Adoption of Human Resource Information System among Small and Medium Scale Enterprises in Nigeria: A Review of Literature

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Abstract

This paper investigates the adoption of Human Resource Information Systems (HRIS) among Small and Medium Scale Enterprises (SMEs) in Nigeria, aiming to identify its benefits, explore factors hindering adoption, and propose recommendations for overcoming barriers. Through a comprehensive review of existing literature, the study examines the purpose and objectives of HRIS adoption, utilising theoretical frameworks such as the Resource-Based View and Diffusion of Innovation Theory to contextualise the analysis. Findings reveal significant benefits of HRIS adoption for SMEs, including enhanced efficiency, improved decision-making, and increased competitiveness, while also highlighting challenges such as financial constraints, lack of awareness, and technological infrastructure limitations. The conclusion emphasises the importance of targeted interventions to promote HRIS adoption, recommending strategies such as awareness campaigns, financial support, infrastructure development, training programs, and collaboration initiatives to facilitate SMEs' uptake of HRIS and unlock their potential for sustainable growth and development in Nigeria's dynamic business landscape.

Keywords Human resource information system, small and medium scale enterprise, performance evaluation, resistance to change, resource allocation

Introduction

In the contemporary business landscape, organisations worldwide are compelled to continually seek resource information system, small and medium scale enterprise, performance evaluation, resistance to change, resource allocation innovative practices to maintain competitiveness and ensure sustained growth (Asfahani, 2024). Amidst this pursuit, the adoption of Human Resource Information Systems (HRIS) emerges as a prominent solution (Laudon & Laudon, 2016; Kavanagh & Johnson, 2017; Manroop, Malik, & Milner, 2024). HRIS represents an integrated system designed to manage various HR functions and processes efficiently through the use of technology (Ilamosi & Oluyinka, 2020). Key elements of HRIS include databases for storing employee information, modules for managing payroll, recruitment, training, performance evaluation, and self-service portals for employees (Laudon & Laudon, 2016).

The integration of HRIS offers multifaceted benefits to organisations, enabling them to streamline HR processes, enhance data accuracy, facilitate decision-making, and improve overall organisational performance (Raza, Syeda & Sajid, 2012). Particularly for Small and Medium Scale Enterprises (SMEs), the adoption of HRIS presents an opportunity to gain a competitive edge over counterparts that rely solely on traditional HR management approaches. By leveraging HRIS technology, SMEs can efficiently manage their human capital, optimise resource allocation, and adapt to dynamic market conditions with agility (Ulrich, 2013).

Despite the evident advantages of HRIS adoption, the literature reveals a dearth of studies examining the extent to which SMEs in Nigeria have embraced this technology. This gap is significant considering the pivotal role SMEs play in the Nigerian economy and the potential impact of HRIS adoption on their operational efficiency and competitiveness. Therefore, this paper aims to address this gap by identifying the benefits of HRIS adoption for SMEs and exploring the factors hindering its slow adoption within the Nigerian context.

Literature Review

Theoretical Framework

This study is underpinned on two theories namely diffusion of innovation and resource-based view theories. They are discussed below.

Diffusion of Innovation Theory

The diffusion of innovation theory was proposed by Rogers (1962). The theory posits that the adoption of new technologies or innovations follows a predictable pattern characterised by the diffusion process. Rogers identified five key stages in the diffusion process: knowledge, persuasion, decision, implementation, and confirmation. Moreover, the theory introduces the concept of adopter categories, categorising individuals based on their innovativeness: innovators, early adopters, early majority, late majority, and laggards (Chintalapati, 2021). These adopter categories exhibit varying degrees of readiness and willingness to adopt new innovations based on their risk tolerance, social networks, and exposure to information (Chintalapati, 2021).

SMEs may exhibit varying degrees of readiness and willingness to adopt HRIS based on their position within the adopter categories identified by the Diffusion of Innovation Theory. Innovators and early adopters, characterised by their openness to risk and eagerness to embrace new technologies, are more likely to experiment with HRIS adoption and serve as early proponents within the SME community. In contrast, the early majority, late majority, and laggards may require additional persuasion and reassurance before committing to HRIS adoption, as they tend to prioritise stability and proven solutions over innovation.

Resource Based View:

The resource-based view (RBV) was introduced by Barney (1991). The theory emphasises the role of internal resources and capabilities as sources of competitive advantage and sustained performance. According to RBV, firms possess unique bundles of resources that are heterogeneous, immobile, and imperfectly imitable, thereby enabling them to achieve sustainable competitive advantages (Barney, 1991). Resources are classified into tangible assets (e.g., physical infrastructure, financial capital) and intangible assets (e.g., human capital, intellectual property), with the latter often serving as primary sources of competitive advantage (Nkem & Oluchukwu, 2024).

In the context of HRIS adoption among SMEs, the RBV offers insights into the role of internal resources and capabilities in shaping adoption decisions and outcomes. SMEs with abundant human capital, technological infrastructure, and organisational readiness are better positioned to adopt HRIS effectively and derive maximum value from this technology-driven solution. By leveraging their internal resources,

SMEs can overcome barriers to HRIS adoption such as financial constraints, technological limitations, and resistance to change, thereby enhancing their competitiveness and long-term viability in the marketplace.

Conceptual Review

Human Resource Information System

The concept of Human Resource Information System (HRIS) has been defined in various ways within the academic literature. One perspective posits HRIS as "a systematic procedure for collecting, storing, maintaining, retrieving, and validating data needed by an organisation about its human resources, personnel activities, and organisation unit characteristics" (Kavanagh & Thite, 2009, p. 38). From this definition, it is evident that HRIS serves as a comprehensive information system tailored specifically to manage various aspects of human resources within an organisation, encompassing data collection, storage, and retrieval functionalities.

Another definition characterises HRIS as "a technology-based system used to acquire, store, manipulate, analyze, retrieve, and distribute pertinent information about an organisation's human resources" (Gómez-Mejía et al., 2016, p. 227). This definition emphasises the technological underpinning of HRIS, highlighting its role in leveraging technology to facilitate the management and utilisation of human capital within an organisational context. Thus, HRIS can be understood as a digital platform that integrates diverse HR functions and processes to enhance efficiency and effectiveness.

Additionally, HRIS can be conceptualised as "a software solution that centralises, streamlines, and automates HR-related processes, ranging from recruitment and onboarding to performance management and payroll" (Dessler, 2015, p. 9). This definition underscores the software aspect of HRIS, emphasising its role as a tool for automating and optimising HR processes across the employee lifecycle. By centralising HR-related data and activities, HRIS enables organisations to achieve greater consistency, accuracy, and timeliness in their HR operations.

In essence, HRIS represents a sophisticated information management system specifically tailored to meet the unique needs of human resource management within organisations. By leveraging technology, HRIS streamlines HR processes, enhances data accuracy, facilitates decision-making, and empowers HR practitioners to strategically manage the organisation's human capital for improved organisational performance.

Elements of Human Resource Information System

The Human Resource Information System (HRIS) comprises several key elements that collectively facilitate the management of human resources within an organisation. One fundamental element of HRIS is the database, which serves as the foundational repository for storing and organising employee information, including personal details, employment history, skills, and qualifications (Laudon & Laudon, 2016). The database component of HRIS ensures the centralised storage and easy retrieval of HR-related data, enabling HR practitioners to access accurate and up-to-date information for decision-making and reporting purposes.

Another essential element of HRIS is the modules or functionalities that cater to various HR processes and functions. These modules typically include components for recruitment, onboarding, performance management, training and development, payroll processing, and employee self-service (Dessler, 2015).

Each module within HRIS is designed to automate and streamline specific HR tasks, thereby enhancing efficiency, reducing administrative burden, and improving overall HR service delivery within the organisation.

Furthermore, HRIS incorporates reporting and analytics capabilities, allowing organisations to generate insightful reports and analyze HR-related data to derive actionable insights (Kavanagh & Thite, 2009). Through advanced reporting features, HRIS enables organisations to track key HR metrics, monitor workforce trends, and assess the effectiveness of HR programs and initiatives (Raza et al., 2012). By leveraging analytics, organisations can make data-driven decisions to optimise HR strategies, improve employee performance, and drive organisational success (Ilamosi & Oluyinka, 2020).

Moreover, HRIS often includes self-service portals and mobile applications that empower employees to access HR-related information and perform certain tasks independently (Ngai, Law & Wat, 2008). Self-service functionalities enable employees to update personal information, view pay stubs, request time off, and access training resources conveniently, thereby reducing dependency on HR personnel and enhancing employee engagement and satisfaction. Additionally, self-service portals foster a culture of transparency and communication within the organisation, as employees have direct access to relevant HR information and resources.

However, it is important to recognise that the successful implementation and utilisation of HRIS require adequate support and training for users within the organisation. HRIS implementation typically involves comprehensive training programs to familiarise HR practitioners, managers, and employees with the system's functionalities and best practices (Laudon & Laudon, 2016). Moreover, ongoing technical support and system maintenance are essential to ensure the smooth operation and optimisation of HRIS within the organisation.

Databases: Databases within a Human Resource Information System (HRIS) serve as the foundational repository for storing and organising employee information (Asfahani, 2024). These databases contain comprehensive records of employee data, including personal details, employment history, skills, qualifications, and performance evaluations (Manroop et al., 2024). By centralising employee information in a secure and structured manner, HRIS databases facilitate efficient data management, retrieval, and reporting for HR practitioners. Moreover, databases ensure data accuracy and integrity by minimising errors and redundancies in employee records, thereby enhancing the reliability and credibility of HR information within the organisation.

Modules: HRIS typically includes specialised modules or functionalities designed to manage various HR processes and functions (Hussein & Ghorbel, 2024). These modules encompass key areas such as payroll processing, recruitment, training and development, and performance evaluation (Hussein & Ghorbel, 2024; Nkem & Oluchukwu, 2024). Payroll modules automate the calculation of employee salaries, deductions, and taxes, streamlining the payroll administration process and ensuring compliance with regulatory requirements. Recruitment modules facilitate the sourcing, screening, and selection of candidates, thereby optimising the recruitment process and improving hiring outcomes. Training modules enable organisations to plan, deliver, and track employee training and development initiatives, fostering continuous learning and skill enhancement (Inc., 2020). Performance evaluation modules facilitate the assessment of employee performance against predefined goals and objectives, providing valuable insights for performance management and career development decisions.

Self-Service Portals: Self-service portals represent a key feature of HRIS that empowers employees to access HR-related information and perform certain tasks independently (Nkem & Oluchukwu, 2024). These portals provide employees with convenient access to a range of HR services, including updating personal information, viewing pay stubs, requesting time off, and accessing training resources. As explained by Nkem and Oluchukwu, (2024), by enabling self-service functionalities, HRIS reduces dependency on HR personnel, enhances employee autonomy, and improves overall efficiency in HR service delivery. Moreover, self-service portals foster a culture of transparency and communication within the organisation, as employees have direct access to relevant HR information and resources, fostering employee engagement and satisfaction.

Reporting and Analytics Capabilities: HRIS incorporates robust reporting and analytics capabilities, allowing organisations to generate insightful reports and analyze HR-related data to derive actionable insights (Shabongo & Phiri, 2024). Reporting features enable HR practitioners and organisational leaders to track key HR metrics, monitor workforce trends, and assess the effectiveness of HR programs and initiatives. Advanced analytics functionalities enable organisations to conduct predictive modeling, identify patterns, and forecast future HR trends, enabling proactive decision-making and strategic planning (Shabongo & Phiri, 2024). By leveraging reporting and analytics capabilities, HRIS empowers organisations to make data-driven decisions, optimise HR strategies, and drive organisational performance.

Compliance Management Tools: HRIS often includes compliance management tools designed to ensure adherence to regulatory requirements and industry standards governing HR practices (Jain & Sharma, 2024). These tools help organisations maintain compliance with laws and regulations related to employment, labor, and data protection. Compliance management functionalities within HRIS enable organisations to automate compliance-related processes, track regulatory changes, and generate compliance reports (Jain & Sharma, 2024).

Employee Performance Management Systems: HRIS may incorporate employee performance management systems that facilitate the planning, monitoring, and evaluation of employee performance (Varsha & Shree, 2023). These systems enable organisations to set performance goals, provide ongoing feedback, and conduct performance appraisals systematically (Zeidan & Itani, 2020). Performance management functionalities within HRIS support the identification of high performers, the alignment of individual goals with organisational objectives, and the implementation of performance improvement plans. By promoting transparency and accountability in performance management processes, HRIS enhances employee engagement, fosters a culture of continuous feedback and development, and contributes to organisational success.

Benefits of Human Resource Information System to Small and Medium Scale Entreprises in Nigeria

The adoption of Human Resource Information Systems (HRIS) offers numerous potential benefits to Small and Medium Scale Enterprises (SMEs) across various facets of their operations. One significant advantage lies in the enhanced efficiency and effectiveness of HR processes facilitated by HRIS. By automating routine tasks such as payroll processing, leave management, and employee data management, HRIS enables SMEs to streamline their HR operations, reduce administrative burden, and allocate resources more strategically (Ngai et al., 2008). This efficiency gain translates into cost savings and allows HR personnel to focus on value-added activities such as talent development and performance management.

Furthermore, HRIS empowers SMEs with improved decision-making capabilities through access to real-time, accurate HR data and analytics. By centralising employee information and generating insightful reports on key HR metrics, such as employee turnover rates, training needs, and performance evaluations, HRIS enables SMEs to make data-driven decisions to enhance workforce productivity and organisational performance (Kavanagh & Thite, 2009). This analytical capability is particularly valuable for SMEs operating in dynamic and competitive environments, enabling them to adapt swiftly to changing market conditions and align HR strategies with organisational goals.

Moreover, HRIS enhances organisational communication and collaboration by providing employees with self-service portals and mobile applications for accessing HR-related information and completing tasks conveniently. Through self-service functionalities, employees can update personal information, submit leave requests, and access company policies and procedures, thereby reducing dependency on HR personnel and fostering a culture of employee empowerment and engagement (Dessler, 2015). This increased transparency and accessibility contribute to a more positive employee experience, which in turn, enhances employee satisfaction, retention, and organisational performance.

However, it is essential to acknowledge that the successful implementation and utilisation of HRIS in SMEs may pose certain challenges. Limited financial resources and technical expertise often hinder SMEs from investing in sophisticated HRIS solutions and leveraging their full potential (Laudon & Laudon, 2016). Additionally, resistance to change among employees and organisational leaders may impede the adoption and acceptance of HRIS within SMEs, necessitating comprehensive change management strategies and stakeholder engagement efforts (Ngai et al., 2008). Moreover, concerns regarding data security, privacy, and compliance may arise, particularly in contexts where regulations governing the handling of sensitive employee information are stringent.

Factors Responsible for the Slow Adoption of HRIS in Small and Medium Scale Entreprises in Nigeria

The slow adoption of Human Resource Information Systems (HRIS) among Small and Medium Scale Enterprises (SMEs) in Nigeria can be attributed to several factors, which collectively contribute to the reluctance or inability of SMEs to embrace this technology-driven solution. Firstly, financial constraints represent a significant barrier to HRIS adoption for many SMEs in Nigeria. Limited financial resources often hinder SMEs from investing in the acquisition, implementation, and maintenance of HRIS software and infrastructure. The high upfront costs associated with purchasing HRIS solutions, coupled with ongoing expenses for customisation, training, and technical support, pose a considerable financial burden on SMEs, particularly those operating on tight budgets (Olawale & Garwe, 2010). Consequently, many SMEs may perceive HRIS adoption as a cost-prohibitive endeavor, deterring them from exploring this technology-driven solution.

Secondly, the lack of awareness and understanding about the benefits and functionalities of HRIS among SME owners and managers contributes to the slow adoption of this technology. In Nigeria, where SMEs constitute a significant portion of the business landscape, there is often a lack of awareness about the potential advantages of HRIS in streamlining HR processes, enhancing data accuracy, and improving decision-making (Aguinis & Lawal, 2012). Moreover, misconceptions and myths about the complexity and relevance of HRIS to SMEs may further deter adoption efforts. Without adequate knowledge and education

about the value proposition of HRIS, SMEs may continue to rely on traditional, manual HR management approaches, thereby perpetuating the slow adoption of HRIS within the sector.

Thirdly, technological infrastructure and readiness pose considerable challenges to HRIS adoption among SMEs in Nigeria. Inadequate access to reliable internet connectivity, electricity, and technological infrastructure in many regions of the country impedes the implementation and utilisation of HRIS solutions (Olawale & Garwe, 2010). The lack of robust IT infrastructure hampers the seamless integration and operation of HRIS software, limiting SMEs' ability to leverage the full potential of this technology. Moreover, concerns about data security, privacy, and confidentiality may arise in the absence of robust cybersecurity measures, further exacerbating SMEs' reluctance to adopt HRIS.

Fourthly, resistance to change within organisational culture represents a significant barrier to HRIS adoption in SMEs. In many cases, employees and organisational leaders may be resistant to embracing new technologies and processes, fearing job displacement, loss of control, or disruptions to established workflows (Aguinis & Lawal, 2012). Resistance to change may manifest in various forms, including skepticism, inertia, or outright opposition to HRIS implementation initiatives. Without proactive change management strategies and efforts to engage stakeholders, SMEs may struggle to overcome resistance and foster a culture of innovation conducive to HRIS adoption.

Lastly, the lack of skilled human capital and expertise in HRIS implementation and utilisation poses challenges to SMEs in Nigeria. SMEs may lack the internal capabilities and technical expertise required to effectively deploy, customise, and maintain HRIS solutions (Olawale & Garwe, 2010). The scarcity of qualified IT professionals and HR practitioners with specialised knowledge of HRIS further compounds this challenge. As a result, SMEs may face difficulties in navigating the complexities of HRIS implementation, troubleshooting technical issues, and maximising the value derived from this technology-driven solution.

Conclusion

This paper highlights the significant benefits of HRIS adoption for SMEs in Nigeria, while also shedding light on the factors hindering its slow adoption within the Nigerian context. The benefits of HRIS adoption for SMEs include enhanced efficiency in HR processes, improved decision-making capabilities through access to real-time data and analytics, and increased employee engagement and satisfaction through self-service functionalities. Moreover, HRIS adoption has the potential to contribute to organisational competitiveness, sustainability, and growth by streamlining HR operations and optimising human capital management practices.

However, the slow adoption of HRIS among SMEs in Nigeria can be attributed to financial constraints, lack of awareness, technological infrastructure challenges, resistance to change, and skills shortages. Addressing these factors requires concerted efforts from policymakers, industry stakeholders, and SME owners to promote awareness, improve technological infrastructure, foster a culture of innovation, and invest in human capital development initiatives tailored to HRIS implementation and utilisation.

From the perspective of the RBV, HRIS adoption represents an opportunity for SMEs to leverage their internal resources and capabilities to achieve sustainable competitive advantages. By investing in strategic resources such as skilled human capital, technological infrastructure, and innovative processes, SMEs can enhance their organisational capabilities and position themselves for long-term success in the marketplace.

HRIS serves as a strategic tool for SMEs to harness their internal resources effectively, streamline HR processes, and enhance their overall competitiveness within the Nigerian business landscape.

Furthermore, the diffusion of innovation theory offers insights into the adoption dynamics of HRIS within SMEs in Nigeria. The theory suggests that the adoption of HRIS follows a predictable pattern characterised by the diffusion process, with SMEs transitioning through stages of knowledge dissemination, persuasion, decision-making, implementation, and confirmation. Understanding the adopter categories identified by the theory can inform strategies for promoting HRIS adoption among SMEs, targeting early adopters and influencers to drive diffusion within the SME community. By applying principles from the Diffusion of Innovation Theory, policymakers, industry stakeholders, and HR practitioners can accelerate the adoption of HRIS and promote innovation within the Nigerian SME sector.

Based on the findings the following recommendations are proposed:

1. Invest in Awareness and Education Campaigns: Develop and implement targeted awareness and education campaigns to increase SME owners' and managers' understanding of the benefits and functionalities of HRIS. Collaborate with industry associations, government agencies, and academic institutions to organise workshops, seminars, and training sessions focused on HRIS adoption best practices, case studies, and success stories. By raising awareness and enhancing knowledge about HRIS, SMEs can make informed decisions and overcome misconceptions or skepticism that may hinder adoption efforts.
2. Facilitate Access to Financial Support: Explore avenues to provide financial support and incentives to SMEs for investing in HRIS adoption. Establish funding programs, grants, or subsidies specifically tailored to assist SMEs in acquiring, implementing, and maintaining HRIS solutions. Collaborate with financial institutions, development agencies, and private sector partners to develop flexible financing options and favorable terms for SMEs seeking to invest in HRIS. Access to affordable financing can alleviate financial constraints and encourage SMEs to embrace HRIS as a strategic investment in their long-term competitiveness and sustainability.
3. Strengthen Technological Infrastructure: Address technological infrastructure challenges by investing in the expansion and improvement of broadband internet connectivity, electricity supply, and IT infrastructure across Nigeria. Collaborate with telecommunications providers, utilities, and government agencies to enhance infrastructure development initiatives, particularly in underserved rural areas where SMEs may face greater limitations. By improving access to reliable technology infrastructure, SMEs can overcome barriers to HRIS adoption and fully leverage the capabilities of digital solutions to enhance their HR management practices.
4. Provide Training and Capacity Building: Develop comprehensive training and capacity-building programs to equip SME owners, managers, and employees with the skills and knowledge required to effectively utilise HRIS. Offer hands-on training sessions, workshops, and online courses covering various aspects of HRIS implementation, customisation, and utilisation. Collaborate with HRIS vendors, industry experts, and academic institutions to develop tailored training materials and certification programs aligned with SMEs' needs and capabilities. By investing in human capital development, SMEs can enhance their organisational readiness and competence in adopting and maximising the benefits of HRIS.
5. Foster Collaboration and Knowledge Sharing: Facilitate collaboration and knowledge sharing among SMEs, HR practitioners, policymakers, and industry stakeholders to exchange experiences,

insights, and best practices related to HRIS adoption. Establish platforms, forums, and online communities where SMEs can connect, collaborate, and learn from each other's experiences with HRIS implementation. Encourage the formation of industry clusters, consortia, or alliances focused on promoting HRIS adoption and innovation within the SME sector. By fostering a culture of collaboration and knowledge sharing, SMEs can leverage collective expertise and resources to overcome common challenges and drive continuous improvement in HR management practices.

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