Navigating Global Challenges in School E-Management: Towards Effective Educational Management

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ABSTRACT

Electronic management (e-management) presents significant opportunities for organizations to streamline processes, enhance productivity, and foster innovation. The integration of digital technologies into educational institutions has ushered in a new era of school e-management, promising streamlined administration, enhanced communication, and improved learning outcomes. However, alongside these advancements come a myriad of global challenges that must be addressed to maximize the benefits of digital management solutions in the educational sector. This study explores the key challenges facing school e-management on a global scale. The study employed a qualitative research methodology, drawing data from secondary sources, and is situated within the framework of the Technology Acceptance Model (TAM). From the critical analysis of the extant literature on the subject matter, the studies identify digital divide, digital literacy, privacy and data security, skills gap, legal and regulatory compliance, resistance to change, interoperability, infrastructure constraints, integration complexity, data management and analytics, accessibility and inclusion as the major global challenge to the implementation of school e-management. Furthermore, the study offers recommendations, arguing that tackling global issues in school e-management necessitates a comprehensive strategy that places a premium on digital divide, digital literacy, privacy, security, innovation among others.

HOW TO CITE

Introduction

In today's environment, organizations in diverse fields face challenges that are economic, scientific, or technological in nature. The educational sector is not immune to these challenges. Technological challenges alone may be sufficient to cause the educational sector to restructure its administrative system. The education system forms the backbone of any nation. In the world over education is considered as the cornerstone of development, that is why providing a solid educational foundation for the new generation is essential to develop open-minded global learners who secure the future for all (Alkaabi, 2018).

Countries that have invested heavily in education have been able to contribute to advances in science and knowledge and create new products and technologies. Globally, investments in education underpin social cohesion, economic growth, competitiveness, and innovation.

In the view of Shema (2019), most school managements are unsuccessful and inefficient because administrative work is done manually in all its aspects, such as management, infrastructure, finance, leadership, teachers, students, curriculum, evaluation, public relations, and cooperation. Globalization requires school management to produce human resources that are available for today's technological changes (Aliyeva, 2020).

The manual method of school management sometimes prevents good student registration, missing information monitoring, and other school activities. School administration officials are responsible for performing managerial tasks and using paper documentation. Due to the non-productivity of the current classic manual management, there are demands to create an electronic model of school management to efficiently and effective handle administrative work (Younis, 2016). For this reason, Writer (2021) contended that modern, cutting-edge digital technology could be quite helpful in simplifying school administration tasks in order to foster harmony and confidence amongst parents, instructors, administrators, and students.

Although the potential benefits of digital technologies are significant, the adoption of school e-management, particularly in developing countries like Nigeria, faces challenges such as inadequate infrastructure, technical expertise, and resistance to change among others (Abdulkareem & Ishola, 2016). The digital divide further exacerbates disparities in access to technology, emphasizing the need for equal ICT resource availability globally. Therefore, the purpose of this paper is to examine the global challenges of school e-management with particular reference to Nigeria. However, available studies revealed that there is little research on this area particularly from the Nigeria perspective. This study therefore aims to fill this gap. It is expected that this study would benefit educational communities by establishing the foundation for identifying barriers to the widespread adoption and usage of e-management in schools worldwide and proposing viable solutions.

The paper adopted exploratory research design to examine the global challenges of school e-management with a view towards effective educational management. Data collection was from secondary sources, such as textbooks, journal articles, websites, internet and newspapers.

E-Management

School management is critical to provide a brief overview of e- management. As per Haddassah (2020), school management pertains to the management and guidance of academic establishments, including colleges, universities, and schools, with the aim of guaranteeing their efficient functioning and the accomplishment of educational objectives. He further explained that it entails supervising daily tasks including setting up lessons, maintaining records, handling finances, and managing facilities. The administrative team, which consists of office staff, vice principals, and

principals, is in charge of making sure the school operates well.

The concept of e- management has been defined in different ways, but the argument is that all definitions are based on an organization's shift from a traditional paper business to e-business (Ellatif & Ahmed, 2017). Wart et al. (2019) describes e-management as a process employing advanced ICT to ensure internal and external management functionality. E-management includes using advanced ICT for information management, dissemination, service delivery, marketing, decision making, etc. Khawaldeh (2017) contends that e-management can be defined as incorporating the use of modern technology, like computers and International Information Networks (i.e. the Internet), in the administrative performance of the organization which includes planning, organization, mentoring, supervision, and follow-up.

Furthermore, Ashour & Nimri (2016) found e-management to be a positive investment for information technology and communications in all functions of the administrative process, including planning, organization, implementation, supervision, monitoring, and evaluation. The authors argued that electronic management improves performance and enhances competitive position.

On the other hand, traditional management in the view of Turban & Volonino, (2019) connotes the conventional approach to managing organizational activities that predates the widespread adoption of digital technologies. It is characterized by hierarchical structures, centralized decision-making, and reliance on manual processes. While it has been effective in many contexts, it may struggle to adapt to the rapidly changing demands of the digital age, prompting the emergence of alternative management approaches such as e-management (Vought, 2017).

The School e-management System

The school electronic management system is a system for managing information electronically that helps in various school affairs. It helps universities, colleges, and schools to improve their management procedures. The electronic management system does this by automating tasks such as data analysis and data entry. Automation will help schools save resources and time by eliminating the need for manual supervision, thereby reducing human resource costs (Writer, 2021).

The school's e- management system plays a crucial role in managing the administrative functions of an institution. Such systems, if integrated with the management application, then can help facilitate communication between teachers and school administration. The system acts as one of the most important complementary tools for the functional strategy of any school. It is imperative for a school to formulate the system based on some credentials and to ensure that this system is attractive, educational, and useful for teachers and students. The school e-management platform helps improve efficiency and operations (Freitas & Routledge 2016).

The school e-management strategies are a one-stop solution for everything a school needs to function well and efficiently (Bhandari, 2023). These features have positive functions in the e-school management process, which makes the activity management processes easy, effective, low-cost, not time-consuming and personnel-intensive, reducing human errors, being more accurate and practical, as well as distributing information quickly, especially the report of the achievements of students and teachers that can be accessed by all (Setyawan, 2021).

The development and implementation of the school e-management connect all parties involved in a

well-organized digital system and helps in school management. This system can increase the productivity of the educational processes at school. This makes the interaction between administration and teachers much more efficient, and students can have easier access to the necessary learning materials (Pekisheva, 2021).

Potential Benefits of School e- Management

By utilizing digital technologies to improve administrative efficiency, communication, and decision-making in educational institutions, school e-management provides a number of benefits over traditional school administration systems. E-management reduces human paperwork and automates procedures to streamline administrative processes, including scheduling, grading, record-keeping, and enrollment. By doing this, administrators may concentrate on strategic projects and student support services while also increasing efficiency and saving time (Hussein, 2017). Additionally, it makes it easier for administrators, instructors, staff, students, and parents to collaborate and communicate with each other and with each other in a smooth manner. Transparency and involvement within the school community are increased through real-time communication, feedback exchange, and information sharing made possible by online portals, email, instant messaging, and collaborative platforms (Anderson & Dexter, 2018).

Furthermore, through the platform more flexibility and accessibility are given to stakeholders by the system, which also aids in overcoming geographical obstacles and permits remote access to information and resources. Lesson plans and instructional materials are accessible to teachers from any location, and students and parents can access announcements, grades, and assignments online. This allows for online learning and family involvement (Younis, 2016). According to Blau & Presser (2019), a school's e-management system also lowers overhead expenses related to data entry

by hand, paper-based procedures, and physical infrastructure like filing cabinets and storage space. Schools can save costs, enhance resource allocation, and reinvest savings into educational programs and initiatives by digitizing administrative processes and utilizing cloud-based technologies.

From the above narrative, it can be summarized that, school e-management offers numerous advantages over traditional school management approaches, empowering educational institutions to optimize operations, enhance communication, and improve outcomes for students, teachers, staff, and parents alike. By embracing digital technologies and leveraging e-management solutions effectively, schools can achieve greater efficiency, transparency, and effectiveness in their administrative processes and educational practices. Nonetheless, is has been argued that the transition to school e-management is unlikely to eliminate all management problems in school, and may show some unpredictable drawbacks or defects.

E- Management Review

The theoretical foundation of this paper is the Technology Acceptance Model (TAM). TAM as a theory has been extensively applied and expanded upon in a variety of settings to comprehend and forecast user adoption of technologies spanning from sophisticated systems to software programs. For academics and professionals researching the adoption and use of technology, its ease of use and strong explanatory ability make it an invaluable resource. In order to forecast technology's behavior and offer a theoretical justification for its successful use, TAM's main goal was to illuminate the mechanisms behind technology adoption (Davis, 1989).

This theory is highly relevant in the context of global challenges of school e-management due to its ability to explain and predict user acceptance of

technology. It provides a structured framework for understanding and promoting the adoption of school e-management systems by focusing on user perceptions of usefulness and ease of use. The theory helps in identifying factors that may hinder or facilitate the adoption of e-management systems. By applying TAM principles, schools can foster a supportive environment for technology integration, ultimately improving administrative efficiency, communication, and overall educational outcomes.

Global Challenges of School e- Management

There is consistent challenge to the adoption of school e-management across the globe. Put it differently, even while school e-management has the potential to improve administrative effectiveness, communication, and learning results, it comes with a number of global challenges. Here, we clarify some of these challenges.

One of the significant global challenges to school e-management according to Abdulkareem & Ishola (2016) is the digital divide among students, educators, and administrators, exacerbating disparities in access to technology. Disparities in access to technology and the internet persist globally; particularly in rural and low-income areas (Reichert et al., 2020). This is one of the most significant challenges where disparities in access to technology and internet connectivity exist among students, teachers, and schools. In many parts of the world, particularly in low-income and rural areas, schools may lack the necessary infrastructure, devices, or reliable internet access to support e-management systems effectively (Radovanović et al., 2020). The digital divide in Nigeria for instance is because of variety of factors, including a disparity in literacy levels between rural and urban areas, an infrastructural gap between what is available in urban and rural areas. This is potential challenge to the widespread adoption of e-management systems globally.

Similarly, Digital literacy is one of the efforts in responding to the global challenges of technological development especially in schools (Radovanović et al., 2020). Effective use of e-management systems requires digital literacy skills among teachers, administrators, and students. Digital literacy is an awareness of a person's attitudes and abilities to be able to use digital facilities properly in identifying, accessing, managing, evaluating, analyzing and inferring a digital resource, adding new knowledge, creating expressions and communicating with others in living conditions (Peled, 2021).

In order for Students to understand and use information in a variety of forms and from a wide range of sources that can be accessed through digital tools, they must possess digital literacy. Digital literacy includes not only being able to use tools like computers and cell phones, but also being able to adapt to the capabilities and limitations of tools in specific situations (Kerkhoff & Makubuya, 2021). However, many educators may lack the necessary digital literacy and skill or confidence to leverage technology effectively in their teaching practices and as administrators. Addressing the digital skills gap through professional development and ongoing support is crucial for maximizing the benefits of e-management systems.

Furthermore, privacy and data security have also emerged as critical concerns in school e-management, given the sensitive nature of student and staff information and the prevalence of online learning platforms. Internet privacy and security are critical for successful implementation of school e-management (Pangrazio et al., 2020). E-management systems involve the collection, storage, and management of sensitive student and staff data. Ensuring the privacy and security of this data is paramount but challenging, particularly with the rise in cyber threats. Madawi (2018) argued that this poses significant challenges

globally, including the risk of data breaches, cyber-attacks, unauthorized access, and compliance with data protection regulations such as General Data Protection Regulation.

In addition to the above challenge, the integration of e-management systems into school operations often encounters resistance from stakeholders due to organizational inertia and cultural barriers. This resistance to change among school staff, students, and parents can hinder the successful implementation of school e-management systems (Delacruz, 2019). Some may be reluctant to adopt new technologies due to unfamiliarity, perceived complexity, or concerns about job security or loss of control. Overcoming resistance and fostering a culture of innovation and collaboration are essential for successful e-management implementation (Delacruz, 2019).

Moreover, implementing and maintaining e-management systems can be expensive, especially for cash-strapped schools or those in resource-limited settings. It requires significant investment in technology infrastructure, software, training, and maintenance. Many schools, especially in developing countries, may struggle to afford the upfront costs and ongoing expenses associated with adopting and maintaining e-management systems. With flexible and replaceable software, constant cost of operation will become an Issue (Okwueze (2017).

Additionally, there is the challenge of inadequate technological infrastructure, such as unreliable internet connectivity and outdated hardware, impedes the effective implementation of school e-management systems in many regions, particularly in developing countries (Younis, 2016). Not all schools, especially in developing regions, have access to reliable internet connectivity and modern computing devices. The lack of reliable and accessible internet connections may pose a significant barrier to the effective adoption of e-management systems in school (Gberevbie, 2017).

Another global challenge to the implementation of school e-management is technical support and training. A lot of training is required as regards the use of the electronic devices; both the users and learners are continually upgraded in terms of capacity and knowledge to the extent that lack of upgrading and training may stall the use of such devices. Because of this, Abdel-Fattah & Galal-Edeen (2018) contended that the main obstacle to the implementation of school e-management in the majority of developing nations is a shortage of individuals who are competent and trained to manage and run its infrastructures.

Likewise, Ayo & Ekong (2018) contended further that institutions might be reluctant to actually implement e-management because of the high expense of hiring and training personnel with ICT skills. Schools need skilled IT personnel to manage and support e-management systems effectively. However, recruiting and retaining qualified technical staff can be challenging, particularly for smaller schools or those in remote areas. Additionally, providing adequate training to teachers, administrators, and staff to use e-management systems optimally requires time and resources. The lack of such technical or professional skills may constitute a barrier to effective utilization of such devices in the management of school (Alradhi, 2019).

Moreover, effective e-management in schools necessitates the integration of Information and Communication Technologies (ICT) into school management, which holds significant implications for modern educational institutions (MacLennan & Belle, 2017). Most interactions in the education are based on interoperability amongst a diversity of data management systems, content repositories, and software applications. Schools use a variety of

e-management platforms for tasks such as attendance tracking, grade management, and communication. Ensuring seamless integration and interoperability among these systems is vital to streamline processes and avoid data silos (Farmer, 2016).

The Need to Address Global Challenges Associated with School e-Management

For several reasons, it is imperative to address global challenges related to school e-management. For example, Temdee (2019) contended that, historically, equity of access in education has been defined as the capacity for every student to obtain an education from proficient educators in secure and conducive learning environments within a district that has an adequate supply of resources that are equitably distributed among other schools within the same state. In short, all students should have an equal opportunity to succeed. Effective e-management systems can bridge gaps in access to quality education. By addressing challenges such as the digital divide, schools can ensure that all students have equal opportunities to benefit from digital resources and educational technologies, regardless of their socioeconomic status or geographic location.

In a similar discussion, addressing these challenges prepares educational institutions to effectively integrate new technologies and adapt to evolving educational landscapes. This readiness enhances resilience in the face of technological disruptions and supports the implementation of future-ready educational strategies (Darling-Hammond & Osher, 2020). David & Carl, (2016) further position their argument on this issue when they contend that tackling global school e-management will promote innovative teaching strategies, individualized learning experiences, and ongoing improvement in educational outcomes. It will also help to maintain focus on educational goals and foster trust, open communication, and collaborative efforts to improve education (David & Carl, 2016). Lastly, addressing school e-management challenges makes educational institutions more competitive in a technologically driven, globalized society. It gives students the fundamental information and abilities in digital literacy that they need to succeed in the workforce and in today's digitally connected society (David & Carl, 2016).

Conclusion and Recommendations

In conclusion, the global challenges of school e-management highlight the complexities and obstacles that educational institutions face in leveraging technology to improve administrative processes and enhance learning experiences. Addressing these challenges is important to promote equity in education, enhance efficiency and resource management, safeguard data security and privacy, improve the quality of education, prepare for technological integration, support professional development, foster stakeholder engagement, and ensure global competitiveness.

By leveraging technology to streamline administrative processes, support teaching and learning, and foster a culture of digital innovation, schools can navigate the complexities of e-management and unlock the full potential of digital transformation in education. This requires careful planning, collaboration between educators and technologists, and ongoing evaluation to ensure that digital tools enhance, rather than detract from, the educational experience. Effective change management strategies, stakeholder engagement, and professional development initiatives are essential for fostering a culture of digital innovation and acceptance within educational institutions. It is our submission that through the coordinated implementation of these measures,

schools globally can address the challenges of school e-management and harness the full potential to enhance educational quality, access, and equity for all learners.

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