findings reveal incomplete system integration. While some subsystems (fee payment, records, registration) function effectively, others (dashboards, participation, transcripts) remain underdeveloped, limiting the university's ability to achieve holistic digital transformation. Von Bertalanffy (1968) emphasized that system effectiveness depends on the integration and interdependence of all components, partial implementation may deliver isolated gains but fails to optimize overall institutional efficiency.

CONCLUSION

This study concludes that e-governance initiatives have generated mixed but generally positive impacts on administrative efficiency at Rivers State University between 2007 and 2025. While notable gains have been achieved in several administrative areas, the effectiveness of e-governance varies significantly across system components, administrative functions, and implementation contexts, indicating that digital transformation within the institution remains incomplete.

Rivers State University has attained a level of partial digital transformation rather than a fully integrated e-governance environment. The university has successfully implemented and institutionalized student-facing transactional systems such as online fee payment, course registration, and electronic records management, which are widely used and well accepted. In contrast, back-office management systems, including performance dashboards and monitoring tools, as well as participatory platforms designed to encourage feedback and stakeholder engagement, remain underdeveloped. This pattern suggests an institutional focus on automating routine, high-volume administrative processes while placing less emphasis on strategic management tools and participatory governance mechanisms. The Technology Acceptance Model helps to explain this outcome, as systems that offer immediate and tangible benefits and require minimal effort to use

tend to achieve higher adoption rates than those whose benefits are less visible or realized only in the long term.

RECOMMENDATIONS

Institutional Consolidation of High-Performing Systems: The online fee payment platform, electronic student records system, and automated registration processes demonstrated strong implementation and high operational effectiveness. These systems should therefore be formally embedded as core components of the university's digital infrastructure. Consolidation requires more than routine maintenance. Management should implement system redundancy measures, structured data backup protocols, strengthened cybersecurity safeguards, and continuous software optimization cycles. Integrating these platforms into the institution's long-term strategic and budgetary frameworks will help ensure sustainability and prevent institutional backsliding.

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