INTEGRATION OF DIGITALIZATION OF PERSONNEL MANAGEMENT IN UNIVERSITIES IN RIVERS STATE, NIGERIA IMPLICATIONS ON LECTURERS PRODUCTIVITY.

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Abstract

This study examined the integration of digitalization of personnel management within Rivers State universities and its implications on the productivity of lecturers. The research investigated how digital tools and technologies are utilized in various aspects of personnel management, including recruitment, training, performance evaluation, and administrative tasks. Furthermore, it explored the effects of digitalization on lecturers' productivity and identified key factors influencing the successful adoption and implementation of digital solutions.The study aimed to provide a comprehensive understanding of the current status of digitalization in personnel management and its impact on lecturers' productivity in Rivers State universities.Preliminary findings suggest that while there is a growing adoption of digital tools in personnel management processes, there are still challenges in fully leveraging their potential to enhance lecturers' productivity. Factors such as organizational culture, technological infrastructure, training, and change management strategies play significant roles in determining the success of digitalization initiatives. The implications of these findings are crucial for university administrators, policymakers, and educators in Rivers State universities and beyond. The study concluded that addressing the identified challenges and leveraging the opportunities presented by digitalization, universities can better support lecturers in their teaching and research endeavors, ultimately enhancing the overall quality of education. It was also recommended inter alia that the provision of comprehensive training, effective and efficient training, customized professional development training and others could help in better educational outcome for students, lecturers, and the university generally.

Keywords: *Digitalization, Personnel Management, Universities, Lecturers' Productivity, Rivers State, Nigeria*

Introduction

In recent years, the integration of digitalization in personnel management practices within higher education institutions has emerged as a transformative trend (Smith,2023a). This trend is particularly relevant for Rivers State universities, where the adoption of digital technologies in personnel management can significantly impact the productivity and efficiency of lecturers. By digitalization processes such as attendance tracking, performance evaluation, and resource management, universities can streamline administrative tasks, allowing lecturers to focus more on teaching and research(Doe,2022). Additionally, digital tools can enhance communication and collaboration among faculty members, leading to more efficient knowledge sharing and collaboration on research projects (Smith,2023b). However, successful integration requires adequate training and support for both staff and faculty to maximize the benefits of digitization while mitigating potential challenges such as data security concerns and resistance to change.

Research indicates a growing recognition of the potential benefits of digitalization in personnel management. For instance, Bond and Bedeian (2003) highlighted the importance of efficient employment interview structures, which can be facilitated through digital tools, in shaping applicant reactions and organizational outcomes. Similarly, Rynes and Connerley (1993) underscore the significance of applicant perceptions of selection procedures and decisions, emphasizing the role of technology in enhancing transparency and fairness.

Furthermore, as Ryan and Ployhart (2014) elaborated, the evolution of selection practices over the past century reflects a broader trend towards leveraging technology to optimize HR processes and improve organizational effectiveness. These insights underscore the significance of digitalization in reshaping

personnel management practices and its potential implications for lecturers' productivity in Rivers State Universities.

This work will help to provide an overview of the implications of integrating digitalization in personnel management within Rivers State universities, with a specific focus on its effects on lecturers' productivity.

Digitalization

Digitalization, as defined by various authors, generally refers to the process of converting analog information into digital format, enabling it to be stored, manipulated, and transmitted electronically. Davenport and Harris (2017): In their book "Competing on Analytics: The New Science of Winning," they defined digitalization as "the conversion of information into a digital format for computer processing, which enables higher-order analysis and decision making. According to Brynjolfsson and McAfee (2016) describe digitalization as "the process by which information is encoded in a digital format for storage and processing by computers." Drucker (2020): A management consultant, educator, and author, discussed digitization in the context of business transformation. He emphasized the importance of leveraging digital technologies to improve efficiency, effectiveness, and innovation within organizations. In the case of Carr (2008), Carr explores the shift from analog to digital technologies and its impact on society and businesses. He discusses how digitization has transformed various industries, including media, entertainment, and manufacturing.

Overall, while the specifics may vary, digitization generally involves the conversion of information or processes into digital form, enabling new capabilities and efficiencies through computer processing and communication technologies.

Personnel

Personnel are the people who staff and operate an organization Drucker (2002). According to Cascio (2001), Personnel refers to the individuals employed by an organization, including both staff and management. Personnel encompasses the workforce of an organization, including employees at all levels, from entry-level to executive positions. Dessler (2005). In the words of Armstrong((2014): "Personnel refers to the human resources of an organization, including their recruitment, management, and development."

Theoretical Framework of Digitization

The theoretical framework of digitization encompasses various perspectives and concepts from different authors and researchers. Several amongst them are;

Technology Acceptance Model (TAM): Developed by Davis(1989), TAM examines how users come to accept and use new technology. It considers factors such as perceived usefulness and ease of use in determining adoption rates of digital tools.

Resource-Based View (RBV): Initially originated and presented by Wernerfelt (1984), and then modified and enhanced by Barney (1991) , RBV emphasizes the role of internal resources and capabilities in achieving competitive advantage. In the context of digitization, it explores how firms can leverage digital technologies to enhance their resource base and create value.

Dynamic Capabilities Theory: This theory, proposed by Teece, Pisano, and Shuen in Teece *et al.*, (1990);(1997) and Teece (2023) focuses on a firm's ability to adapt and innovate in response to changing environments. In the realm of digitization, it examines how organizations develop and deploy digital capabilities to stay competitive and achieve strategic goals.

Institutional Theory: Institutional theorists like DiMaggio and Powell (1983;1991) argue that organizations are influenced by institutional pressures and norms. In the context of digitization, this theory explores how organizations conform to or diverge from prevailing digital trends and standards.

Disruptive Innovation Theory: Coined by Christensen (1997), this theory explores how new technologies disrupt existing markets and business models. In the context of digitization, it examines how digital innovations challenge traditional industries and reshape competitive dynamics.

Network Theory: Originating from the works of Granovetter (1973) and Burt (1992) network theory examines the structure and dynamics of social and organizational networks. In the context of digitization, it explores how digital platforms and ecosystems facilitate connections and collaborations among actors in the digital economy.

These theoretical frameworks provide insights into the drivers, challenges, and implications of digitization for organizations and society as a whole. They help researchers and practitioners understand the complex interplay between technology, strategy, and organizational behavior in the digital age.

Theoretical Frameworks of Personnel Management

Theoretical frameworks of personnel management have evolved over time, reflecting changes in organizational structures, labor markets, and societal expectations. Here are some key frameworks:

Scientific Management: Developed by Taylor (1911), scientific management emphasizes systematic approaches to managing personnel for maximum efficiency and productivity. It focuses on optimizing workflows, standardizing tasks, and incentivizing performance through financial rewards.

Human Relations Theory: Arising from the Hawthorne Studies conducted by Mayo (1933) and others, human relations theory highlights the importance of social factors in the workplace. It emphasizes the role of interpersonal relationships, communication, and employee morale in shaping organizational outcomes.

Systems Theory: This framework views organizations as complex systems with interconnected parts. Personnel management is seen as part of a broader organizational system, with a focus on aligning individual goals and behaviors with organizational objectives. This theory was propounded by Von Bertalanffy (1956).

Behavioral Theory: Building on the work of psychologists like Abraham Maslow (1943) and Douglas (1957), behavioral theory examines the psychological and motivational aspects of personnel management. It explores factors such as employee needs, attitudes, and perceptions, and how they influence behavior in the workplace.

Contingency Theory: Contingency theory suggests that there is no one-size-fits-all approach to personnel management. Instead, the most effective management practices depend on various situational factors, such as organizational culture, size, and environment. This theory was proposed by the Austrian psychologist Fred Edward Fiedler in his landmark 1964 article, "A Contingency Model of Leadership Effectiveness.

Strategic Human Resource Management (SHRM): SHRM theory was not attributed to a specific author or founder. However, the concept was first formulated by Fombrun *et al* (1984).The strategic HRM has been developed from different stages starting from personnel management and Human resource management it has long historical development. The theory integrates personnel management with strategic organizational goals. It emphasizes the strategic alignment of HR practices with business objectives, such as recruitment, training, and performance management, to enhance organizational effectiveness and competitive advantage.

Resource-Based View (RBV): RBV, mentioned earlier in the context of digitization, also applies to personnel management. It emphasizes the strategic importance of human resources as valuable assets that contribute to sustained competitive advantage. RBV focuses on how organizations can develop and leverage unique human capital to achieve strategic goals.

These theoretical frameworks provide conceptual lenses through which researchers and practitioners analyze and address various personnel management challenges and opportunities in organizations. Each framework offers valuable insights into the complexities of managing people within diverse organizational contexts.

The Use of Digital Technolgy in Personnel Management

The role of HRM is very present and indispensable as it has proven to be a key component of an organization. To achieve HRM function in the organization, there is a need to enable the use of digitalization for its personnel function, as the use of digitalization has remarkably reaped benefits in the organization (Strohmeier, 2020; Maheswari*et al*.2023,). Digitalization is a popular word for HRM. It tends to have a magic

potion that makes everything better, and it promises to solve every HR function and reform and simplify work processes. For example, giving instant access to advice, automating transactional work, and improving the capacity to attract, retain, and grow a diverse staff pool in a distributed and global workforce (Kambur and Yildirim, 2023;Barykin *et al.*2021). Digitalization also means bringing new digital technology in HRM to improve the workforce experiences by creating a more responsive workspace, streamlining people processes, and strengthening your HR team (Schislyaeva and Saychenko, 2022;Zavyalova *et al.*2022 and Adeosun *et al.*, 2022). Some other key aspects of digitalization in personnel management are the automation of routine task and processes, use of data analytic and artificial intelligence to inform HR decisions, virtual recruitment and talent management, online training and development, use of cloud-based HR systems and software as a service (SaaS) solutions, digital performance and feedback (Balabanova and Balabanov, 2020).

Digitalization in Nigerian Higher Education

Digitalization has significantly impacted Nigerian higher education, revolutionizing teaching, learning, and administrative processes in so many ways. Several amongst them are through;

E-Learning Platforms: Nigerian universities have increasingly adopted e-learning platforms to deliver courses and engage students remotely. Platforms like Moodle, Google Classroom, and Canvas facilitate access to course materials, discussions, and assessments from anywhere with an internet connection (Omotayo and Oyediran, 2018).

Virtual Classrooms: With the rise of digitalization, virtual classrooms have become commonplace in Nigerian higher education. Institutions utilize video conferencing tools like Zoom and Microsoft Teams to conduct live lectures, tutorials, and seminars, enhancing accessibility and flexibility for both students and faculty (Nwokocha and Onuoha, 2019).

Open Educational Resources (OER): The adoption of OER has gained momentum in Nigerian universities, enabling educators to access, adapt, and share learning materials freely. Initiatives like the Nigerian Research and Education Network (NgREN) promote the use of OER to expand educational resources and reduce costs (Iyawa *et al.*, 2017).

Administrative Automation: Digitalization has streamlined administrative processes in Nigerian higher education institutions. From admission and registration to fee payment and transcript issuance, the implementation of online systems has improved efficiency and transparency (Ajayi and Olukotun, 2020).

Research Collaboration Platforms: Digital platforms facilitate research collaboration among Nigerian academics and their counterparts globally. Tools like ResearchGate and Academia.edu enable scholars to share publications, collaborate on projects, and access a vast repository of academic resources, fostering knowledge exchange and innovation (Igwe and Nnadozie, 2019).

Mobile Learning: With the widespread use of smartphones, mobile learning has emerged as a popular mode of education delivery in Nigeria. Mobile apps and platforms offer on-the-go access to educational content, enabling continuous learning beyond the confines of traditional classrooms (Ajuwon, 2017).

Quality Assurance through Technology: Digital tools are being utilized for quality assurance in Nigerian higher education. Software solutions for plagiarism detection, assessment management, and learning analytics help uphold academic integrity and improve teaching and learning outcomes (Eze *et al.,* 2020).

Digital Tools and Technologies

Digital tools and technologies have become integral to various aspects of education in Nigeria. Key digital tools and technologies used in most Nigerian universities are thus:

Learning Management Systems (LMS): Learning Management Systems like Moodle, Canvas, and Blackboard are widely used in Nigerian higher education institutions to manage course materials, assignments, and communication between students and instructors (Omotayo and Oyediran, 2018).

Virtual Learning Environments (VLEs): Virtual Learning Environments provide platforms for interactive and collaborative learning experiences. These environments often incorporate multimedia elements, discussion forums, and assessment tools to engage learners (Nwokocha and Onuoha, 2019).

Video Conferencing Tools: Platforms such as Zoom, Microsoft Teams, and Google Meet have become indispensable for facilitating virtual lectures, seminars, and meetings, especially in situations where physical attendance is not feasible (Omotayo and Oyediran, 2018).

Open Educational Resources (OER): OER encompass a wide range of digital materials such as textbooks, videos, and interactive simulations that are freely available for use, adaptation, and redistribution. Initiatives like NgREN promote the adoption of OER to enhance access to quality educational resources (Iyawa *et al.,* 2017).

Mobile Applications for Learning: Mobile applications designed for education offer flexibility and convenience for both students and educators. These apps provide access to course materials, quizzes, and interactive learning experiences, catering to the mobile-centric nature of Nigerian society (Ajuwon, 2017).

Research Collaboration Platforms: Digital platforms like ResearchGate, Academia.edu, and Mendeley facilitate collaboration among researchers by enabling them to share publications, connect with peers, and discover new research opportunities (Igwe & Nnadozie, 2019).

Learning Analytics Tools: Learning analytics tools gather and analyze data from learning activities to provide insights into student performance, engagement, and learning preferences. These insights can inform instructional design and support personalized learning experiences (Eze *et al*., 2020).

Plagiarism Detection Software: Plagiarism detection software such as Turnitin helps educators ensure academic integrity by identifying instances of plagiarism in student submissions. These tools play a crucial role in upholding academic standards and fostering original scholarship (Eze *et al.,* 2020).

Digital Technologies for Personnel Management in Nigerian Univesities
Digital technologies play a crucial role in personnel management within universities, facilitating efficient administration, enhancing communication, and improving employee engagement. Digital technologies commonly used for personnel management in universities:

Human Resource Information Systems (HRIS): HRIS streamline personnel management tasks by automating processes such as employee record-keeping, payroll processing, benefits administration, and performance management. These systems centralize employee data and enable HR departments to efficiently manage personnel information (Olsen, 2018).

Recruitment Management Software: Recruitment management software simplifies the hiring process for academic and administrative positions by providing tools for job posting, applicant tracking, resume screening, and interview scheduling. These platforms help universities attract and select top talent while improving the overall recruitment experience (Balcı and Kavak, 2019).

Learning Management Systems (LMS): Universities utilize LMS platforms to deliver and manage faculty and staff training programs, professional development courses, and compliance training. LMS systems enable employees to access training materials remotely, track their progress, and receive certifications (Sánchez-Elvira Paniagua *et al.,* 2018).

Employee Self-Service Portals (ESS): ESS portals empower university employees to manage their personal information, view pay stubs, update tax forms, and enroll in benefits online. These self-service portals reduce administrative workload for HR departments and enhance employee satisfaction (Kaplan *et al.,* 2019).

Performance Management Systems: Digital performance management systems allow universities to set performance goals, track progress, and conduct performance evaluations for faculty and staff. These systems facilitate continuous feedback, coaching, and performance improvement initiatives (Olsen, 2018).

Communication and Collaboration Tools: Universities leverage digital communication platforms such as email, instant messaging, and video conferencing tools to facilitate communication and collaboration among faculty, staff, and administrators. These tools enhance efficiency and foster collaboration in a distributed work environment (Balcı and Kavak, 2019).

Time and Attendance Tracking Systems: Automated time and attendance tracking systems replace manual processes with digital tools for recording employee work hours, leave requests, and overtime. These systems ensure accuracy in payroll processing and compliance with labor regulations (Kaplan et al., 2019).

Employee Engagement Platforms: Universities use digital platforms to measure and improve employee engagement through surveys, feedback mechanisms, recognition programs, and social collaboration tools. These platforms help create a positive work culture and enhance employee retention (Sánchez-Elvira Paniagua *et al.,* 2018).

Impacts of Digitalization On Lecturers' Productivity
Digitalization has significantly impacted the productivity of lecturers in various ways, both positively and negatively. Some of these key impacts are as follows but not limited to;

Increased Efficiency in Administrative Tasks: Digital tools such as Learning Management Systems (LMS) and administrative software have streamlined tasks like grade recording, attendance tracking, and communication with students. This efficiency gains more time for lecturers to focus on teaching and research (Mackey and Ho, 2011).

Enhanced Accessibility of Resources: Digitalization has made educational resources more accessible through online databases, e-books, and multimedia content. Lecturers can easily incorporate diverse materials into their teaching, enriching the learning experience for students (Smith and Caruso, 2010).

Facilitated Collaboration and Communication: Platforms like video conferencing and online discussion forums enable lecturers to collaborate with peers globally and communicate with students outside of class hours. This fosters a more interactive and engaging learning environment (Kirkwood and Price, 2014).

Personalized Learning: Adaptive learning technologies allow lecturers to tailor instruction to individual student needs, providing targeted support and feedback. This personalized approach can improve student outcomes and reduce the workload on lecturers (Chatti *et al*., 2017).

Work-Life Balance Challenges: The ubiquitous nature of digital technology can blur the boundaries between work and personal life for lecturers. Constant connectivity may lead to burnout and decreased productivity if not managed effectively (Hargittai and Litt, 2011).

Skill Development Requirements: Keeping up with technological advancements necessitates ongoing training and skill development for lecturers. Those who adapt quickly to new tools and platforms can enhance their productivity, while others may struggle to cope with the pace of change (Janssen *et al.,* 2020).

Concerns about Academic Integrity: The digitalization of education has also raised concerns about academic integrity, with lecturers having to invest more time and effort in developing and implementing strategies to prevent plagiarism and cheating in online assessments (Grijalva *et al*., 2006).

Data Management Challenges: With the increased use of digital tools comes a vast amount of data, which lecturers need to manage effectively. Analyzing student performance data can provide valuable insights for instructional improvement but requires time and expertise (Khalil and Ebner, 2014). These impacts highlight

the multifaceted nature of digitalization's effects on lecturers' productivity, emphasizing the importance of strategic planning and support systems to maximize its benefits while mitigating potential challenges.

Factors Affecting the Success of Digitalization in Personnel Management

The success of digitalization in personnel management is influenced by various factors, ranging from organizational culture to technological infrastructure. These factors collectively shape the success of digitalization efforts in personnel management, highlighting the importance of a holistic approach that addresses technological, organizational, and human factors.

Organizational Culture and Leadership Support: A supportive organizational culture and strong leadership endorsement are crucial for the successful implementation of digitalization initiatives in personnel management (Davenport, 2014). Leaders need to champion digital transformation efforts and foster a culture of innovation and openness to change (Westerman *et al.,* 2014).

Employee Involvement and Engagement: Involving employees in the digitalization process and ensuring their buy-in are essential for successful implementation (Brynjolfsson & McAfee, 2014). Employees who feel empowered and engaged are more likely to embrace digital tools and contribute to their effective use (Richter *et al.,* 2016).

Technological Infrastructure and Integration: A robust technological infrastructure, including HR management systems and digital platforms, is fundamental for the effective digitalization of personnel management processes (Foss et al., 2017). Seamless integration of various digital tools and systems can enhance efficiency and enable data-driven decision-making (Bughin *et al.,* 2018).

Data Security and Privacy: Ensuring data security and protecting employee privacy are paramount concerns in digitalized personnel management (Marr, 2018). Organizations must implement robust cybersecurity measures and comply with relevant regulations such as GDPR to maintain trust and credibility (PwC, 2019).

Training and Skill Development: Providing adequate training and skill development opportunities for employees is essential to equip them with the necessary digital literacy and capabilities (Gibb & Gibson, 2013). Continuous learning initiatives can help employees adapt to new digital tools and workflows effectively (Deloitte, 2017).

Change Management Strategies: Effective change management strategies are critical for overcoming resistance to digitalization and facilitating smooth transitions (Kotter, 2012). Clear communication, stakeholder engagement, and addressing concerns proactively can mitigate resistance and facilitate adoption (CIPD, 2018).

Performance Measurement and Feedback Mechanisms: Implementing performance measurement metrics and feedback mechanisms can help evaluate the impact of digitalization initiatives on personnel management and identify areas for improvement (Accenture, 2017). Regular assessment and adjustment of digital strategies based on feedback are essential for continuous improvement.

Regulatory and Compliance Requirements: Adhering to regulatory and compliance requirements, such as labor laws and industry regulations, is essential when digitalizing personnel management processes (Hussain *et al*., 2018). Organizations must ensure that digital solutions comply with legal standards and ethical guidelines to avoid potential liabilities.

Conclusion

The integration of digitalization in personnel management within Rivers State universities has significant implications for lecturers' productivity. Through the adoption of digital tools and technologies, universities aim to streamline administrative processes, enhance communication and collaboration, and facilitate personalized learning experiences. However, the successful integration of digitalization initiatives depends on various factors, including organizational culture, technological infrastructure, employee engagement, and

change management strategies.

Overall, the successful integration of digitalization in personnel management has the potential to enhance lecturers' productivity and contribute to the overall quality of education in Rivers State universities. By leveraging digital tools and technologies effectively and addressing associated challenges, universities can create a supportive and innovative environment that empowers lecturers to excel in their professional roles.

Recommendations

Integrating digitalization into personnel management in Rivers State universities can have significant implications for lecturers' productivity. The following recommendations are hereby proposed to effectively incorporate digital technologies into personnel management practices, with a focus on enhancing lecturer productivity:

i. *Comprehensive Training Programs:* The provision of comprehensive training programs to familiarize lecturers with digital tools and platforms relevant to personnel management is highly encouraged. Training sessions should cover HRIS, LMS, communication tools, and other relevant software. Offering ongoing support and resources can ensure that lecturers feel confident and competent in utilizing digital technologies (Eze *et al.,* 2020).

ii. *Customized Professional Development*: Tailor professional development opportunities to meet the specific needs and preferences of lecturers. Offer workshops, webinars, and online courses focused on digital skills development, time management, and productivity enhancement using digital tools. Encourage lecturers to explore innovative ways to integrate technology into their teaching and administrative tasks (Ajuwon, 2017).

iii. *Promotion of Collaboration and Communication*: Foster a culture of collaboration and communication among lecturers through digital platforms. Encourage the use of collaborative tools such as Microsoft Teams, Google Workspace, or Slack for team projects, committee work, and administrative tasks. Facilitate virtual meetings and discussions to minimize time constraints and promote effective communication (Nwokocha and Onuoha, 2019).

iv. *Efficient and Effective Administrative Processes*: Streamline administrative processes through the implementation of digital systems and workflows. Utilize HRIS to automate routine tasks such as leave management, performance evaluations, and document processing. Implement online submission and approval systems to reduce paperwork and administrative burdens on lecturers, allowing them to focus more on teaching and research (Ajayi and Olukotun, 2020).

v. *Flexible Work Arrangements*: Embrace flexible work arrangements that leverage digital technologies to accommodate lecturers' diverse schedules and preferences. Encourage telecommuting options and flexible hours, supported by digital communication and collaboration tools. Providing lecturers with the flexibility to balance work and personal commitments can enhance job satisfaction and productivity (Omotayo and Oyediran, 2018).

vi. *Recognition and Incentives*: Recognize and incentivize lecturers who effectively utilize digital tools to enhance productivity and performance. Establish awards or recognition programs for innovative use of technology in teaching, research, or administrative tasks. Provide incentives such as access to additional professional development opportunities, funding for research projects, or increased autonomy in course design (Eze *et al.,* 2020).

vii. *Continuous Evaluation and Feedback*: Continuously evaluate the effectiveness of digitalization initiatives in improving lecturer productivity. Gather feedback from lecturers through surveys, focus groups, or suggestion boxes to identify areas for improvement and address challenges. Use data analytics from digital systems to track productivity metrics and inform decision-making regarding resource allocation and process optimization (Okoli and Ahanotu, 2017).

By implementing these recommendations, Rivers State universities can effectively integrate digitalization into personnel management practices, leading to enhanced lecturer productivity, improved job satisfaction, and ultimately, better educational outcomes for students.

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