DIGITALIZATION OF PERSONNEL MANAGEMENT FOR EFFECTIVE ADMINISTRATION OF EDUCATIONAL INSTITUTIONS

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Abstract
The integration of digital technologies has become paramount for the efficient management of schools. This paper explored the digitalization of personnel management as a pivotal strategy for enhancing the administration of educational institutions in Nigeria. The rapid advancement of digital tools offers opportunities to streamline administrative tasks, improve communication channels, and enhance decision-making processes within educational institutions. Digitalization initiatives encompass various aspects, including adopting digital platforms for data management, automating routine tasks, and implementing online communication tools for staff and students. Moreover, utilizing digital technologies facilitates monitoring and evaluation, enabling school administrators to make data-driven decisions to enhance teaching and learning outcomes. This paper also examined the benefits of digitalizing school personnel management and addressed the challenges faced by schools such as inadequate communication system, internet connectivity, shortage of digital tools and problems encountered in digitalization, which hinder optimal performance and resource utilization. Through a comprehensive literature review, this study emphasized the importance of equipping school personnel with digital literacy skills and providing adequate training to harness the full potential of digital tools. Furthermore, based on the review, it was recommended that government should provide support by investing in digital tools and infrastructure to ensure the digitalization of personnel management. This would emerge as a critical enabler for the effective administration of educational institutions offering avenues for improved efficiency, transparency, and overall educational quality.

Keywords: Digitalization, Personnel Management, Administration, Educational institutions

Introduction

Education is the bedrock of any nation and entails the process of imparting valuable knowledge which brings about development. As such great attention should be given to the educational institutions. Therefore, any nation that intends to develop must view education as indispensable tool for national development (Ihebom & Uko, 2020). In every institution, there are personnel that carry out duties for the success and achievement of set goals. School personnel involve administrators, teaching and non-teaching staff, other support staff who are employed in the school and students. The management of school personnel is paramount to actualizing the policies of the school and achieving educational

goals. These goals cannot be achieved without maximizing the efforts of people working in the school through coordination and management of their activities for optimum performance. School personnel management is crucial in utilizing resources and managing the school for effectiveness and efficiency, thereby providing overall educational quality.

The role of the personnel department involves procuring, selecting, recruiting, training, placing, utilizing, and maintaining an effective workforce that will aid in the accomplishment of school objectives. Personnel management is an administrative function within an organization that views the process of hiring, organizing and assisting of workers. Esie, (2023) identified personnel management as activities which include recruiting, training, developing, and motivating people to achieve the organization's goals. Similarly, Echtelt (2024) conceptualised personnel management as overseeing an organization's workforce by ensuring recruitment, training, and performance processes with strategic goals are achieved.

The task of managing people is often considered as the most challenging and complex task in any organization. Therefore, the process of school personnel management could be systematically planned by the school administrator. For proper administration of personnel, the manager must be conceptually and technically skilful in handling the administrative duties (Agunwa et al., 2019). These school personnel are assigned roles and responsibilities and sometimes can be burdensome especially in handling of data, communication and dissemination of information in schools. This brings to bare digitalization of school personnel. The rapid advancement of digital tools offers opportunities to make more efficient administrative tasks, improve communication channels, and enhance decision-making processes within educational institutions. Digitalization initiatives encompass various aspects, including the adoption of digital platforms for data management, automation of routine tasks, and implementation of online communication tools for staff and students. Moreover, the utilization of digital technologies facilitates monitoring and evaluation, enabling school administrators to make data-driven decisions to enhance teaching and learning outcomes.

Digitalization is the process of converting information into a digital format. By effectively managing school personnel through digital platforms, educational institutions can enhance efficiency, accuracy, and decision-making which could lead to improved educational outcomes. Abe and Ogeh (2023), opined that digitalization in education system improves effective management of education to operate efficiently and effectively in terms of adequate supervision of learners and regular assessment of pupils' activities in the classroom. For the school system to adapt to the digitalized world, it is expedient that personnel in the school environment are equipped with necessary skills and knowledge necessary for digitalization. Arısoy (2022) conceptualised digitalization in education as using digital technology to teach students. In line with this, Borisenkov et al. (2021) described digitalization in education as variety of approaches for transitioning conventional modes of teaching and learning into the virtual world, such as online courses, online assessments, and web-seminars/conferences or workshops, among other things, using electronic platforms. Ukozor and Muhammad (2024) noted that the benefits of digitalization in the education institutions cannot be overemphasized which can result in the expansion of accessibility of education services.

Digitalization of school personnel which involves students, teachers, administrators and other staff employed in the school could go a long way in managing the affairs of the personnel in efficient and effective manner. Bejinaru (2019), viewed digitalization as the conversion of text, pictures, video, and music into digital format utilizing technologies such as a laptop computer, the internet, mobile devices, a scanner, a digital camera, a projector, and a printer, among others. Furthermore, Gillpatrick (2020) is of the opinion that the transfer of data from analogue to digital is perceived as a crucial driver of innovation in teaching and learning. Digitalization of school personnel is the creative use of digital tools and technology in managing of school personnel for improvement and effective administration of schools.

Digitalization in schools is to assure the use of new technology and digital tools to help teachers and students improve. In order to compete with world-class schools, schools must become digitalized (Akinyemi et al., 2022). For effective school personnel management, a robust of Human Resource Information System (HRIS) could be adopted. This digital platform centralizes employee data, automating tasks such as payroll processing, time and attendance tracking. By digitizing these processes, schools can significantly reduce administrative burdens, minimize errors, and ensure data accuracy. Additionally, HRIS provides valuable analytics that can inform strategic decision-making.

Other aspects of administration of school which involve school personnel management are communication, performance management, professional development among others.

Communication tools are important in school administration. Platforms like email, instant messaging, and collaboration software facilitate seamless communication among school administrators, teachers, and other staff employed in the school, promoting collaboration and information sharing regardless of their physical location. These tools enhance teamwork, promote information sharing, and streamline decision-making processes. Moreover, they can be used for disseminating important announcements, policies, and updates to the entire staff. Performance management systems are another essential digital tool. These platforms enable schools to set clear performance objectives, track employee progress, and provide timely feedback. Digital performance management systems also facilitate the documentation of performance appraisals and the creation of development plans, fostering a culture of continuous improvement. To support professional development, Learning Management Systems (LMS) could be leveraged upon. These platforms offer a centralized repository for training materials, enabling staff to access learning resources at their convenience. By focusing on employee growth and career development, schools can ensure a high-performing workforce. Digitalization promotes effective teaching in terms of proper student monitoring and regular assessment of their classroom activities.

The effective utilization of digital tools is paramount for school personnel management in Nigeria. By improving administrative tasks, enhancing communication, and supporting performance management, these tools can significantly contribute to the overall efficiency and effectiveness of educational institutions. Traditionally, records were paper-based, prone to errors, loss, and time-consuming. Digitalization of personnel records through HRIS offers an organized solution. A well-maintained school records can provide data for planning and implementing educational activities. By digitalizing these records, schools can ensure data integrity, facilitate easy access, and streamline processes such as payroll, benefit administration, and performance evaluation. Furthermore, digital platforms can help in optimizing staff scheduling and timetabling. Tools like online calendars and scheduling software enable efficient management of teachers' workloads, class assignments, and room allocations. This not only reduces administrative burdens but also enhances the overall efficiency of the school. To ensure the successful implementation of digitalization initiatives, adequate training and capacity building are skills required to effectively utilize technologies. . Onweh et al. (2021) suggested that teachers, students and administrators must be equipped with the necessary digital literacy in schools thereby maximizing the benefits of digitalization. In line with this, Reis-Andersson (2023) reiterated that organising digital technologies in schools requires support and digital competence which provides situation for increasing the quality of education

However, it is crucial to acknowledge the potential challenges associated with digitalization. Issues such as data security, privacy concerns, digital competence and infrastructure limitations need to be considered. Additionally, reliable internet connectivity is essential for the smooth functioning of digital systems. The digitalization of school personnel is imperative for enhancing the management of educational institutions in Nigeria. By leveraging technology, schools can improve administrative processes and ultimately create a more efficient and effective learning environment. It is also important to note that an effective administration can help in bringing about optimum performance in the achievement of educational goals (Tagbo, 2024). Effective educational administration is essential to achieving quality education. Embracing digitalization of school personnel is a significant step towards effective management of educational institution in Nigeria for achieving quality education.

Digital Tools for Personnel Management

The effective management of school personnel is pivotal to the success of any educational institution. School personnel are regarded as human resource in school. Personnel management is described as the process of getting qualified personnel to provide instructional services necessary for the attainment of the goals of the education system (Okoh & Abraham, 2019). Digital tools have emerged as indispensable assets in streamlining human resource functions, enhancing communication, and optimizing resource allocation. This section explored various digital tools that can significantly improve school personnel management (HemaMirji, 2022; Dancsa et al., 2023; Prokopenko et al., 2023).

a. **Human Resource Information Systems (HRIS):** An HRIS is a centralized database that stores and manages employee information. This comprehensive system can handle tasks such as: employee records management (personal details, qualifications, and experience), payroll processing and benefits, attendance tracking and time management, performance evaluation and goal setting, selection and recruitment and training and development management. By automating these processes, HRIS systems minimize errors and provide valuable data for decision-making.

b. **Learning Management Systems (LMS):** This tool is primarily used for student management; LMS can also be a valuable tool for staff development. It can be used to deliver online training courses, manage professional development plans and facilitate collaborative learning and knowledge sharing.

c. **Communication Platforms:** Effective communication is essential for a pleasant school environment. Digital communication tools such as: email can be used for formal communication and document sharing; Instant messaging- for quick and informal communication; collaboration platforms (e.g., Google Workspace, Microsoft Teams)- for team projects, document sharing, and video conferencing). These tools can enhance communication between administrators, teachers, students and other staff thereby fostering collaboration and information sharing.

d. **Time and Attendance Systems:** Accurate time and attendance tracking is crucial for payroll and performance management. Digital time and attendance systems can automate timekeeping, generate accurate attendance reports; calculate overtime and leave balances and integrate with payroll systems.

e. **Performance Management Systems:** Performance management is a continuous process of setting goals, providing feedback, and recognizing achievements. Digital performance management systems can set and track performance objectives; conduct regular performance reviews and provide feedback and coaching. These systems help to create a culture of performance excellence and support employee growth.

Benefits of Digitalization of Personnel Management

The benefits of digitalization of personnel management cannot be over emphasized. The benefits of digitalization were summarised as follows (Akinyemi et al., 2022; WpschoolPress, 2023; Echelt, 2024);

I. **Improved Efficiency:** School personnel management could make the routine of administrative tasks, entire attendance management tracking, grading, and report generation easier. This improves efficiency and reduces the workload of school staff, freeing up more time for teaching and student support.

II. **Enhanced Communication:** A digital school personnel management system provides a platform for communication among administrators, teachers, parents, students and other staff. It can enable real-time updates on student progress, important announcements, and other relevant information.

III. **Increased Transparency:** With a digital school personnel management system, all stakeholders can access information and reports about student progress, attendance records, and other important data. This enhances transparency and helps to build trust between the school and its community.

IV. **Better Data Management:** A digital school personnel management system can store and organize large amounts of data securely, making it easy to access and analyze. Students' performance, school management attendance, and other important metrics can be analyzed using this method.

V. **Improved Learning Outcomes:** By providing teachers and students with better tools for tracking progress and identifying areas for improvement, a digital school personnel management system can lead to improved learning outcomes for students**.**

Digitalization of Personnel Management for Effective Administration of Educational Institutions

The digitalization of personnel management plays a crucial role in effective administration of schools. Acebuche (2024) emphasized digitalization for effective administration of schools as follows:

1. **Digital leadership:** Digital leadership in education refer to the effective and efficient management of both human and non-human resources by strategically utilizing information, communication, and technology (ICT) for effectively carrying out school's vision, mission, and objectives. School leaders need to embrace digital tools, technologies and strategies to enhance educational processes, administrative efficiency and overall learning outcomes. They should possess the right attitude, knowledge, and skills to manage the school system using technology as a tool.
2. **Organizing Digital Technologies:** Administrators must understand how to organize digital technologies within schools and sustain innovation processes. Sharing responsibilities and understanding change processes are essential in this changing world of technology.
3. **Application of Technology Integration:** The application of technology into curriculum develops and brings innovation to the teaching and learning process. This includes the use of interactive whiteboards, educational apps, online resources, and other digital tools to improve engagement and understanding. Digitalization enables teachers to manage classes; monitor students' desktops remotely, conduct group teaching, and engage in group chats.
4. **Communication and Collaboration:** Digitalization helps in the use of communication platforms, such as email, messaging apps, and collaborative tools, to foster effective communication among staff, students, and parents. This ensures transparency, quick information dissemination, and improved collaboration. These applications enhance communication and efficiency. Effective utilization of technology is critical for managing Nigerian schools in this digital age.

Challenges Encountered in Digitalization of Personnel Management

The digitalization of personnel management is encumbered with various challenges, hindering its effective implementation. These challenges can be categorized into infrastructural, financial, human, and policy-related issues (Ogunode et al., 2021; Akinyemi et al. 2022; Ukozor & Muhammed, 2024)).

1. **Infrastructural Challenges:**

There are factors responsible for the effective digitalization of personnel management which include inadequate funding, poor internet connectivity, inadequate power supply, lack of data and high cost of digital facilities. ***Poor internet connectivity:*** Many parts of Nigeria experience unstable and slow internet services which result in inefficiency. Access to technology has remained a major challenge facing Nigeria where most of the population living in rural areas encounters difficulty in internet connectivity or no connectivity. This could create challenges in effective digitalization of personnel management. ***Inadequate power supply:*** Frequent power outages disrupt the use of computers and other digital devices, hindering the smooth operation of digital systems. The problem of unstable power supply hinders the staff and students from actively using digital tools.***Limited access to digital devices:*** Many schools lack sufficient computers, tablets, and other digital devices for staff and students to utilize digital tools effectively.

2. **Financial Challenges**:

Insufficient Funding: The cost of acquiring and maintaining digital infrastructure, software, and training is often exorbitant for many schools, especially public educational institutions. Funding is needed in training and retraining of ICT teachers, provision and maintenance of digital tools and energy supply. ***High Cost of Internet Services:*** The expense of acquiring internet connectivity can be a significantly burdensome for schools especially those in rural areas.

3. Human Challenges:

Lack of Digital Literacy: Many teachers and administrators have limited digital skills, hindering their ability to effectively use digital tools. This poses as a great challenge in effective management of digital tools. ***Resistance to Change:*** Some staff members may be resistant to adopting new technologies, preferring traditional methods. This could create problem because the world is evolving and as such people should adjust to accommodate such changes in order to keep up to date with the emerging technologies. ***Shortage of IT Personnel:*** Many schools lack qualified IT personnel to support digital systems and troubleshoot issues especially in the rural vicinity.

4. Policy Challenges:

Lack of Clear Digitalization Policies: Policies are essential and serves as guide. The absence of clear policies and guidelines for digitalization in education can create confusion and hinder implementation.

Data Privacy and Security Concerns: There is need to ensure the security of sensitive employee data. This requires robust security measures.

Potential Solutions to Challenges Encountered in Digitalization of Personnel Management for Effective Administration of Educational Institutions

For effective administration of schools, integration of digital technologies into personnel management needs to be adopted. This would change the traditional approaches of recruitment, training, assessment, and motivation of employees (Makovoz & Lysenko, 2024). Overcoming the struggles of digitalizing personnel management requires diverse approaches which involves technological, infrastructural, human resource, and policy interventions (Ogunode et al., 2021; Makovoz & Lysenko, 2024; Ukozor & Muhammed, 2024).

1. Technological Solutions:

Cloud-based HRIS: Adopting cloud-based HRIS can mitigate infrastructure challenges as data is stored remotely. This approach emphasizes the importance of flexible and accessible digital solutions.

Cyber security Measures: Investing in robust cyber security is essential to protect sensitive employee data. This is in line with global best practices for data management.

2. Infrastructural Solutions:

Public-private Partnerships: Collaborations between government and private sector can accelerate infrastructure development, including power supply and internet connectivity. This could ensure funding in acquiring digital tools and other areas for effective usage. ***Digital Literacy Centers:*** Establishing digital literacy centers in schools and communities can help bridge the digital divide among staff and students. Creating awareness of the importance of using digital tools could encourage them go to the digital literacy centers. ***Renewable Energy Sources:*** Exploring solar power and other renewable energy options can address the challenge of unreliable electricity supply.

3. Human Resource Solutions:

Digital literacy training: Providing comprehensive digital literacy training to staff and students is crucial for digitalization of personnel management which could ensure effective administration of educational institutions. ***Change Management Strategies:*** Implementing effective change management strategies could help overcome resistance to digitalization and encourage development. ***Motivation:*** Offering incentives to staff and students who are able to adopt digital tools effectively could encourage their use. This would serve as competition and prompt them to learn and utilize digital tools.

4. Policy Solutions:

National digitalization strategy: Developing a comprehensive national digitalization strategy for education can provide a clear roadmap for schools. Educational institutions should be abreast with the changes in technology. ***Data privacy regulations:*** Enacting robust data privacy regulations can build trust and confidence in digital systems users. ***Public-private partnerships:*** Fostering collaborations between government, private sector, and educational institutions can accelerate digital transformation.

Conclusion

Digitalization of personnel management for effective administration of educational institution is very apt and would ensure innovation and quality education outcome. The benefits cannot be overemphasized. However, there are challenges that affect effective implementation. Addressing these challenges requires a resolute effort from government, educational institutions, technology providers and collaboration from the community. Investing in infrastructure, providing adequate training, and developing supportive policies are crucial steps towards successful digitalization of school personnel management in Nigeria. By addressing these challenges holistically, Nigerian schools can harness the potentials of digital technologies to improve personnel management, enhance efficiency, and ultimately, improve educational outcomes.

Recommendations

Based on the review, the following recommendations were made:

1. Government should provide support by investing in digital tools and infrastructures to ensure digitalization of school personnel management.

2. Public-private partnership/collaboration should be encouraged to support with the provision of funding for acquiring digital tools and training of personnel in schools.
3. Government should ensure in-service training and development programmes for teachers, students and administrators to be digitally inclined to fit into digital age.

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