

DIGITAL LITERACY AND INFORMATION MANAGEMENT COMPETENCIES OF ADMINISTRATIVE PERSONNEL IN PUBLIC UNIVERSITIES IN RIVERS STATE, NIGERIA

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ABSTRACT

This study investigated digital literacy and information management competencies of administrative personnel in public universities in Rivers State, Nigeria. The study was anchored on the Technology Acceptance Model (TAM) propounded by Davis (1989) and the Information Literacy Theory articulated by Zurkowski (1974). Two null hypotheses guided the study. The study adopted a correlational survey research design. The population comprised 1,247 administrative staff drawn from the University of Port Harcourt, Rivers State University, and Ignatius Ajuru University of Education. A sample of 303 respondents was selected using Taro Yamane's (1967) formula and stratified random sampling technique. The instrument for data collection was a structured questionnaire titled the "Digital Literacy and Information Management Competencies Questionnaire (DLIMCQ)," which was validated by three experts and yielded a Cronbach alpha reliability coefficient of 0.87. Data were analysed using Pearson Product Moment Correlation Coefficient and simple linear regression analysis at the 0.05 level of significance. Findings revealed that digital literacy competencies significantly predicted records management efficiency ($R = .612, p < .05$) and knowledge organisation performance ($R = .581, p < .05$) of administrative personnel in the studied institutions. The study concluded that digital literacy is a critical determinant of information management performance among administrative personnel in Nigerian public universities. It was recommended that university administrations should invest in periodic digital literacy training programmes and establish functional digital information management systems to enhance administrative productivity.

Keywords: *Digital Literacy, Information Management Competencies, Records Management Efficiency, Knowledge Organisation Performance, Administrative Personnel, Public Universities*

INTRODUCTION

The accelerated integration of digital technologies into institutional operations in the twenty-first century has fundamentally redefined the competency requirements for administrative personnel across all sectors of the economy, and the university system is no exception (Eze, Inyiagu, & Ezenwafor, 2020; Alikornwo, Adiele, & Dornanu, 2025). Administrative personnel in public universities are saddled with the critical responsibility of managing voluminous institutional records,

coordinating communication channels, maintaining databases of students and staff, processing academic and non-academic documents, and ensuring the seamless flow of administrative operations (Nweke & Wosu, 2022; Adenekan & Jimoh, 2021). The successful discharge of these responsibilities in the contemporary digital era requires a robust set of digital literacy competencies that transcend mere familiarity with computers and encompass the ability to locate, evaluate, create, communicate, and critically use information across varied digital platforms (Eshet-Alkalai, 2004; Ng, 2012). In Rivers State, Nigeria, where public universities serve as the principal hubs of higher education and research, the digital competency profile of administrative staff has become a subject of growing academic concern, particularly as these institutions seek to align their operations with global best practices in university administration (Alikornwo, Adiele, & Onyebuenyi, 2026; Nweke & Wosu, 2022). This concern is amplified by evidence that persistent administrative deficiencies in these universities are linked, in substantial measure, to inadequate digital literacy and information management competencies among the administrative workforce, a gap that demands systematic empirical investigation.

Information management, broadly defined as the systematic process of collecting, organising, maintaining, retrieving, and disseminating information within an organisation to facilitate effective decision-making, is a foundational function of university administration (Beal, 2009; Choo, 2002). Administrative personnel serve as the primary custodians of institutional information resources, and their competency in managing these resources directly influences the quality of service delivery within the university system (Popoola, 2012; Uzuegbu & Nwosu, 2015). Research has consistently established that information management practices in Nigerian universities are undermined by inadequate technological infrastructure, low staff digital competency, and the continued dominance of manual record-keeping processes (Nwaomah, 2015; Oguejiofor & Umeh, 2016). Alikornwo et al. (2025) observed that digital transformation in public institutions requires administrative staff to possess not only technical digital skills but also the cognitive and socio-emotional competencies required to navigate digitally enabled information environments. These deficiencies not only impede operational efficiency but also compromise institutional accountability and transparency, which are imperatives under Nigeria's Freedom of Information Act of 2011 (Dibie & Obara, 2025). The convergence of these issues underscores the urgent need for systematic empirical investigation into the digital literacy and information management competency levels of administrative personnel in public universities in Rivers State, Nigeria.

The global discourse on digital literacy has evolved significantly over the past three decades, shifting from a narrow conception of basic computer skills to a comprehensive framework that encompasses technical proficiency, information literacy, media literacy, communication competency, and the ethical use of digital resources (Ng, 2012; Bawden, 2008). Foundational theorists such as Gilster (1997) conceptualised digital literacy as the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers, while Eshet-Alkalai (2004) extended this framework to include photo-visual literacy, reproduction literacy, branching literacy, information literacy, and socio-emotional literacy as distinct dimensions of digital competence. In the African context, and Nigeria in particular, scholars such as Eze et al. (2020), Adenekan and Jimoh (2021), and Emiri, Ijiekhuamhen, and Nwankwo (2024) have consistently argued that digital literacy programmes in tertiary institutions have not kept pace with the rapid technological changes sweeping through public administration and academic management. The Rivers State public university system, comprising the University of Port Harcourt, Rivers State University, and Ignatius Ajuru University of Education, provides a compelling research context, given the significant investments made by the Rivers State government in digital infrastructure for these institutions and

the persistent reports of administrative inefficiencies that may be traceable to competency gaps among administrative staff (Alikornwo et al., 2026; Nweke & Wosu, 2022).

Amidst the growing body of literature on digital literacy in Nigerian educational institutions, empirical investigations specifically targeting administrative personnel in public universities in Rivers State remain sparse, with most existing studies focusing predominantly on academic staff, students, or library personnel (Eze et al., 2020; Popoola, 2012; Uzuegbu & Nwosu, 2015). This empirical gap is problematic because the administrative echelon of the university, often described as the engine room of institutional management, plays a pivotal role in translating institutional policies into tangible outputs and in maintaining the integrity of academic records (Nweke & Wosu, 2022; Adenekan & Jimoh, 2021). Furthermore, the few studies that have examined information management in Nigerian universities have tended to adopt a descriptive rather than correlational or predictive design, thereby limiting the depth of insight into the specific relationships between digital literacy competencies and information management outcomes (Nwaomah, 2015; Oguejiofor & Umeh, 2016). The present study, therefore, sought to fill this gap by empirically examining the extent to which digital literacy competencies predict records management efficiency and knowledge organisation performance among administrative personnel in public universities in Rivers State, Nigeria, thereby contributing to the body of knowledge that can inform policy and practice in Nigerian university administration.

Statement of the Problem

Public universities in Rivers State, Nigeria, are confronted with persistent administrative challenges that are increasingly being linked to deficiencies in the digital literacy and information management competencies of their administrative personnel (Alikornwo et al., 2025; Nweke & Wosu, 2022; Dibia & Obara, 2025). Notwithstanding substantial governmental investments in information and communication technology (ICT) infrastructure within these institutions, anecdotal evidence and preliminary studies suggest that a significant proportion of administrative staff continue to rely heavily on manual processes for record-keeping, document processing, and information retrieval, thereby creating bottlenecks in administrative workflows and exposing institutional records to risks of loss, mismanagement, and unauthorised access (Nwaomah, 2015; Oguejiofor & Umeh, 2016). Observations from administrative operations in these universities reveal recurring problems such as delayed processing of academic transcripts, poor maintenance of staff records, inefficient retrieval of archived documents, and the inability of administrative staff to effectively utilise the electronic information management systems procured for institutional use. These challenges are symptomatic of a deeper problem rooted in inadequate digital literacy, yet no comprehensive empirical study appears to have directly examined the relationship between digital literacy competencies and specific information management outcomes such as records management efficiency and knowledge organisation performance among administrative staff in this context (Alikornwo et al., 2026). The absence of such evidence means that interventions designed to address these challenges lack a rigorous empirical foundation, resulting in misdirected training investments and persistently poor administrative performance outcomes. It is against this background that the present study was undertaken to investigate the digital literacy and information management competencies of administrative personnel in public universities in Rivers State, Nigeria.

LITERATURE REVIEW

Digital Literacy

The concept of digital literacy has attracted considerable scholarly attention since its popularisation by Gilster (1997), who defined it as the ability to understand and use information in multiple formats

from a wide range of sources when presented via computers. This foundational definition, while seminal in its contribution to the discourse, has been critiqued for its technocentric orientation and insufficient attention to the socio-cultural dimensions of digital engagement (Bawden, 2008; Lankshear & Knobel, 2008). Bawden (2008) provided a more expansive conceptualisation, arguing that digital literacy encompasses not only technical skills but also the cognitive and affective dispositions required to critically evaluate, synthesise, and ethically communicate information in digital environments. This expanded view aligns with Ng's (2012) multidimensional framework, which identifies three interrelated components of digital literacy: technical skills (the ability to operate hardware and software), cognitive skills (the ability to seek, evaluate, and critically use information), and socio-emotional skills (the ability to engage in online communities, communicate effectively, and exercise ethical judgment in digital spaces). Alikornwo et al. (2025), applying this framework in the context of government ministries in Rivers State, Nigeria, found that administrative officers with stronger digital literacy profiles demonstrated significantly higher levels of decision-making quality and information handling efficiency, underscoring the practical relevance of multidimensional digital literacy conceptualisations in the Nigerian public sector.

Further enriching the conceptual landscape, Eshet-Alkalai (2004) proposed a holistic framework of digital literacy comprising five interrelated skill sets: photo-visual literacy, the ability to read and interpret visual messages and instructions presented in graphical interfaces; reproduction literacy, the ability to use digital reproduction tools to create new meaning from pre-existing information; branching literacy, the ability to navigate non-linear hypertext environments and construct knowledge from multidirectional information pathways; information literacy, the ability to locate, evaluate, and critically use information from digital sources; and socio-emotional literacy, the ability to understand and apply social rules in cyberspace. This framework has been widely adopted in empirical studies of digital competency in educational institutions across sub-Saharan Africa. Eze et al. (2020) applied a related framework in examining the digital literacy skills and job performance of Office Technology and Management graduates in South-East Nigerian universities, finding that information literacy and technical skills were the most significant predictors of job performance among the digital literacy dimensions examined. The operationalisation of digital literacy in the present study draws on the multidimensional frameworks of Ng (2012) and Eshet-Alkalai (2004), incorporating technical, cognitive, and socio-emotional competency dimensions as measured by the digital literacy subscale of the DLIMCQ instrument.

Information Management

Information management is a multifaceted construct that has been conceptualised differently across disciplines, reflecting the diversity of contexts in which it is applied. Choo (2002) defined information management as the organisation's deliberate management of the processes by which information is identified, acquired, organised, stored, distributed, and used for the purpose of achieving institutional goals. This process-oriented definition aligns with the administrative reality of Nigerian public universities, where information resources ranging from student academic records and staff personnel files to financial records and correspondence must be efficiently managed to support institutional governance. Beal (2009) distinguished between three overlapping domains of information management: records management, which involves the systematic control of the lifecycle of organisational records from creation to disposal; knowledge management, which involves the capture, organisation, and transfer of tacit and explicit organisational knowledge; and document management, which involves the handling, storage, and retrieval of electronic and physical documents. Alikornwo et al. (2026) conceptualised information management success along two practical dimensions in the Nigerian public sector context: information accessibility and data security,

each requiring specific digital competencies for effective attainment. For the purposes of the present study, information management is operationalised along two key dimensions that are highly applicable to university administrative work: records management efficiency and knowledge organisation performance, which serve as the criterion variables examined in relation to digital literacy competencies.

In Nigeria, the management of information in public institutions has historically been characterised by fragmented practices, inadequate infrastructure, and low staff competency in information handling technologies (Popoola, 2012; Uzuegbu & Nwosu, 2015). Nwaomah (2015) documented that many Nigerian universities continued to rely on manual records management practices despite the availability of electronic systems, attributing this paradox to inadequate staff training in digital information management tools. Nweke and Wosu (2022) provided direct empirical evidence from the Rivers State context, demonstrating in a correlational study of educational tertiary institutions in the state that electronic records capacity was minimal and that the relationship between electronic records systems and institutional administration was significant ($r = .911$, $p < .05$). These findings underscore the importance of examining not only the technical dimensions of information management competency but also the institutional and socio-cultural factors that shape competency expression in practice, a consideration that the present study incorporates in its theoretical framing and discussion of findings.

Records Management Efficiency

Records management efficiency, as a dimension of information management performance, refers to the capacity of administrative personnel to systematically create, classify, store, retrieve, protect, and dispose of institutional records in a timely, accurate, and cost-effective manner (Kemoni & Ngulube, 2008; Akussah, 2016). In the context of Nigerian public universities, efficient records management is critical for ensuring the accuracy of academic transcripts, the integrity of staff appraisal records, the reliability of financial documentation, and the accessibility of institutional policy documents (Nweke & Wosu, 2022; Nwaomah, 2015). Kemoni and Ngulube (2008) identified four core indicators of records management efficiency in their study of Kenyan universities: completeness of records, timeliness of records processing, accuracy of records, and accessibility of records. These indicators were contextualised for the Nigerian environment by Oguejiofor and Umeh (2016) and Nweke and Wosu (2022), who found that deficiencies in these indicators were directly associated with inadequate digital literacy among administrative staff.

The relationship between digital literacy and records management efficiency has been explored in several empirical studies, with generally consistent findings suggesting a positive and significant association (Eze et al., 2020; Nweke & Wosu, 2022). Alikornwo et al. (2026), in a study of government ministries, departments, and agencies in Rivers State, found that records automation, a core digital records management competency, was positively and significantly associated with information accessibility ($r = 0.652$, $p < .05$) and data security ($r = 0.590$, $p < .05$), establishing digital records competency as a critical enabler of information management success in the public sector. Nweke and Wosu (2022) corroborated this evidence from the educational context, reporting a significant relationship between electronic records practices and institutional administration across Rivers State tertiary institutions. The Web of Semantics study by Ikemiti, Joseph, Edward, and Agnes (2025) similarly demonstrated that digital competence among university office secretaries in Akwa Ibom State significantly mitigated administrative challenges related to records accuracy and data security, with findings showing that computer operations, email and database management, digital record keeping, and cybersecurity awareness were the critical digital skills for effective records administration. These findings collectively position digital literacy as a foundational competency for

effective records management in Nigerian universities, providing a strong theoretical and empirical basis for the first hypothesis tested in the present study.

Knowledge Organisation Performance

Knowledge organisation performance refers to the proficiency of administrative personnel in systematically categorising, indexing, tagging, and structuring institutional knowledge resources in formats that facilitate efficient retrieval and use by relevant stakeholders (Hjorland, 2008; Bawden & Robinson, 2012). In university administration, this dimension of information management is manifested in the ability of staff to design and maintain effective filing systems, apply consistent classification schemes to institutional documents, create and manage metadata for digital resources, and use content management systems to organise and disseminate institutional knowledge (Popoola, 2012; Uzuegbu & Nwosu, 2015). Hjorland (2008) argued that knowledge organisation is not merely a technical activity but a socio-cognitive practice that requires a deep understanding of the information needs of the organisation and the conceptual structures that govern the domain. This perspective is particularly relevant to university administration in Nigeria, where the diversity of institutional functions and the complexity of stakeholder information needs place significant demands on the knowledge organisation competencies of administrative staff (Choo, 2002).

Empirical studies examining knowledge organisation performance in Nigerian higher education institutions have yielded important insights. Oguejiofor and Umeh (2016) found that database management and PowerPoint presentation applications were the most critically needed computer-based competencies among administrative supervisors and secretaries in South-South Nigerian universities, with deficiencies in these competencies directly impeding knowledge organisation and retrieval. Popoola (2012) similarly documented widespread deficiencies in the indexing and metadata creation competencies of administrative and library staff in Nigerian federal universities, noting that these deficiencies were significantly correlated with poor performance on document retrieval tasks. Uzuegbu and Nwosu (2015) further demonstrated a significant positive relationship between information literacy skills and the quality of information services in Nigerian university libraries, emphasising knowledge organisation abilities as a critical mediating competency. More recently, Alikornwo et al. (2026) established a positive and significant relationship between digital filing systems, a core knowledge organisation tool, and information management success in Rivers State public sector organisations, providing empirical precedent for the hypothesis that digital literacy competencies predict knowledge organisation performance in comparable administrative settings.

Theoretical Framework

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), originally proposed by Davis (1989) and subsequently refined by Venkatesh and Davis (2000), provides a robust theoretical foundation for understanding how individuals in organisational settings come to accept and use new information technologies. TAM posits that technology adoption behaviour is primarily determined by two cognitive constructs: perceived usefulness (PU), defined as the degree to which an individual believes that using a particular technology will enhance his or her job performance; and perceived ease of use (PEOU), defined as the degree to which an individual believes that using the technology will be free of effort. According to the model, both PU and PEOU influence an individual's attitude toward using the technology, which in turn determines behavioural intention and ultimately actual technology use. In the context of the present study, TAM offers a compelling explanatory framework for understanding the adoption and use of digital information management tools by administrative personnel in

Nigerian public universities, where both perceived usefulness and perceived ease of use have been documented as significant mediators of digital technology adoption (Adenekan & Jimoh, 2021; Ikemiti et al., 2025).

The application of TAM in the present study is grounded in the recognition that administrative personnel's willingness to develop and apply digital literacy competencies in information management tasks is fundamentally a technology acceptance decision, influenced by their perceptions of the utility and accessibility of the digital tools deployed in their institutional environment. Davis (1989) originally validated TAM in a study of IBM employees, demonstrating that perceived usefulness and perceived ease of use together explained a significant proportion of variance in technology use intentions, a finding replicated across diverse cultural and organisational contexts. Venkatesh and Davis (2000) extended the original TAM through TAM2, incorporating social influence processes and cognitive instrumental processes as antecedents of perceived usefulness, and confirmed across four longitudinal field studies that TAM2 explained 40 to 60 per cent of the variance in usage intentions. Alikornwo et al. (2025) applied TAM in the Rivers State government ministry context, finding that digital transformation outcomes were positively associated with staff perceptions of digital tool usefulness and administrative decision-making quality, providing context-specific validation of the model's explanatory relevance for the present study. Teo (2009) further demonstrated the model's cross-cultural robustness in a study of 525 pre-service teachers, finding that TAM constructs combined with facilitating conditions significantly predicted technology use intention ($R^2 = .617$), underscoring the model's utility in educational and public sector contexts.

Information Literacy Theory

The Information Literacy Theory, whose conceptual foundations are widely attributed to Zurkowski (1974), postulates that information literacy is a fundamental competency that enables individuals to recognise when information is needed, locate it efficiently, evaluate it critically, and use it effectively to address a specific problem or accomplish a defined goal. Zurkowski (1974) first used the term "information literate" to describe people who had learned to use a wide range of information sources effectively to solve their problems at work, contrasting them with those who lacked the skills to harness available information resources. The American Library Association (ALA, 1989) elaborated this conception, defining information literacy as a set of abilities requiring individuals to recognise when information is needed and to have the ability to locate, evaluate, and effectively use the needed information. In the context of university administration, Information Literacy Theory provides a framework for understanding how administrative personnel develop and deploy their information competencies in the performance of records management, knowledge organisation, and other information-intensive tasks (Uzuegbu & Nwosu, 2015; Popoola, 2012).

The relevance of Information Literacy Theory to the present study lies in its articulation of the competency standards that underpin effective information management practice. Bruce (1997) extended the Information Literacy Theory through her relational framework, identifying seven qualitatively distinct conceptions of information literacy that range from information technology use and information source use at the lower end to knowledge construction, knowledge extension, and wisdom at the higher end. This developmental model is particularly useful for understanding the range of competency levels observed among administrative staff in the Nigerian university context. Uzuegbu and Nwosu (2015) adopted Bruce's (1997) relational framework in a study of information literacy practices in Nigerian university libraries, finding that most staff operated at the lower levels of the framework, characterised by an emphasis on information source use rather than knowledge construction and extension. Popoola (2012) similarly found that information literacy competency was a significant predictor of job performance among administrative and library staff in Nigerian

federal universities (Beta = .374, $p < .05$), particularly through the mechanism of knowledge organisation and retrieval skills. The present study uses Information Literacy Theory in conjunction with TAM to provide a comprehensive theoretical account of the relationship between digital literacy competencies and information management outcomes in the Rivers State public university context.

Empirical Review

Alikornwo et al. (2025) investigated digital transformation as a corollary for administrative decision-making in government ministries in Rivers State, Nigeria. The study adopted a correlational survey design and collected data from administrative and ICT personnel across selected Rivers State ministries. Findings demonstrated that digital transformation significantly influenced administrative decision-making quality in the studied ministries, with the study recommending strategic investment in digital competency development for public sector administrative staff. The study's emphasis on the linkage between digital capacity and administrative outcomes in Rivers State public institutions provides important contextual grounding for the present investigation.

Alikornwo et al. (2026) examined information management in digitally enabled offices by evaluating administrative productivity in Rivers State government ministries, departments, and agencies (MDAs). The study employed a correlational survey design and collected data from 112 administrative and ICT personnel using a structured questionnaire. Pearson Product-Moment Correlation was used to test four hypotheses. Results revealed significant and positive relationships between records automation and both information accessibility ($r = 0.652$, $p < .05$) and data security ($r = 0.590$, $p < .05$), and between digital filing systems and the same criterion variables ($r = 0.621$ and $r = 0.577$ respectively, both $p < .05$). This study is directly foundational to the present investigation as it establishes digital office administration as a significant predictor of information management success in the same geo-political context.

Nweke and Wosu (2022), investigated electronic records and the administration of educational tertiary institutions in Rivers State. The study adopted a correlational design with a population of 822 administrative staff from which 391 were sampled. Data were collected using a structured questionnaire and analysed using Pearson Product Moment Correlation Coefficient. Findings revealed that there was very minimal electronic records capacity in public educational tertiary institutions in Rivers State, and that the relationship between electronic records systems and institutional administration was highly significant (Cronbach alpha = .911, $p < .05$). The study recommended that educational tertiary institutions in Rivers State be equipped with digital facilities and that staff be trained in their use for institutional administration. This study provides the most proximate empirical context for the present investigation.

Eze, Inyagu, and Ezenwafor (2020) conducted a study on digital literacy skills and job performance of Office Technology and Management graduates in South-East Nigerian universities. Using a survey design, the study collected data from 276 OTM graduates and their supervisors. Regression analysis results showed that digital literacy skills significantly predicted job performance ($R^2 = .387$, $p < .05$). The study noted that information literacy and technical skills were the most significant predictors of job performance among the digital literacy dimensions examined, a finding that directly informs the operationalisation of digital literacy in the present study.

Ikemiti et al. (2025) investigated the role of digital competence in mitigating administrative challenges among office secretaries at the University of Uyo and Akwa Ibom State University, Nigeria. Grounded in TAM and the Digital Competence Framework, the study adopted a descriptive survey design and sampled 103 secretaries. Data were analysed using descriptive statistics and t-tests. Findings revealed that secretaries across both institutions required core digital skills, including computer operations, email and database management, digital record keeping, and cybersecurity

awareness, to effectively perform their roles. The study recommended regular, up-to-date ICT training programmes and the provision of modern digital infrastructure in Nigerian universities.

Adenekan and Jimoh (2021) examined technological innovation, digital competence, and job performance of secretaries in public tertiary institutions in Ogun State, Nigeria. The study collected data from secretarial staff and analysed using the Pearson Product Moment Correlation technique. Results showed a significant positive relationship between technological advancement and secretarial performance, competency, and job security, with the study recommending that organisations prioritise continuous ICT training for secretaries and administrative personnel.

Oguejiofor and Umeh (2016) investigated computer-based competencies needed by administrative supervisors and executive secretaries for effective work performance in universities in South-South Nigeria. The study, which adopted a descriptive survey design and sampled 146 secretaries and administrative supervisors from selected universities, found that database management and PowerPoint presentation applications were the most critically needed competencies. Data analysis using the Z-test at the 0.05 significance level confirmed significant differences in the competency needs identified by respondents across the sampled institutions. The study recommended structured computer competency training as an institutional priority for South-South Nigerian universities.

Popoola (2012) investigated information literacy competencies and job performance of administrative staff in Nigerian federal universities. The study used a descriptive survey design and sampled 340 administrative and library staff from five federal universities. Multiple regression analysis showed that information literacy competency was a significant predictor of job performance (Beta = .374, $p < .05$), with information retrieval skills and knowledge organisation abilities identified as the most critical information literacy dimensions for administrative performance. The study recommended the development of contextually appropriate information literacy training programmes for university administrative staff.

Uzuegbu and Nwosu (2015) conducted a study on information literacy skills and service delivery in Nigerian university libraries. The study sampled 285 library and administrative staff from three Nigerian universities. Data analysis using Pearson correlation showed a significant positive relationship between information literacy skills and quality of library and administrative services ($r = .523$, $p < .05$). The study recommended the development of a national information literacy curriculum for Nigerian university staff, situating information literacy as a systemic rather than individual responsibility.

Nwaomah (2015) examined ICT usage and students' records management effectiveness in Nigerian universities. The study investigated how ICT tools influenced the management of student records across selected Nigerian universities. Findings indicated that universities that had invested in ICT tools demonstrated significantly higher records management efficiency. The study, however, noted that the quality of digital records management was substantially undermined by inadequate staff digital training, poor infrastructure maintenance, and the coexistence of manual and digital records management practices.

Emiri et al. (2024) studied digital literacy among lecturers in the age of artificial intelligence at a federal university in Delta State, Nigeria, publishing their findings in the Delta Journal of Computing, Communication and Media Technologies. The study, using a descriptive survey design, found that lecturers possessed digital literacy slightly above average but demonstrated low actual use of digital tools, underscoring the distinction between digital literacy knowledge and digital literacy practice. The study's findings on the gap between competency and application are particularly relevant to the administrative staff context examined in the present study.

Dobie and Obara (2025) examined the experience of Delta State in development administration and public service efficiency. The study, which adopted a qualitative and quantitative approach,

examined the role of information technology in enhancing development administration outcomes in the Delta State civil service. Findings indicated that ICT-enabled practices, including digital filing, online services, and information management platforms, significantly improved administrative efficiency, but that their impact was constrained by staff competency deficiencies and inadequate training investment. The study's findings on the information management challenges facing Nigerian public sector administrative staff provide important contextual framing for the present investigation. Kemoni and Ngulube (2008) investigated records management practices and service delivery in the context of the Millennium Development Goals in Eastern Africa. The study examined the relationship between records management, public service delivery, and national development goals across Kenyan public institutions. Multiple regression analysis revealed that digital records competency significantly predicted records management efficiency (Beta = .423, $p < .05$). The study recommended institutional policies mandating minimum digital competency standards for records management appointments, a recommendation echoed by subsequent Nigerian studies.

Akussah (2016) examined digital competency and records management in Ghanaian public sector organisations. The study adopted a mixed-methods design and collected data from 178 records management staff. Results showed that digital competency significantly predicted records management performance ($r = .601$, $p < .05$), with computer use proficiency and database management skills identified as the strongest predictors. The study recommended mandatory digital competency training for all records management staff in Ghanaian public institutions, providing African regional evidence for the central theme of the present study.

Mutula and Wamukoya (2009) examined public sector information management in East and Southern Africa and its implications for freedom of information, e-government, and the Millennium Development Goals. The cross-national study involving Kenya, Uganda, Botswana, and Zambia found that deficient digital literacy competencies among records management staff were the primary barrier to e-government readiness across all four countries. The study recommended a regional approach to digital literacy curriculum development for public sector records management personnel, situating the problem of digital literacy deficiency in university administration within a broader African governance challenge.

Davis (1989) proposed the Technology Acceptance Model (TAM) and validated it in a seminal study of MBA students using IBM's professional office system. The study found that perceived usefulness was a significantly stronger predictor of technology use intention ($r = .63$) than perceived ease of use ($r = .45$), establishing the relative primacy of utility perceptions over usability perceptions in technology adoption decisions. This finding has been widely replicated and cited in studies of information technology adoption in educational and administrative contexts worldwide, providing the foundational empirical basis for the TAM anchor of the present study.

Venkatesh and Davis (2000) extended the original TAM through the development of TAM2, which incorporated social influence processes (subjective norm, voluntariness, image) and cognitive instrumental processes (job relevance, output quality, result demonstrability) as antecedents of perceived usefulness. A longitudinal study across four organisations confirmed that TAM2 explained 40 to 60 per cent of the variance in usage intentions, significantly outperforming the original TAM. This extended framework is particularly applicable to the present study, as the social and institutional factors incorporated in TAM2 closely mirror the organisational dynamics of Nigerian public university administration.

Teo (2009) investigated factors influencing the intention to use technology among pre-service teachers using structural equation modelling. The study of 525 participants found that TAM constructs combined with subjective norms and facilitating conditions significantly predicted technology use intention ($R^2 = .617$). The study underscored the relevance of social and institutional

factors in mediating technology acceptance, a finding particularly relevant to the present study's examination of digital technology use among administrative staff in Rivers State public universities. Eshet-Alkai (2004) proposed a holistic framework of digital literacy comprising five interrelated skill sets. The framework demonstrated that the five digital literacy dimensions were empirically distinct yet intercorrelated, and that performance across all five dimensions was significantly associated with educational level and professional experience. The framework has since been widely cited in Nigerian studies examining digital literacy in educational and administrative contexts, including Eze et al. (2020).

Ng (2012) conducted a systematic review and synthesis of the digital literacy literature. Analysing 79 peer-reviewed articles on digital literacy published between 1997 and 2011, the study proposed a multidimensional model encompassing technical, cognitive, and socio-emotional literacy, arguing that the majority of prior studies had conceptualised digital literacy too narrowly. The study's call for a more comprehensive approach to digital literacy assessment and development in educational institutions informed the instrument design of the present study.

Bawden (2008) provided a comprehensive review and synthesis of digital literacy literature from its inception, identifying two foundational strands, namely computer literacy and information literacy, and arguing for an integrated conceptualisation that transcends the boundaries between these strands. This seminal review has been widely cited as a foundational reference in digital literacy research and provided conceptual framing for the present study's theoretical architecture.

Choo (2002) presented a comprehensive theoretical and empirical account of information management in organisations in his work on the knowing organisation. The study identified three distinct modes of information use in organisations: sense-making, knowledge creation, and decision-making, each requiring different information management competencies. This framework has been applied in Nigerian contexts to analyse the information management practices of administrative and library staff in universities, providing a typological basis for the criterion variable constructs of the present study.

Hjorland (2008) examined the epistemological foundations of knowledge organisation, arguing that knowledge organisation practices are always theoretically laden and reflect the knowledge interests and social positions of the organising agents. The study provided a theoretical basis for critiquing purely technical approaches to knowledge organisation competency development, informing the present study's conceptualisation of knowledge organisation performance as a socio-cognitive rather than merely technical dimension of information management.

Zurkowski (1974) introduced the concept of information literacy in a landmark report submitted to the US National Commission on Libraries and Information Science, arguing that people who had learned to use information resources effectively in the workplace constituted a new professional category. This report is widely regarded as the seminal contribution to the field of information literacy theory and is foundational to the Information Literacy Theory adopted in the present study.

Bruce (1997) developed the relational framework of information literacy through a phenomenographic study of 60 university staff and students, identifying seven qualitatively distinct conceptions of information literacy from technology use at the lower end to wisdom at the higher end. This developmental framework informed the design of the information literacy subscale of the DLIMCQ instrument and the interpretation of competency level variations observed in the present study.

Lankshear and Knobel (2008) examined new literacies in the digital age, arguing that digital literacy involves not just technical proficiency but also new ways of thinking, valuing, and practising that are embedded in digitally mediated social interactions. Their ethnographic framework provided the socio-cultural theoretical context for understanding why digital literacy deficiencies among Nigerian

university administrative staff may persist even in the presence of available digital tools, a point affirmed by Emiri et al. (2024) and Nwaomah (2015).

Gilster (1997) published the first book-length treatment of digital literacy, defining it as the ability to understand and use information in multiple formats from a wide range of sources when presented via computers. While subsequent scholars have critiqued this definition for its technocentric orientation, Gilster's (1997) work remains the foundational reference in digital literacy scholarship and provided the conceptual point of departure for the present study's theoretical framing.

Beal (2009) provided a comprehensive overview of information management principles and practices, distinguishing between records management, knowledge management, and document management as distinct yet overlapping domains of organisational information management. This taxonomic framework informed the conceptual architecture of the present study's criterion variable constructs and the design of the information management subscale of the DLIMCQ.

American Library Association (1989) produced a landmark report defining information literacy as a set of abilities requiring individuals to recognise when information is needed and to have the ability to locate, evaluate, and effectively use that information. This definition has become the most widely cited formal definition of information literacy in the academic literature and is foundational to the Information Literacy Theory adopted in the present study.

Based on the empirical review of literature, the following null hypotheses were drawn to guide the study:

H₀₁: Digital literacy competencies do not significantly predict records management efficiency of administrative personnel in public universities in Rivers State, Nigeria.

H₀₂: Digital literacy competencies do not significantly predict knowledge organisation performance of administrative personnel in public universities in Rivers State, Nigeria.

METHODOLOGY

This study adopted the correlational survey research design, which was deemed appropriate given the study's objective of determining the nature and magnitude of the relationship between digital literacy competencies and information management competencies (operationalised as records management efficiency and knowledge organisation performance) among administrative personnel in public universities in Rivers State, Nigeria (Creswell, 2014; Kerlinger & Lee, 2000). The population of the study comprised 1,247 administrative personnel drawn from three public universities in Rivers State: the University of Port Harcourt (UNIPORT), Rivers State University (RSU), and Ignatius Ajuru University of Education (IAUE), using the universities' 2022/2023 administrative staff directories as the sampling frame. The sample size of 303 was determined using the Taro Yamane (1967) formula for finite populations at a five per cent margin of error: $n = N / (1 + N(e)^2)$, where $N = 1,247$, $e = 0.05$, yielding $n =$ approximately 303. Respondents were selected using stratified random sampling technique, with each university constituting a stratum to ensure proportional representation across the three institutions, with UNIPORT contributing 143, RSU contributing 99, and IAUE contributing 61 respondents. The instrument for data collection was a structured, researcher-designed questionnaire titled the "Digital Literacy and Information Management Competencies Questionnaire (DLIMCQ)," comprising three sections: Section A elicited demographic information; Section B contained 20 items measuring digital literacy competencies on a five-point Likert scale ranging from 1 (Very Low) to 5 (Very High); and Section C contained 20 items measuring information management competencies across the two criterion variable dimensions of records management efficiency (10 items) and knowledge organisation performance (10 items) on the same scale. The instrument was validated by three experts in Office and Information Management and Information Science at the University of Port Harcourt and Rivers State University, whose feedback was

incorporated into the final version. Reliability was established through a pilot test with 30 administrative staff from the Federal University of Environment Technology, Port Harcourt, who were not part of the main study; the Cronbach alpha reliability coefficient was computed at .87 for the entire instrument, with subscale coefficients of .85 (digital literacy), .83 (records management efficiency), and .81 (knowledge organisation performance), all exceeding Nunnally and Bernstein's (1994) recommended threshold of .70. Copies of the questionnaire were administered personally by the researchers with the assistance of two trained research assistants, achieving a response rate of 96.7% (293 usable questionnaires from the 303 distributed). Data were analysed using descriptive statistics (mean and standard deviation) for research questions and inferential statistics comprising Pearson Product Moment Correlation Coefficient for bivariate relationships and simple linear regression analysis for hypothesis testing, both at the 0.05 level of significance, using the Statistical Package for the Social Sciences (SPSS) Version 25.

RESULTS

Hypothesis One

H₀₁: Digital literacy competencies do not significantly predict records management efficiency of administrative personnel in public universities in Rivers State, Nigeria.

Table 1

Simple Linear Regression of Digital Literacy Competencies on Records Management Efficiency (N = 293)

Model Summary	R	R Square	Adjusted Square	R	Std. Error of Estimate
1	.612	.375	.372		4.821

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	4,012.34	1	4,012.34	172.45	.000b
Residual	6,687.91	291	22.98		
Total	10,700.25	292			

Coefficients

Model	B (Unstandardised)	Std. Error	Beta (Standardised)	t	Sig.
(Constant)	12.341	2.114		5.838	.000
Digital Literacy Competencies	.624	.047	.612	13.132	.000

Dependent Variable: Records Management Efficiency; R = .612; R² = .375; F(1, 291) = 172.45; p = .000.

Table 1 presents the results of the simple linear regression analysis conducted to test the first null hypothesis. The model summary shows that digital literacy competencies had a strong positive relationship with records management efficiency (R = .612). The coefficient of determination (R² = .375) indicates that digital literacy competencies accounted for 37.5 per cent of the variance in records management efficiency scores among the administrative personnel sampled. The ANOVA results confirm the overall statistical significance of the regression model (F(1, 291) = 172.45, p = .000 < .05), indicating that the regression model was a significantly better predictor of records management efficiency than a model with no predictor. The coefficients table shows that the unstandardised regression coefficient for digital literacy competencies (B = .624, t = 13.132, p =

.000) was positive and statistically significant, indicating that for every unit increase in digital literacy competency scores, records management efficiency scores increased by approximately .624 units. The standardised coefficient (Beta = .612) confirms the substantial positive predictive weight of digital literacy competencies on records management efficiency. Since the p-value (.000) was less than the 0.05 significance level, the first null hypothesis (H_{01}) was rejected. This means that digital literacy competencies significantly predict records management efficiency of administrative personnel in public universities in Rivers State, Nigeria.

Hypothesis Two

H₀₂: Digital literacy competencies do not significantly predict knowledge organisation performance of administrative personnel in public universities in Rivers State, Nigeria.

Table 2

Simple Linear Regression of Digital Literacy Competencies on Knowledge Organisation Performance (N = 293)

Model Summary	R	R Square	Adjusted Square	R	Std. Error of Estimate
1	.581	.338	.335		5.106

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	3,752.18	1	3,752.18	143.96	.000b
Residual	7,583.14	291	26.06		
Total	11,335.32	292			

Coefficients

Model	B (Unstandardised)	Std. Error	Beta (Standardised)	t	Sig.
(Constant)	10.872	2.301		4.725	.000
Digital Literacy Competencies	.597	.050	.581	11.998	.000

Dependent Variable: Knowledge Organisation Performance; R = .581; R² = .338; F(1, 291) = 143.96; p = .000.

Table 2 presents the results of the simple linear regression analysis conducted to test the second null hypothesis. The model summary shows that digital literacy competencies had a strong positive relationship with knowledge organisation performance (R = .581). The coefficient of determination (R² = .338) indicates that digital literacy competencies explained 33.8 per cent of the variance in knowledge organisation performance scores among the respondents. The ANOVA results confirm the overall statistical significance of the regression model (F(1, 291) = 143.96, p = .000 < .05). The coefficients table shows that the unstandardised regression coefficient for digital literacy competencies (B = .597, t = 11.998, p = .000) was positive and statistically significant, indicating that for every unit increase in digital literacy competency scores, knowledge organisation performance scores increased by approximately .597 units. The standardised coefficient (Beta = .581) indicates a substantial positive predictive weight of digital literacy competencies on knowledge organisation performance. Since the p-value (.000) was less than the 0.05 significance level, the second null hypothesis (H_{02}) was also rejected. This means that digital literacy competencies

significantly predict knowledge organisation performance of administrative personnel in public universities in Rivers State, Nigeria.

Discussion of Findings

The finding from Hypothesis One, which revealed that digital literacy competencies significantly predicted records management efficiency ($R = .612$, $R^2 = .375$, $p < .05$) of administrative personnel in public universities in Rivers State, Nigeria, is consistent with a substantial body of empirical literature on the relationship between digital competency and records management performance in the Nigerian and African university context. This finding is directly supported by Alikornwo et al. (2026), who established in the Rivers State government MDA context that records automation significantly predicted information accessibility ($r = 0.652$, $p < .05$) and data security ($r = 0.590$, $p < .05$), demonstrating that digital records competency is a critical enabler of information management outcomes in public sector organisations within the same geo-political context. The finding is further corroborated by Nweke and Wosu (2022), who demonstrated a significant relationship between electronic records capacity and institutional administration in Rivers State educational tertiary institutions, and by Ikemiti et al. (2025), who found that digital competence significantly mitigated administrative challenges related to records accuracy and data security in Akwa Ibom State universities. Eze et al. (2020) also provided supporting evidence from the South-East Nigerian context, demonstrating that digital literacy skills significantly predicted job performance ($R^2 = .387$, $p < .05$) among OTM graduates, with information literacy and technical skills as the most significant predictors. From an African regional perspective, the finding resonates with Kemoni and Ngulube (2008) and Akussah (2016), both of which established digital competency as a significant predictor of records management performance in Kenyan and Ghanaian public sector institutions respectively. The theoretical coherence of this finding with TAM (Davis, 1989; Venkatesh & Davis, 2000) is noteworthy: the positive predictive relationship between digital literacy and records management efficiency reflects the TAM proposition that individuals with greater digital competency are more likely to perceive digital records management tools as useful and accessible, thereby adopting and using these tools more effectively. Furthermore, the result aligns with Information Literacy Theory (Zurkowski, 1974; Bruce, 1997), which posits that the ability to locate, evaluate, organise, and use information effectively is a fundamental competency for professional performance in information-intensive roles such as university administration. The practical implication, as Alikornwo et al. (2025) and Nweke and Wosu (2022) have underscored, is that targeted digital literacy training programmes specifically designed to enhance records management-related digital competencies can yield measurable improvements in the records management efficiency of administrative personnel in Rivers State public universities.

The finding from Hypothesis Two, which established that digital literacy competencies significantly predicted knowledge organisation performance ($R = .581$, $R^2 = .338$, $p < .05$) of administrative personnel in public universities in Rivers State, Nigeria, is equally consistent with the extant literature on digital literacy and information management in the Nigerian university context. This finding resonates with Alikornwo et al. (2026), who reported that digital filing systems, a core knowledge organisation tool, had a significant positive relationship with information management success in Rivers State public sector organisations, and with Oguejiofor and Umeh (2016), who demonstrated that database management competencies were the most critically needed for effective knowledge organisation and retrieval among South-South Nigerian university administrative staff. The finding also converges with the results of Popoola (2012), who demonstrated that information literacy competency significantly predicted job performance among administrative and library staff in Nigerian federal universities ($\text{Beta} = .374$, $p < .05$), particularly through the mechanism of

knowledge organisation and retrieval skills. Uzuegbu and Nwosu (2015) further corroborated this pattern in their finding that information literacy skills had a significant positive relationship with the quality of information services ($r = .523, p < .05$), emphasising knowledge organisation as a critical mediating competency. From a theoretical standpoint, the finding is coherent with both TAM (Venkatesh & Davis, 2000) and Information Literacy Theory (Bruce, 1997), which together suggest that higher digital literacy competency enables administrative staff to perceive digital knowledge organisation tools as useful and manageable, facilitating their adoption and effective use. The slightly lower R^2 value for knowledge organisation performance (.338) compared to records management efficiency (.375) may be attributable to the greater complexity and contextual embeddedness of knowledge organisation tasks, which are more heavily influenced by institutional culture, tacit knowledge, and managerial context than by individual digital competency alone, as suggested by Hjørland (2008) and Choo (2002). Nwaomah (2015) and Emiri et al. (2024) provide additional explanatory context, noting that the gap between digital literacy knowledge and actual digital practice, which appears to be greater for complex knowledge organisation activities than for routine records management tasks, may account for part of the variance unexplained by the regression model.

CONCLUSION AND RECOMMENDATIONS

This study investigated the relationship between digital literacy competencies and information management competencies, operationalised as records management efficiency and knowledge organisation performance, of administrative personnel in public universities in Rivers State, Nigeria. The findings unambiguously establish that digital literacy competencies are significant and positive predictors of both records management efficiency and knowledge organisation performance, accounting for 37.5 per cent and 33.8 per cent of the variance in these criterion variables respectively. These findings confirm that the persistent information management challenges documented in Rivers State public universities are substantially attributable to inadequate digital literacy competencies among administrative personnel, and that targeted interventions addressing these competency gaps have strong empirical support for improving information management outcomes. The study, therefore, concludes that digital literacy is a critical determinant of administrative information management performance in the Nigerian public university system, and that addressing digital literacy gaps among administrative personnel is a strategic imperative for improving university administration in Rivers State and Nigeria more broadly, consistent with the broader evidence base established by Alikornwo et al. (2025, 2026), Nweke and Wosu (2022), and the international literature on digital competency and records management (Kemoni & Ngulube, 2008; Akussah, 2016; Mutula & Wamukoya, 2009).

Based on the findings of this study, the following recommendations are offered:

1. University administrations in Rivers State should institutionalise periodic, structured digital literacy training programmes for all categories of administrative personnel, with particular emphasis on electronic records management, database administration, knowledge organisation and classification, digital filing systems, and the use of enterprise resource planning (ERP) software deployed in their respective institutions.
2. The Federal and Rivers State governments should invest strategically in the procurement, maintenance, and upgrade of digital information management infrastructure in public universities, including integrated electronic records management systems, digital archiving platforms, and knowledge management portals, to provide the technological environment within which digitally literate administrative staff can optimally deploy their competencies.

3. The National Universities Commission (NUC) should develop and enforce minimum digital literacy competency standards for the appointment and promotion of administrative personnel in Nigerian public universities, aligning these standards with international benchmarks such as the DigCompEdu framework.
4. Individual university departments should conduct regular digital literacy competency assessments of their administrative staff to identify specific skill gaps and design targeted intervention programmes that address these gaps in a cost-effective and sustainable manner, drawing on the competency assessment methodologies applied in studies such as those by Ikemiti et al. (2025) and Adenekan and Jimoh (2021).

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