

**DATA GOVERNANCE PRACTICES AND INFORMATION CHANGE MANAGEMENT
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Email; gift.ogbanirene@iaue.edu.ng; 08033877983.***ABSTRACT**

This study was empirically explored the relationship between Data governance Practices and the effectiveness of information change management in tertiary institutions in Port Harcourt Rivers State Nigeria. The aim of this study was to look at the factors of data governance practices like Access control, IT Infrastructure deployment, information change management effectiveness (Adoption rates, Decision support impacts) and Leadership style as moderating variable in tertiary institutions in Port Harcourt Rivers State, Nigeria. This study used descriptive survey research design and the population was 90 information managers of the 6 tertiary institutions, a census study. The primary data were collected by a structured questionnaire. A copy of the questionnaire was sent to the seminar supervisors and two other experts in the field of Office and Information Management to establish the validity of the instrument. The final copy of the instrument administered was validated using their comments. Thus, Cronbach's Alpha via SPSS (Statistical package for Social Sciences, Version 24.0) was used to ascertain the reliability of the instrument. Ninety (90) copies of the questionnaire were given to the respondents. The researcher was able to retrieve 70 copies of the questionnaire distributed and used for analysis. The Pearson Product-Moment Correlation Coefficient (r), with the aid of Statistical Package for Social Sciences (SPSS) version 24.0 was used for the analysis. The findings revealed that there is a significant positive relationship between data governance practices dimensions and measures of information change management effectiveness of Tertiary institutions in Rivers State. The study concluded that the data governance practices contribute largely to the effectiveness of information change management (ICM) in the tertiary educational institutions of Port Harcourt, Rivers State. This association is not only technical but systemic, affecting administration and record keeping efficiency, and structural coordination. The study suggests that tertiary institutions' policymakers need to develop and approve internal data governance policies that are precisely in line with national policies, such as establishing internal ethics committees and data protection units within the campus to ensure data architecture integrity, monitor system migrations, and ensure no data breach occurs.

Keywords: Data Governance Practices, information change management effectiveness, Access control , IT Infrastructure Deployment, Adoption rates and Decision support impacts, leadership style

Background to the study

In the new knowledge economy, data has become an everyday administrative tool, and has evolved into a strategic asset for institutions to guide governance, accountability, innovation, and organization competitiveness. Data are now widely used in support of academic planning, student administration, research management, financial accountability, quality assurance, accreditation and institutional decision-making in tertiary institutions all over the world. The need for data governance has therefore become a key management task that is related to accurate, secure, accessible, consistent and ethically managed institutional data throughout their lifecycle. Data governance includes policies, standards, processes, technologies and accountability measures that govern the collection, storage, processing, protection, sharing, and use of an organisation's information (Abraham et al., 2019). The Nigerian higher education system has seen a fast pace of digitalization, from electronic record management systems to learning management systems, enterprise resource planning apps to digital communication platforms, making the need to practice good data governance more significant than ever. Data governance practices are set of coordinated institutional activities that enable the maintenance of data quality, security, accessibility, compliance and accountability, including access control and deployment of IT infrastructure. In tertiary institutions, including universities, polytechnics and colleges of education in Rivers State, the importance of effective data governance has never been more crucial; for tertiary institutions operations rely heavily on digital information systems in areas such as admissions, examinations, personnel administration, financial management, and research administration. Despite these efforts, Nigerian scholars have noted that several higher education institutions still experience issues related to fragmented database, lack of information security, inadequate governance systems, lack of data standards, and insufficient technological infrastructure, as it hinders their effectiveness and digital transformation, (Adebayo & Iweka, 2022; Nwankwo & Nwosu, 2023; Ojo & Popoola, 2021). Thus, enhancing data governance practices in tertiary institutions is a necessity to optimize the institutions' administration, transparency and sustainable digital transformation.

The effectiveness of information change management is the degree of success in which an organization plans, implements, manages and sustains information technology and digital technology changes in order to enhance organizational performance. The successful implementation of technological innovations, efficient organization and working processes and better use of digital information resources are the signs of effective information change management. Adoption rate is one of the best indicators of the effectiveness of information change management, as it indicates the willingness of institutional stakeholders to adopt and use new digital technologies and to incorporate them into their regular academic and administrative processes. Smooth workflow and enhanced digitization participation is an indicator of adoption rate. The smooth operation is the seamless coordination of the activities of institutions with the use of integrated information systems, which helps to minimise duplication of work, delivery of services in a timely basis, communication and efficiency of work. Increased digital participation, however, indicates the readiness of academic staff, non-academic staff, students and administrative staff to actively use the digital environment including electronic document management systems, enterprise

resource planning applications, online registration systems, virtual learning environments and digital communication technologies. The studies in Nigeria have continually established that institutions with higher values of digital participation tend to deliver better services, have better organizational cooperation, are more efficient in their operations and are more competitive in the institution (Eke, Omekwu, & Odoh, 2021; Aina & Onuoha, 2022; Yusuf & Salisu, 2023). On the other hand, low adoption can be seen as resistance to technological innovations; inefficiencies in administrative procedures, workflows and underuse of digital investments, all of which impacts institutional effectiveness.

Decision support impacts is another important measure of the effectiveness of an information change management, which refers to the quality, Adoption rates, accuracy and relevance of managerial decisions that are improved by organizational information systems. In this study, the impacts of decision support are translated into accuracy of management reports and effective decision making. The accuracy of management reports is the production of complete, consistent, reliable and timely reports from the institutional information systems to plan, budget, implement policy, for accreditation and performance evaluation. On the other hand, effective decision-making indicates that institutional managers are able to make evidence-based decisions and strategic management decisions based on credible institutional data. For modern tertiary institutions, the use of enterprise information systems and digital database that enable them to monitor students' enrolment, staff records, financial operations, research activities, quality assurance, and regulatory compliance are growing in importance. Thus, quality of managerial decisions is significantly dependent on the quality of institutional data. Evidence from Nigerian tertiary institutions suggests that institutions which have effective Electronic Records Management and integrated information system generally report better efficiency in administration, planning for the institution and decision making as the managers have the accurate and timely information. For instance, Oko et al. established that effective electronic records management in tertiary institutions affects data handling, storage, retrieval and administrative coordination for Nigeria's tertiary institutions. Likewise, Nweke and Wosu found that E-RPs had a positive impact in improving the accessibility of reliable information in tertiary institutions of Rivers State and consequently, improving the administration of institutions. Alikornwo and Echendu in their recent work reported that the digital practice in the offices significantly improved the accessibility of information and its security in tertiary institutions in Rivers State, which further enhanced managerial decisions support and institutional effectiveness. These results show that the information change management is more effective when digital systems provide credible information that can be used to make sound management decisions and organizational performance.

Abraham et al (2019) argue that data governance sets up decision rights and responsibilities, data quality standards and processes, and is designed to enhance data quality and accountability within the organization. In higher education institutions, good data governance helps to foster transparency, security and integrity of information, institutional compliance, service delivery, operational efficiency and digital transformation by ensuring that institutional information is managed in compliance with clearly established data governance principles. The continued roll-out of the Nigeria Data Protection Regulation and the Nigeria Data Protection Act has also increased the focus on the institutions for responsible data management, cyber security, privacy protection and compliance to the Nigeria Data Protection Act in Nigeria. Recent research carried out in Rivers State also shows that proper information governance structures lead to the improved administrative

accountability, transparency and information management effectiveness through enhanced process automation, data integration and information ethics. Therefore, it is necessary for tertiary institutions to have effective information change management and institutional sustainability through effective data governance.

Access control is one of the most basic elements of data governance practices, and is the administrative, physical and technological process put in place to manage access to institutional information resources, by whom, when and for what purpose. Access control is to make sure that information stored in an institution is not accessed, modified, disclosed or destroyed without proper authorization and that authorized users can access the information at the right time to perform their duties. In tertiary institutions access control is implemented in two ways: Physical access control and Digital access control. Physical access control is the protection of information assets located in server rooms, data centres, records offices, libraries, examination units and ICT facilities and the protection of these assets by biometric identification, surveillance cameras, access cards, security staff and the environment. Digital access control, however, is a term that is used to refer to the use of authentication protocols, passwords, multi-factor authentication, encryption, identity management systems, role-based access control, and audit trails to protect electronic information resources. Access control is the first line of defence in an organisation's data governance as it helps to maintain information confidentiality, integrity, and availability, and provides accountability in information management (Khatri & Brown 2010). Likewise, Abraham et al. (2019) maintains that organisations that have strong access controls are more likely to achieve better data quality, user confidence and governance results. In Nigeria, studies have demonstrated that inadequate access control makes the institutions vulnerable to data breaches, unauthorized access to students' records, examination malpractice, identity theft, cyber attack, loss of confidential information and compromises the credibility, decision making processes and institutional health of institutions. In contrast, good physical and digital access control ensures that information is shared securely, users are more confident in the effectiveness of the institutions' information systems, workflow is smooth, and digital participation is increased among staff and students, thereby making information change management more effective (Popoola & Oluwole, 2022; Oko et al., 2023). Access control is thus more than a security measure – it's a strategic governance solution that helps tertiary institutions realize secure information management, operational efficiency, and sustainable digital transformation.

Another important aspect of data governance practices is IT infrastructure deployment that involves providing, integrating, maintaining and continually improving technological resources to support institutional information systems and digital activities. An effective IT infrastructure deployment creates the technology foundation for the generation, processing, storage, security, transmission and use of institutional data. In this study, deployment of IT infrastructure is encapsulated by central data repository and network security compliance products. Central data repository: Centralised institutional database, where data is collected from various academic and administrative departments and brought together in one standardised platform. These repositories remove duplication of information, enhance uniformity and consistency, enable interoperability between departments and give managers complete institutional information which is useful in planning and policy making. Network security compliance, on the other hand, is about the application and ongoing enforcement of cybersecurity standards, policies, technologies, and regulatory requirements that help safeguard institutional communication networks and digital information assets

from unauthorized access, malware, ransomware, phishing attacks and other cyber threats. Modern researchers argue that an integrated IT infrastructure can be used to build the organizational resilience of the institutions, improve the information quality, strengthen the compliance with the governance and support enterprise-wide decision making (Benfeldt et al., 2020; Clark & Dobson, 2024). Lack of technological infrastructure, outdated equipment, disjointed databases, network instability, and inadequate cyber security practices remain a challenge in Nigerian tertiary institutions, affecting the success of digital transformation efforts and institutions' information governance. Institutions that invest in centralized databases, secure communication networks, cloud technologies, and enterprise information systems, on the other hand, have better administrative coordination, accurate management reporting, efficient service delivery, increased digital participation, and better evidence-based decision making. Therefore, deployment of resilient IT infrastructure is a fundamental part of data governance practices due to the technological capability embedded in it that enables implementation, monitoring and sustaining data change initiatives in tertiary institutions.

One of the most important factors in delivering IT governance outcomes that drive information change management is the role of leadership. In addition to supplying digital tools, institutional leaders are expected to develop governance policies, engage the commitment of all stakeholders, enable organizational learning and manage opposition to change as digital transformation continues to be embraced by tertiary institutions. Thus, this study is interested in the role of leadership styles as a moderator that can enhance or inhibit the data governance practices and effectiveness of information change management. In particular, it is a study of transformational leadership and situational leadership. Transformational leadership focuses on the qualities of the leader to set an inspiring vision, to challenge through intellectual stimulation, to encourage innovation, individualized attention, and to inspire commitment to the vision (Bass & Avolio, 1929; Northouse, 2022). In tertiary institutions, transformational leaders drive compliance with data governance policies through advocacy and the promotion of digital innovations, secure information management practices and the active engagement of staff in institutional change programmes. These leadership behaviours create trust, joint working efforts, lifelong learning and acceptance of technology, resulting in better technology uptake, workflow, digital participation, management reporting accuracy and data-driven decision making. Situational leadership, on the other hand, by Hersey and Blanchard, suggests that successful leadership requires the leader to adapt their leadership behaviours to the employees' competence, commitment, organizational readiness and environment. In implementing a data governance program, situational leaders give differing levels of direction, coaching, participation and delegations based on the nature of the technology change and on the readiness of the staff. This adaptive leadership approach helps reduce resistance to change, improve institutional resistance to change, enable successful implementation of data repositories in the centralization process, and secure access control systems and ultimately improve the effectiveness of information change management. Thus, leadership is a key climate moderator in the relationship between data governance practices and information change management effectiveness of tertiary institutions in Rivers State.

While there has been a lot of scholarly works that has been done on the digital transformation, information governance, electronic records management and organizational change, there are very significant empirical gaps on the relationship between data

governance practices and the effectiveness of information change management in tertiary institution in Rivers State. Alhassan et al. (2019), for example, performed a systematic review of the data governance activities and highlighted governance processes, stewardship responsibilities and organizational capabilities without focusing on the impact of individual dimensions of governance like access control and the deployment of IT infrastructure on organizational change outcomes. Similarly, a study on data governance from a collective action perspective was conducted by Benfeldt, Persson, and Madsen (2020) where they found that governance structures improve organizational coordination, but their study mainly examined governance implementation rather than effectiveness of information change management, such as degree of adoption and the impact on decision support. Moreover, Abraham, Schneider, and vom Brocke (2019) have created a full-fledged conceptual framework for data governance and suggested a research agenda for the future including research on data governance mechanisms and organizational performance. However, their research was mostly conceptual and lacked empirical investigation of the moderating role of leadership and the relationship in the context of a higher education institution in developing economies. In Nigeria, the focus of most existing studies has been on electronic records management, ICT adoption, digital transformation, the implementation of information systems and organizational performance, with few empirical studies examining the data governance practices as a multi-faceted concept of access control and placement of IT infrastructure or the information change management effectiveness by measuring the impacts of decision making or rates of adoption. Significant number of studies have not explored this moderating relationship between transformational and situational leadership style and the relationship in tertiary institution in Rivers State, especially in the light of this study. This is a conceptual gap, as previous studies did not incorporate all these dimensions in one theory and a contextual gap; as the tertiary institutions in Rivers State are underrepresented in the literature although they are increasingly taking part in digital transformation initiatives, as well as a methodological gap, since a majority of the previous studies used descriptive approaches and did not take into account moderation effects. These identified gaps serve as the basis for the current study, which aims at understanding how the various dimensions of data governance practices (access control, IT infrastructure deployment) relate to the effectiveness of information change management (information adoption rate, impact on information decision support) and how the transformational and situational leadership style moderate the influence of data governance practices on information change management, is the point of departure and provides the basis for the current study.

This problem is stated as follows:

With the growing digitisation of administrative, academic and research processes, effectiveness in information change management has become an essential factor for tertiary institutions that want to be efficient, competitive and meet the requirements of today's government processes. The effectiveness of information change management is the extent to which institutional stakeholders successfully embrace digital technologies, leading to increased rates of adoption and better information support for decision making. Despite the investments in information and communication technologies, many tertiary institutions still have a low level of adoption of institutional information systems, weak integration of digital processes, low participation in digital platforms, delays in processing administrative processes and high dependence on manual processing in key institutional processes. These

challenges frequently come in the form of poor coordination of administrative units, inconsistencies in institutional records, incorrect management reports, slow decision making and decreased trust in electronically generated information. As a result, institutional managers often find it challenging to generate reports for accreditation, budgeting, planning, quality assurance and policy making in a timely fashion. Low level of digital participation and the inability to produce credible management reports from information systems leads to a loss of administrative effectiveness and organisational performance due to the inability to make management decisions based on reliable data. The findings of this study have great concerns on the effectiveness of information change management in tertiary institutions of Rivers State, Nigeria and that many tertiary institutions are yet to fully appreciate the expected benefits of digital transformation.

A possible reason for these lingering gaps is the lousy data governance practices that are found in most tertiary institutions. Information change management relies not just on the presence of digital technologies, but also on the presence of governance mechanisms to regulate the access, protection, integration, storage and use of institutions' information. Unfortunately, weaknesses in access to institution information such as lack of physical security at records facilities and lack of effective digital authentication means information within the institutions remains vulnerable to the unauthorised access, manipulation, duplication and breaches of confidentiality. Similarly, shortcomings in the deployment of IT infrastructure, including the lack of a centralized data repository, obsolete technological facilities, inadequate cybersecurity infrastructure, and inadequate compliance with network security standards, have made information systems more fragmented, with inconsistent databases and poor information retrieval reliability, and poor institutional departments' interoperability. The governance weaknesses of these information systems undermine the trust of the users in the information systems, deter active digital use, disrupt operational efficiency and affect the integrity of information used for management reporting and decision making by executives. The absence of comprehensive data governance practices, therefore, reduces the effectiveness of investments in digital technologies in producing information change outcomes even in the cases where these technologies have been heavily invested in. It seems that strengthening access control, and strengthening IT infrastructure deployment, can be important governance mechanisms for enhancing IT use, improving management reports' accuracy, and strengthening the effective decision making in tertiary institutions in Rivers State.

Empirical research in relation to the issues has been investigated in Nigeria, however, there are some gaps. Alikornwo and Echendu (2026) in their study of Digital Office Practices and Information Management Effectiveness in Tertiary Institutions in Rivers State, Nigeria, investigated the relationship between electronic records management, digital communication systems, information accessibility and information security and found that digital office practices had a positive impact on information management effectiveness in the tertiary institutions under study. Data governance practices were not examined, though, nor was access control, the deployment of IT infrastructure, adoption rates, impacts of data for decision support, or leadership entered as explanatory variables. Likewise, the study on Analysis of Records Management in Universities in Rivers State by Dambo and Ben George was based on electronic database management systems, accessibility of records, security of records and service delivery, in the Universities in Rivers State. The study confirmed that the use of electronic database management enhances the service delivery and accessibility of records but has not analyzed the impact of wider data governance practices or how this

impacts on the effectiveness of information change management. Moreover, the study by Nweke and Wosu (2022) on Electronic Records and Administration of Educational Tertiary Institutions in Rivers State, investigated the relationship between electronic records and administration in educational tertiary institutions studied in Rivers State and results showed that there were positive relationships between the electronic records and institutional administration. However, the research primarily focused on the electronic records and not the wider governance structure needed to ensure digital transformation can be sustained. Similarly, Akinola and Bestman (2002) in their study on 'E Archiving and Information Management Efficiency of Tertiary Institutions in Rivers State, Nigeria' in tertiary institutions in Rivers State concluded that electronic archiving has contributed to improved information management efficiency especially on cost and time efficiency, however, leadership was not used as a moderating variable and they did not consider the adopted rate and the impact of decision support as measures of information change management effectiveness. The reviewed studies therefore highlighted a conceptual gap since they focused on electronic records management, electronic databases, digital office practices and electronic archiving instead of data governance practices (such as access control and IT infrastructure deployment), a criterion gap as they measured information accessibility, information security, service delivery, and information change management effectiveness instead of the adoption rates and decision support impacts of data governance, and a theoretical and analytical gap as they did not account for the moderating effect of transformational and situational leadership. These identified gaps, therefore, serve as the starting point and the reason for the current study on data governance practices and effectiveness of information change management in tertiary institutions in Rivers State.

Conceptual Framework

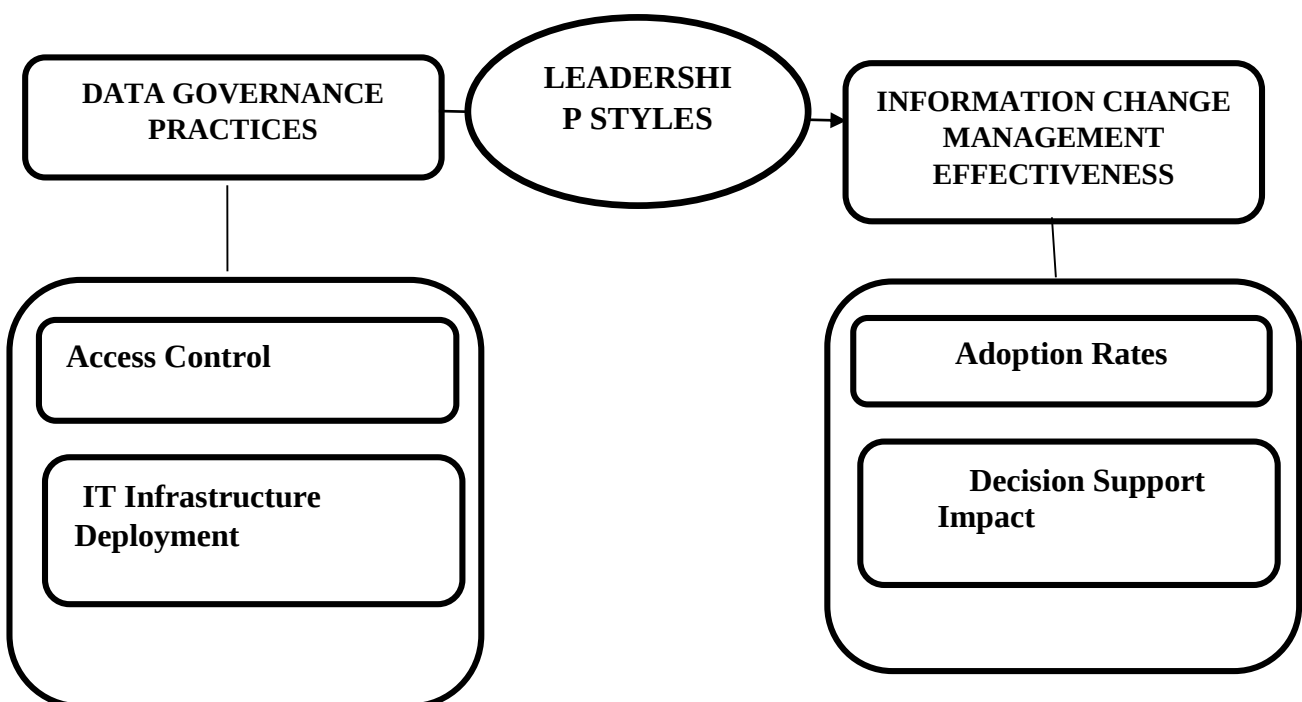


Fig. 1. Conceptual Framework for data governance practices and information change management effectiveness of tertiary institutions in Rivers State, Nigeria.

Source: Researcher's desk, (2026).

Aim and Objectives of the Study

The study aimed to examine the relationship between data governance practices and Information change management effectiveness of tertiary institutions in Rivers State, Nigeria. Specifically, the study sought to:

1. Examine the relationship between Access control and Adoption rates of tertiary institutions in Rivers State, Nigeria.
2. Assess the relationship between IT infrastructure deployment and Decision support impacts of tertiary institutions in Rivers State, Nigeria.
3. Examine the moderating influence of leadership styles on the relationship between data governance practices and information change management effectiveness of tertiary institutions in Rivers State.

Hypotheses

In line with the objectives, the following null hypotheses were formulated:

Ho₁: There is no significant relationship between Access control and Adoption rates of tertiary institutions in Rivers State, Nigeria.

Ho₂: There is no significant relationship between IT infrastructure deployment and Decision support impacts of tertiary institutions in Rivers State, Nigeria.

Ho₃: Leadership styles do not significantly moderate the relationship between data governance practices and information change management effectiveness of tertiary institutions in Rivers State.

Conceptual Review

Concept of Data Governance Practices

Data governance practices have become a strategic capability of the organization that allows the institutions to govern their information assets in a way that fosters accountability, transparency, operational efficiency, and regulatory compliance. Data governance is, conceptually, a collection of policies, standards, procedures, technologies, decision rights and institutional responsibilities that guarantee the accuracy, security, accessibility and consistency of data throughout an organization's lifespan. In tertiary institutions, the importance of effective data governance is becoming apparent as it is considered the foundation of digital transformation, as academic, administrative, financial, and research activities rely on well-functioning information systems to a large extent. The transition from paper to digital information has increased the demand for well-designed governance structures that guarantee the quality, security, interoperability and institutional accountability of data in Nigeria.

Some recent research in Nigeria has shown that digital office practices and electronic records management have significant positive effects on the information management in tertiary institutions in Rivers State; these effects include: increased access to information, increased security of information and overall administrative efficiency. Research also carried out in Universities at Rivers State and Cross River State has further confirmed that good management of electronic databases and electronic records enhances the efficiency of the University, accessibility of records and service delivery, thereby further emphasizing the strategic role of governance structures in the administration of universities. The findings of these studies all come to a similar conclusion that the framework for successful digital transformation and its continuity can be achieved through good data governance.

The dimensions of Data Governance Practices

Access Control

Access control is the practice of institutional arrangements that are put in place to control who can use information resources of an organisation, and under what conditions and for what purposes. Physical access control aims to protect premises containing information assets, using surveillance systems, biometric devices, security staff, controlled entry systems, visitor systems and environmental protection systems. Digital access control, on the other hand, uses technological protections like passwords, role-based access, encryption, authentication measures, audit trails, and multi factor authentication to safeguard electronic information systems from unauthorized use.

Literature consistently states that effective access control can ensure the confidentiality, integrity and availability of data, and minimise institutional exposure to cyber threats, record manipulation and information leakage. At tertiary institutions, these institutional arrangements foster trust in digital systems, increase the reliability of information and enhance accountability in administration. Therefore, the physical and digital access control it is expected to positively influence the measures of information change management effectiveness, namely the adoption rates (smooth workflow and increased digital participation) and decision support impacts (management report accuracy and effective decision making). If institutional information is safe and easily accessible to those with permission, staff members feel more confident in using digital systems, processes within the organisation are more effective, and management decisions increasingly evidence based.

IT Infrastructure Deployment

IT infrastructure deployment involves the delivery, installation, operationalization and ongoing development of technological infrastructure required to support institutional information systems and digital governance. A central data repository offers a common data management system that enables the storage, handling and retrieval of institutional data in a consistent manner from across academic and administrative departments and units. These repositories help to minimize data duplication, ensure interoperability, maintain consistency across the information and offer managers a complete set of data for performance monitoring and planning. Network security compliance refers to compliance with the institutional and statutory cybersecurity requirements, which are achieved by using firewall, encryption, intrusion detection system, vulnerability management, network monitoring and secure communication.

The literature in Nigeria shows that EDBM systems and good electronic records infrastructure in institutions bring benefits in terms of access to records, service delivery, administrative co-ordination, and institutional efficiency. The technological capabilities reinforce the effectiveness of information change management, enhancing users' acceptance of digital technologies, easing the way of their daily workflow, boosting institutional involvement in digital platforms, enhancing the validity of management reports, and enabling timely and informed decision making. So, in today's tertiary institutions resilient technological infrastructure is a vital part of any good data governance regime.

Information Change Management Effectiveness

Information Change Management (ICM) effectiveness is defined as the successful change of an organization's technical systems, data structures, and human stakeholders from a legacy state to a desired future state while minimizing system downtime, data corruption and loss of productivity. Information systems implementation success is closely linked to human and structural workflows around data governance. If not performed well, poorly managed changes create huge friction within the system, a lot of rework in software and unquantifiable financial losses associated with ubiquitous systems being unavailable for conducting business (LaClair & Rao, 2002).

It is important to look at the effectiveness of ICM in both systemic infrastructure and human psychology. Academic literature combines multiple basic models that determine the way in which structural changes flow within an organization. Kurt Lewin's Three Stage Model offers a macro level framework of structural changes (Lewin, 1951). For informational changes (like database migrations or ERP deployments), the steps happen one after another. The unfreeze stage is designed to destroy legacy habits and audit trails, and to set a baseline of what the teams currently do, and how the change is being driven by technical changes, so that their teams are ready to make the technical changes. Second, the change process is the "teaching" period when new system workflows, permissions, and database parameters are actually being coded and taught, and frequent communications are needed to keep teams in sync. Third, the refreeze step institutionalises the update by inserting the new information systems into the routines of governance, and prevents the legacy systems from being used as a backstop for data entry.

John Kotter takes this change process step further by giving a step-by-step, implementation plan to avoid organizational inertia in information rich deployments (Kotter, 1995). The eight stages in his evolution process involve building a sense of urgency about cybersecurity or competitive threat, assembling a guiding coalition comprising technical architects and senior executives, and forming a shared informational vision to articulate improvements to data accessibility. Such steps require leaders to spread the vision throughout functional silos, mobilize a wide range of stakeholders for their involvement with the initiative, create short-term success by piloting migrations, consolidate learning to tackle software issues, and embed the new ways of working into the corporate culture (Kotter, 1995). Jeff Hiatt works at the individual employee level, using the Prosci ADKAR Model (Hiatt, 2006) to discuss the organizational architecture. This approach assumes that organizational information change is only as successful as the sum of the successful individual changes in five stages: awareness of a need for the technical change; desire to facilitate the data transition; knowledge of how to participate in the modified software; ability to routinely do what's needed; reinforcement to maintain the new patterns of information flow.

The effectiveness of Information Change Management is measured by:

Adoption rates

It is a measure of how well a newly implemented digital information system is accepted, used and integrated by institutional actors in their daily administrative and academic work. This is evident in smooth workflow, which involves efficient and coordinated institutional processes, where there are no delays or duplication, and digital participation, which involves active use of enterprise systems, electronic communication platforms, digital repositories, and online administrative services by staff and students.

Decision support impacts,

Decision support impact, on the other hand, is the degree to which institutional information systems can provide accurate information to support institutional planning, policy development, budgeting, accreditation, monitoring and strategic decision making. These impacts are achieved through the accuracy of reports produced by managers (management report accuracy) and how well managers make decisions based on accurate information (effective decision making). Past literature consistently shows that improved electronic records management, digital communication systems and integrated database technologies have a positive effect on information accessibility, information security, administrative efficiency and organisational effectiveness, which are conceptually related to successful information change management in higher education institutions.

Leadership Style: It Moderating Influence on Data Governance Practices and Information Change Management Effectiveness

The effectiveness of information change management is not a single factor, but is influenced by practices of data governance within the organisation. Thus, the mediating variable here is conceptualized as the leadership styles that are represented by the Transformational leadership and Situational leadership. Transformational leadership inspires innovation, organizational learning, employee empowerment, intellectual stimulation and commitment to institutional vision, which helps employees to embrace governance reforms and digital transformation initiatives.

Situational leadership, on the other hand, demands that leaders modify their leadership behaviours based on the competence of their employees, organisational preparedness, and the nature of technological change. In tertiary institutions, these leadership styles shape the degree of implementation of governance policies, acceptance of digital technologies and managing organisational resistance to change. The Nigerian research on digital office and administrative service delivery found that the leadership of institutions significantly contributes to the effectiveness of technology deployment, staff capacity building, policy upholding and information management results. Therefore, transformational and situational leadership is expected to further increase the positive effect of access control and IT infrastructure deployment on adoption and decision support impacts that would guarantee the overall effectiveness of information change management in tertiary institutions in Rivers State.

Theoretical Review**Data Governance Framework Theory**

The theory of Data Governance Framework proposed by Abraham Schneider et al. is the basis for the present study, which is a theory on data governance as a governance framework that consists of policies, decision rights, accountability structures, standards, technologies, and stewardship mechanisms that are planned to ensure that institutional data is accurate, secure, accessible, and usable for the organization. Governance and control of organisational data relies on a well-defined governance structure and ownership responsibilities, as well as technology and compliance mechanisms that work together to produce better data quality and organisational performance, according to the theory. The theory is applicable to the present study in that, access control, both physical and digital, can affect information change management effectiveness in tertiary institutions as can the deployment of IT infrastructure in the form of central repositories for data and network

security compliance. Authorised users have access to information in a secure way, and institutional databases are secure from unauthorised manipulation and cyber threats, through effective governance structures. Effective governance improves adoption rates by: Providing a smooth workflow and increasing digital participation through governance; and Providing enhanced decision support impacts through governance using accurate management reports and evidence based decision making. Nigerian studies on Information governance and Digital office practices in tertiary institution and Public Institutions in Rivers State also confirm that structured information governance systems can greatly enhance administrative accountability, access to information, institution transparency, and digital transformation in public institutions and tertiary institutions in Rivers State.

Diffusion of Innovation Theory

The second theory that lies under this research is the Diffusion of Innovation Theory proposed by Everett Rogers in 1962 and edited in later editions. The theory describes how social systems over time communicate innovations and outlines the factors that influence the rate at which people and organizations change to new technologies. The theory is based on the idea that the perceived relative advantage, compatibility, complexity, trialability, and observability of an innovation are key elements to successful adoption. The theory is relevant in this study in light of the operationalisation of information change management effectiveness through the adoption rates that include smooth workflow and increased digital participation. Organisations with secure access control systems and solid IT systems are more likely to foster staff confidence in digital technologies, minimize resistance to institutional change, and speed institutional acceptance of digital information systems. Also, the theory offers an understanding of why institutional stakeholders are more likely to embrace the improvements in management reporting accuracy and the ability to make effective decisions that technology enables. Research in Nigeria on e-governance, digital office systems and information management shows that the presence of secure technological infrastructure, organizational support and effective governance policies have a significant impact on the effectiveness of information change management and technology adoption in public organisations and tertiary institutions respectively.

Transformational Leadership Theory

The third theoretical basis of this study is the THEORY OF TRANSFORMATIONAL LEADERSHIP first developed by James MacGregor Burns and later expanded by Bernard M. Bass. According to this theory, organisational leaders need not only rely on their formal authority; they can motivate followers and build effective organisations by inspiring them with visionary leadership, intellectual stimulation, individualised consideration and motivational influence. The theory underpinning the moderating effect of leadership styles in the relationship between data governance practices and information change management effectiveness is presented. The theory that forms the basis for conceptualizing the moderating effect of leadership styles in the relationship between data governance practices and information change management effectiveness are presented. In tertiary institutions, transformational leaders foster compliance with governance policy, the application of technological infrastructure, and the adoption of technological innovations by their staff and the development of organisational culture that facilitates ongoing change and learning. This is a theoretical position that corresponds with situational leadership which focuses on changing a leader's leadership style based on employee readiness and organizational

context. These leadership perspectives account for the fact that adoption rates and impacts on decisions differ depending on the type of leadership within the institutions in question, even when the institutional governance structure is the same. The studies conducted in Nigeria on information governance, institutional accountability and electronic governance have also revealed that leadership commitment, institutional support and strategic management are important factors that influence governance implementation, organisational responsiveness and administration effectiveness in public institutions. Thus, the proposed integration on the theory of Data Governance Framework, Diffusion of Innovation Theory and Transformational Leadership Theory gives a holistic theory for the role played by data governance practices in affecting the effectiveness of information change management in tertiary institutions in Rivers State while highlighting the moderating effect of transformational and situational leadership in tertiary institutions in Rivers State.

Methodology

In the study, a descriptive research design was used to describe and to understand the relationship between variable and its effect. The study is a micro study which focuses on a particular set of staff. Therefore, the population of this research is sixty (6) tertiary institutions with a total of ninety (90) information managers which include Registrar, ICT director, Deputy Registrar, Admission officers, Exams and record officers, Director of establishment, Director of public affairs/Public Relations Officer, Librarian and institutional repository manager.

Table 3.1: Population Distribution Based on tertiary institutions.

S/N	Tertiary institutions and their location	Office Manager
1	University of Port Harcourt (UNIPORT) East-West Road, Choba, Port Harcourt, Rivers State.	15
2	Rivers State University (RSU): Nkpolu, Oroworuko, Port Harcourt, Rivers State.	15
3.	Ignatius Ajuru University of Education (IAUE) Rumuolumeni Road, Port Harcourt, Rivers State.	15
4.	Captain Elechi Amadi Polytechnic: Rumuola Road, Rumuchita, Port Harcourt, Rivers State.	15
5.	Ken Saro-Wiwa Polytechnic (KENPOLY): Bori, Khana Local Government Area, Rivers State.	15
6.	Federal College of Education (Technical), Omoku: Omoku, Ogba/Egbema/Ndoni Local Government Area, Rivers State.	15
	Total	90

Source: Researcher's Inquiry data (2026).

The study was a census study as no sampling was used for this study. For the instrument to ascertain it required reliability, a test and retest approach was adopted and the pretest was done using questionnaire administered to the respondents in a selected area. After two months, the relationship between the two result was determined Using the Pearson product moment correlation coefficient. In the test, the reliability is determined to be high $r = 0.96$ which means that there is consistency in the items of survey. A Total of ninety (90) copies of Questionnaire were distributed to the respondent. The researchers were able to recover seventy (70) copies from these six selected tertiary institutions of Port Harcourt, and the sum of twenty (20) copies were not recovered. The Pearson Product Moment Correlation Coefficient (r), with the aid of Statistical Package for Social Sciences (SPSS) Version 24.0

was used for the analysis. Partial Correlation analysis was used to determine the moderating effect of leadership style on the relationship between data governance practices and information change management effectiveness.

Results

Ho₁: There is no significant relationship between Access control and Adoption rates of tertiary institutions in Rivers State, Nigeria.

Table 1: Correlations between Access control and Adoption rates

	Access control	Adoption rates _
Pearson r Correlation Coefficient	1.000	.522**
Sig. (2-tailed)	.	.000
N	70	70

Source: SPSS Output, (2026)

Table 1 reveals r value of 0.522 at a $p=0.00 < 0.05$ for the hypothesis relating Access control and Adoption rates. Since the significance value 0.422 is less than the alpha level of 0.05, the null hypothesis (Ho₁) which states that there is no significant relationship between Access control and Adoption rates of tertiary institutions in Port Harcourt, Rivers State, Nigeria was rejected and alternate hypothesis (Ha₁) was accepted. This implies that there is a very strong positive relationship between Access control and Adoption rates in tertiary institutions in Rivers State, Nigeria.

Ho₂: There is no significant relationship between IT Infrastructure Deployment and Decision support impacts of tertiary institutions in Rivers State.

Table 2: Correlations between IT infrastructure deployment and Decision support impacts

	IT infrastructure deployment	Decision support impacts
Pearson r Correlation Coefficient	1.000	.479**
Sig. (2-tailed)	.	.000
N	70	70

Source: SPSS Output, (2026)

Table 2 reveals r value of 0.479 at a $p=0.00 < 0.05$ for the hypothesis relating digital literacy and Decision support impacts. Since the significance value 0.279 is less than the alpha level of 0.05, the null hypothesis (Ho₂) which states that there is no significant relationship between IT infrastructure deployment and Decision support impacts of tertiary institutions in Rivers State, Nigeria was rejected and alternate hypothesis (Ha₂) was accepted. This implies that there is a moderate positive relationship between IT infrastructure deployment and Decision support impacts of tertiary institutions in Rivers State, Nigeria.

Ho₃: Leadership styles do not significantly moderate the relationship between data governance practices and information change management effectiveness of tertiary institutions in Rivers State.

Table 3: Correlations between Leadership style moderating of Data Governance Practices and Information change management effectiveness

	Data governance practices	Information change management effectiveness	Leadership style
Pearson r	1.000	.751**	.549**
Correlation Coefficient			
Sig. (2-tailed)	.000	.000	.000
N	70	70	70

Source: SPSS Output, (2026)

Table 3 above shows r value of 0.751 at a significant level of 0.00 which indicates a strong relationship between data governance practices and information change management effectiveness without the moderating effect of leadership style. With the introduction of the moderating or controlling factor (leadership style), the correlation value reduced to 0.549 at 0.005 level. This indicates that leadership style only moderates the relationship between data governance practices and information change management effectiveness of tertiary institutions in Rivers State to a strong level.

Discussion of Findings

The findings of the study were discussed in the following headings:

Relationship between Access control and Adoption rates

The hypothesis one test showed that Access control and Adoption rates of tertiary institutions in Rivers State, Nigeria are very high in relation to one another. Institutional portals, Learning Management Systems, and digital repositories that implement strong, clear, and easy to use access control methods, including Multi-Factor Authentication (MFA), role-based permissions, and biometric authentication, are more likely to encourage and facilitate user adoption. This result is consistent with the extended Technology Acceptance Model (TAM) that suggests that security and trust are among the main factors that affect user's perceived usefulness and ease of use (Davis, 1989). However, when stakeholders feel that their academic information, research information, and financial transactions are adequately isolated and secured from unauthorized access on campus networks, they exhibit greater willingness to embrace digital platforms in the context of Rivers State, where cyber-threats and identity theft on campus networks are issues of concern (Arokodare & Omu, 2021).

The latter result, however, also shows an important behavioral limitation that is particular to the academic setting at Port Harcourt: When access control is too strict or poorly designed or is down often because of instability in the campus network, it becomes an operational constraint. Unresolved authentication issues like frequent timeouts, lengthy password reset processes, or a lack of compatibility with mobile devices result in a drop in adoption rates or passive resistance, with users abandoning platforms in frustration and failing to report security breaches (Nwabueze & Asanya, 2023).

Relationship between IT infrastructure deployment and Decision support impacts

The result of the hypothesis testing of hypothesis two showed that the IT infrastructure deployment had a positive and significant relationship with the Decision support impacts of tertiary institutions in Rivers State, Nigeria. High-speed fiber-optic campus networks, central database servers, cloud storage solutions, and integrated Enterprise Resource Planning (ERP) systems are examples of modern IT infrastructure that, when and when these institutions are widely used, greatly enhances their executive decision-making capabilities. This is in line with the Information Systems Success Model developed by Delone and McLean (2003), which states that system quality directly affects information quality leading to positive organizational impacts. A strong technical base enables university administrators, deans and department heads to make a smooth shift away from gut feelings in Port Harcourt's tertiary landscape. Rather, they can access live information from student management systems, financial systems, and staff payroll systems, enabling them to make quick and accurate decisions when it comes to allocating resources, implementing structural budgeting, and curriculum changes (George & Alali, 2022).

The results, on the other hand, indicate that a lack of deployment of local IT infrastructure has a direct negative effect on decision support impacts. Local network interruptions and irregular electricity supplies are common in public universities in Rivers State resulting in significant data fragmentation. If the various faculties keep their records on separate desktop computers or on flaky local file servers, there's no way to produce report sheets of institutional intelligence. The structural breakdown leads to delayed admissions approvals, incorrect tracking of graduations clearance, mismanaged staff promotions processes, and so on, all of which have direct evidence of how poor infrastructure deployment stifles an administration's ability to make timely decisions (Wokocha & Pepple, 2024).

Leadership Style as a Moderator in the Relationship between Data Governance Practices and Information Change Management Effectiveness

The test of hypothesis three found that leadership style is a significant moderator between data governance practices and information change management effectiveness of tertiary institutions in Port Harcourt, Rivers state. The data also shows that the structural adoption of data governance practices, such as strict data ownership rules, data classification frameworks, among others, and standard information security compliance policies are not enough to guarantee successful execution of ICM in institutions like the University of Port Harcourt (UNIPORT), Rivers State University (RSU), Ignatius Ajuru University of Education (IAUE). Rather, the effectiveness, speed, and level of uptake of these bits of information across the university systems rely basically on the leadership style that is observed among university principal officers, deans, and directors (Enwereuzo, 2024).

A transformational or participatory leadership model by University administrators greatly enhances the effectiveness of positive change resulting from data governance. Thus, transformational leaders within the Niger Delta environment are good at communicating a vision of the digital world and motivating academic and non-academic employees to think beyond what is happening in the short term when it comes to the disruption of ongoing operations (Akinnuoye, 2026). In this friendly management, standardised data governance rules do not appear as a rigid bureaucratic constraint but rather as an important measure of protection for the prestige of an institution and the integrity of its data. This leadership approach reduces resistance from staff during complex, system-wide transitions, like

moving student data to a single enterprise resource planning system, and increases proficiency and usage (Destiny-Dede, 2024).

Conclusion

From the empirical results, it is concluded that data governance practices has a significant influence on the effectiveness of information change management (ICM) in tertiary institutions in the city of Port Harcourt, Rivers State of the Federal Republic of Nigeria. The relationship is not only technical, it is systemic, and has a significant impact on administrative efficiency, accurate record-keeping and structural coordination. The research concludes that structured data governance procedures leads to a more seamless technical change and higher system uptake. In particular, effective access controls, consistent data security policies and comprehensive electronic records management are key elements of digital transformation outcomes which foster psychological confidence and protect institutional credibility.

Recommendations

From the results, the following recommendations were given:

1. Tertiary institutions need to develop and execute localised policies on data governance that clearly reflect the national data governance frameworks, such as establishing local ethics committees and data protection units for system migrations to safeguard data architecture integrity over the long-term and to mitigate the risk of expensive data breaches.
2. The principal officers, deans and directors of the university, Polytechnics and College of education should consciously shift from the rigid top down autocratic management. They need to develop participative methods which actively involve academic and non-academic staff in early stages of planning for change and feedback loops, thereby reducing psychological barriers to changes in a system.
3. Institutional managements need to proactively increase the number of students and staff involved in regional privacy and data security pipelines, namely through cooperation with relevant regulators to incorporate initiatives into pipelines.

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