



Knowledge Management and Digital Technology as Catalysts for Organisational and Educational Transformation: A Positional Perspective

Yusuff, A. E., and Okeyinka, A. O.

Department of Educational Management, Faculty of Specialised and Professional Education, Emmanuel Alayande
University of Education, Oyo

Corresponding email: yusuffae@eaueido.edu.ng

Abstract

The rapid advancement of digital technologies has fundamentally transformed how knowledge is created, stored, shared, and utilized across organizations and educational systems. The digital revolution, driven by innovations in computing, the internet, and digital communication technologies, has ushered in an information age where knowledge has become one of the most valuable strategic resources for organizations and societies. This positional paper examines the conceptual relationship between the digital revolution and knowledge management, with particular emphasis on their implications for education and organizational performance. The study provides conceptual clarification of the key constructs of knowledge, knowledge management, and digital revolution while reviewing relevant empirical literature that demonstrates how digital technologies have reshaped knowledge processes within institutions. The paper argues that knowledge management has become an indispensable organizational capability in the digital era because organizations increasingly rely on digital infrastructures to capture, organize, and disseminate knowledge. The integration of digital technologies such as information and communication technologies (ICT), digital repositories, cloud systems, and collaborative platforms has significantly enhanced knowledge sharing, institutional learning, and decision-making processes. Empirical studies reviewed in this paper demonstrate that the effective implementation of knowledge management systems improves organizational productivity, enhances innovation, and strengthens institutional competitiveness. Within educational systems, digital technologies have expanded opportunities for knowledge acquisition, collaborative learning, and research dissemination, thereby transforming the traditional roles of educational institutions in knowledge production and transmission. Furthermore, the paper explained that the synergy between knowledge management and digital transformation is particularly critical for educational institutions, which serve as primary centers for knowledge creation and distribution in society. The digital revolution has enabled the emergence of digital learning platforms, open educational resources, and online knowledge communities that facilitate the continuous exchange of information among scholars, students, and practitioners. However, despite these opportunities, challenges such as the digital divide, inadequate technological infrastructure, and limited digital competencies among educators remain significant barriers to effective knowledge management. The paper concludes that the integration of knowledge management practices with digital technologies is essential for fostering organizational innovation, improving institutional effectiveness, and supporting sustainable development in the knowledge economy.

Keywords: Digital Revolution, Knowledge Management, Digital Technologies, Organizational Learning, Educational Transformation

1. Introduction

Every organization, whether business, religious, public, or private, as well as individuals, relies heavily on information to survive, overcome challenges, and achieve sustainable growth. In contemporary societies, the ability to access, process, and utilize information effectively determines the capacity of organizations to adapt to changing environments and remain competitive. Information has therefore been widely regarded as the lifeblood of organizations and individuals alike. Without reliable and accessible

information, decision-making becomes difficult, innovation stagnates, and organizational performance declines. Closely related to information is the concept of knowledge. Knowledge and information are inseparable phenomena that collectively drive learning, innovation, and productivity. Information represents processed data that provides meaning, while knowledge reflects the deeper understanding, interpretation, and application of such information.

Knowledge can therefore be conceptualized as a reservoir from which useful information emanates. In this sense, information becomes actionable only when it is grounded in knowledge. According to Vial (2019), knowledge is an evolving mix of framed experience, values, contextual information, and expert insights that provides a framework for evaluating and incorporating

Yusuff, A. E., and Okeyinka, A. O. (2026). Knowledge Management and Digital Technology as Catalysts for Organizational and Educational Transformation: A Positional Perspective, *Journal of Specialised and Professional Education (JOSPED)*, vol. 8, no. 1, pp. 75-83.

©COSPED, Vol. 8, No. 1, June, 2026

new experiences and information. It is explained that within organizations, knowledge often becomes embedded in documents, repositories, organizational routines, processes, practices, and norms. Importantly, knowledge derives value not merely from stored information but from the human capacity to interpret, contextualize, and apply it. Thus, the integration of experience, context, and interpretation is what transforms information into meaningful knowledge capable of guiding action. For knowledge to achieve these purposes, it must be effectively organized, preserved, and utilized (Verhoef, et al., (2021). This necessity gives rise to the concept of knowledge management.

Knowledge management refers to the systematic process through which organizations create, collect, organize, store, share, and apply knowledge to achieve strategic objectives (Kane, et al., 2015). Scholars such as Tarutė & Gatautis (2014) have argued that knowledge management involves coordinating both human and technological resources to ensure that valuable knowledge is easily accessible within organizations. Similarly, scholars associated with Kane, et al., (2015) define knowledge management as the process of organizing, creating, using, and sharing knowledge within an organization in ways that make it easily retrievable and applicable to problem-solving. Knowledge is widely considered one of the most valuable assets of modern organizations. Unlike traditional physical resources, knowledge grows when shared and becomes more valuable when effectively applied. Consequently, the ability to store, expand, and disseminate knowledge has become critical for enterprises, including institutions within the educational sector (Omoniyi, 2023).

Organizations that successfully manage knowledge are better positioned to foster innovation, enhance productivity, and maintain competitive advantage. Interestingly, the concept of knowledge management is not entirely new. As noted by Nambisan, et al., (2017), earlier scholarly discussions on organizational learning and organizational memory laid the conceptual foundations for what is now widely referred to as knowledge management. Organizational learning focuses on how institutions adapt and improve through experience, while organizational memory refers to the stored information from an organization's history that can be retrieved and used to guide present decisions. Knowledge management integrates these ideas by providing structured approaches for capturing and leveraging organizational knowledge to enhance effectiveness (Tarutė & Gatautis, 2014). The growing relevance of knowledge management has been driven by a convergence of technological advancements, increasing globalization, and the rising complexity of organizational environments.

In modern business communities, knowledge management has become a central topic of discussion because organizations increasingly recognize that their

success depends not only on financial or physical resources but also on intellectual capital (Becerra-Fernandez & Sabherwal, 2015). Effective management of knowledge can therefore facilitate organizational transformation and serve as a key source of competitive advantage. Knowledge itself exists in multiple forms and dimensions. Understanding these forms is essential for developing effective knowledge management strategies. Among the major types of knowledge are:

1. **Explicit Knowledge:** Knowledge that can easily be documented, codified, and shared through written or digital formats.
2. **Implicit Knowledge:** Applied knowledge that is demonstrated through practice and experience.
3. **Tacit Knowledge:** Personal knowledge gained from individual experiences, often difficult to articulate or document.
4. **Declarative Knowledge:** Static knowledge related to facts or information about specific subjects.
5. **Procedural Knowledge:** Knowledge that focuses on how tasks or processes are carried out.
6. **A Posteriori Knowledge:** Knowledge acquired through personal experience or observation.

Each of these forms contributes to the overall intellectual capacity of an organization. Managing them effectively requires structured systems that facilitate knowledge acquisition, documentation, sharing, and application. The benefits of knowledge acquisition and management within organizations cannot be overstated. As organizations grow, the need for a reliable knowledge database becomes increasingly important for ensuring continuity, efficiency, and productivity (De Freitas, et al., 2020). Without an effective knowledge management system in place, employees may repeatedly relearn processes that were previously mastered, resulting in wasted time and organizational inefficiencies. Furthermore, organizations risk losing critical institutional knowledge when experienced employees retire or leave their positions. Knowledge management systems therefore serve as institutional memory that preserves organizational expertise and ensures continuity in operations (Iqbal, et al., 2020). Most of the forms of knowledge described above are highly relevant to the educational sector.

In fact, knowledge constitutes the central foundation upon which educational systems are built. Schools, colleges, and universities exist primarily to generate, organize, transmit, and expand knowledge across generations. From this perspective, education can be viewed as the most structured and institutionalized mechanism for knowledge production and dissemination.

According to Mohamed Rabie (2022), the relationship between knowledge and education dates to the earliest

stages of human civilization. Since the emergence of early human societies, the continuous search for food security, safety, and improved living conditions has driven human progress. Rabie argues that humanity's advancement toward higher levels of material and cultural development has largely been facilitated by technological innovation, economic transformation, sociocultural change, and struggles for freedom (Alvarenga, et al., 2020). However, these developments would not have been possible without education, which serves as the principal mechanism through which societies generate and transmit knowledge from one generation to another.

Consequently, the educational system functions as a primary environment for knowledge creation, acquisition, and dissemination. Through structured curricula, teaching methods, and research activities, educational institutions produce the knowledge that drives societal development (Kanwal, et al., 2019). Educational institutions that fail to identify emerging opportunities or address societal challenges risk becoming irrelevant to national development. Rabie further contends that educational institutions incapable of recognizing societal opportunities or evaluating existing obstacles cannot effectively lead social transformation or contribute meaningfully to human capital development (Alvarenga, et al., 2020). Education that fails to equip students with relevant knowledge, appropriate attitudes, and practical skills may even become an impediment to social and economic progress. In contrast, an effective educational system that successfully integrates relevant knowledge into learning processes can promote social, economic, and political transformation.

In contemporary societies, however, knowledge acquisition and dissemination cannot occur independently of digital technologies. Digital technologies have become indispensable tools for generating, storing, processing, and transmitting knowledge across geographical and institutional boundaries (Dukić, et al., 2012). Digital technology broadly refers to electronic tools, systems, devices, and resources that generate, store, or process data in binary form using combinations of the digits zero and one (0 and 1). These category of techniques encompasses software applications, digital communication infrastructure, computer hardware, internet-based platforms, and data management systems. According to scholars such as Renuka, et al., (2024), digital technology encompasses a wide range of tools and platforms designed to facilitate the creation, storage, processing, and communication of information. These technologies have transformed the ways in which knowledge is generated, shared, and applied across different sectors, including education, business, governance, and healthcare (Al-Emran, et al., 2018).

The integration of digital technology into knowledge management systems has significantly enhanced the capacity of organizations to capture and distribute

knowledge efficiently (Omoniyi & Omoniyi, 2026). Digital repositories, cloud storage systems, artificial intelligence tools, and collaborative platforms now enable organizations to preserve institutional knowledge, facilitate real-time collaboration, and support data-driven decision-making (French & Shim, 2016). Within the educational sector, digital technologies have revolutionized teaching, learning, and research processes. Digital learning platforms, online knowledge databases, virtual classrooms, and collaborative tools enable students and educators to access vast repositories of information beyond the traditional classroom environment. As a result, knowledge is no longer confined to physical spaces but can be accessed globally through digital networks (Radicand & Petković, 2023). From a positional perspective, this paper argues that effective knowledge management supported by digital technologies represents a critical foundation for organizational efficiency, innovation, and societal development.

Organizations that strategically harness knowledge resources and digital infrastructures are better positioned to respond to emerging challenges, enhance productivity, and achieve long-term sustainability (Silva, Oliveira & Santos, 2022). In the educational sector, integrating knowledge management practices with digital technologies can significantly strengthen knowledge creation, dissemination, and application, thereby contributing to human capital development and societal transformation.

2. Conceptual clarification and Literature Review

Information has increasingly become the foundation upon which modern organizations and societies operate. Every organization, whether public, private, religious, or non-profit, relies heavily on the availability, processing, and dissemination of information to survive, grow, and overcome emerging challenges. In contemporary society, the ability to access and utilize relevant information determines the capacity of institutions to make informed decisions, innovate, and remain competitive (Tarman, et al., 2013). As a result, information is often described as the lifeblood of organizations and individuals alike. Without the effective management of information and knowledge resources, organizations may struggle to maintain productivity, institutional memory, and strategic direction. Closely related to information is the concept of knowledge. Knowledge and information are inseparable phenomena because information becomes meaningful only when it is interpreted, contextualized, and applied by individuals or organizations (Nambisan, et al., 2017).

2.1 Concept of Knowledge

Knowledge refers to the understanding and interpretation of information acquired through learning, experience, observation, and reflection. Unlike raw data, which consists of unprocessed facts, knowledge involves the ability to analyze information, recognize patterns, and apply insights to solve

problems or make decisions (Omoniyi, 2023; Tarman, et al., 2013). Knowledge therefore transforms information into actionable understanding. In organizational contexts, knowledge represents a strategic resource that enables institutions to innovate, adapt, and remain competitive. It is generated through various processes such as research, professional experience, organizational learning, and social interaction among members of an institution. Knowledge is also cumulative, meaning that new knowledge often builds upon existing knowledge structures within organizations (Sharma, et al., 2014).

In essence, knowledge may be regarded as the reservoir from which useful information emerges. Knowledge represents a structured combination of experience, values, contextual understanding, and expert insights that enable individuals to interpret data and information meaningfully. According to Nambisan, et al., (2017), knowledge can be understood as an evolving mix of framed experience, contextual information, and expert interpretation that provides a framework for evaluating and integrating new experiences and information. In organizations, knowledge often becomes embedded in documents, databases, institutional routines, operational processes, and professional practices. In the contemporary era, the creation, storage, and dissemination of knowledge are increasingly mediated by digital technologies (Vial, 2019). The growth of digital infrastructures such as computers, mobile devices, and the internet has fundamentally altered the way knowledge is generated and shared.

2.2 Concept of Knowledge Management

Knowledge management refers to the systematic process through which organizations capture, organize, store, share, and utilize knowledge resources to achieve strategic objectives. It involves both technological systems and organizational practices designed to ensure that knowledge is effectively disseminated and utilized across different units within an institution. According to Radicic & Petković (2023) knowledge management can be described as the practice of selectively applying knowledge from past experiences to improve decision-making processes and organizational effectiveness. This definition highlights the importance of learning from previous experiences and institutional memory in improving future performance. Similarly, scholars emphasize that knowledge management involves the development of systems that facilitate the capture, storage, retrieval, and reuse of knowledge (Sharma, et al., 2014). These systems often combine technological infrastructure such as databases and digital repositories, with organizational strategies that encourage knowledge sharing among employees.

Consequently, organizations now rely heavily on knowledge management systems and digital technologies to facilitate the efficient use of knowledge resources (Tarman, Kilinc & Aydin, 2013). This

transformation is closely linked to the broader phenomenon commonly referred to as the digital revolution. The digital revolution represents a significant shift in human civilization from analogue and mechanical systems to digital technologies that enable faster processing, storage, and communication of information. This transformation has affected virtually every sector of society, including business, governance, healthcare, and education (Nambisan, et al., 2017). In educational institutions in particular, digital technologies have become central tools for knowledge creation, knowledge sharing, and academic collaboration. Given these developments, it is necessary to examine the conceptual foundations of the digital revolution and knowledge management, as well as the relationship between the two phenomena.

In modern organizations, knowledge management systems are increasingly supported by digital technologies that enable rapid communication, collaborative learning, and efficient storage of large volumes of information (Hess, et al., 2016). Such systems ensure that knowledge remains accessible even when employees leave the organization, thereby preventing the loss of institutional memory.

2.3 Importance of Knowledge Management

Effective knowledge management offers numerous benefits to organizations and institutions. First, it enhances efficiency and productivity by ensuring that relevant information can be easily accessed from centralized repositories (Verhoef, et al., 2021). When knowledge resources are well organized, employees spend less time searching for information and more time applying it to productive tasks. Second, knowledge management supports informed decision-making. When knowledge is shared transparently across an organization, employees are better equipped to make decisions based on accurate and up-to-date information. This reduces the likelihood of errors that may arise from incomplete or outdated data. Third, knowledge management prevents duplication of effort (Becerra-Fernandez & Sabherwal, 2015). Without structured knowledge management systems, employees may unknowingly repeat tasks or research that has already been completed by others within the organization. Effective knowledge sharing therefore saves time and resources. Fourth, knowledge management encourages collaboration and organizational learning. Thus, promoting a culture of knowledge sharing, organizations can break down information silos that often exist between departments (Bharadwaj, et al., 2013). This fosters teamwork, innovation, and collective problem solving.

2.4 Concept of Digital Technology

Digital technology refers to electronic systems and devices that generate, store, process, and transmit information using binary code represented by the digits zero and one (0 and 1) (Omoniyi & Omoniyi, 2026). Digital technologies include computers, smartphones, tablets, software applications, internet platforms, and

other electronic devices used to process digital data (Zheng, et al., 2010)). Unlike analogue technologies, which rely on continuous signals, digital technologies convert information into discrete numerical values that can be easily stored, manipulated, and transmitted across digital networks. This capability has significantly improved the speed, accuracy, and efficiency of information processing (Hess, et al., 2016). Digital technology has become an integral part of everyday life. It influences nearly every sector of society, including education, healthcare, finance, transportation, communication, and governance. The widespread adoption of digital technologies has therefore created new opportunities for innovation and knowledge dissemination across the globe.

2.5 Concept of Digital Revolution

The digital revolution refers to the profound transformation in technology and society resulting from the widespread adoption of digital computing and communication technologies. It represents a transition from analogue mechanical systems to digital systems capable of processing large amounts of information quickly and efficiently (Westerman, et al., 2014). The digital revolution began in the mid-twentieth century with the invention of key technologies such as transistors, microprocessors, and digital computers. These innovations laid the foundation for the development of modern computing systems and digital communication networks. According to Berners-Lee, the creation of the World Wide Web in 1989 marked a major turning point in the digital revolution by enabling global access to information through interconnected computer networks (Kane, Palmer, Phillips, et al., 2015). The internet rapidly expanded during the 1990s, transforming communication, commerce, and social interaction. Today, the digital revolution continues to evolve through emerging technologies such as artificial intelligence, cloud computing, big data analytics, and mobile communication platforms (Becerra-Fernandez & Sabherwal, 2015). These technologies have fundamentally reshaped how individuals and organizations create, share, and utilize knowledge.

2.6 Historical Development of the Digital Revolution

The origins of the digital revolution can be traced to the invention of the transistor in 1947, which made it possible to build smaller and more efficient electronic devices. During the 1950s and 1960s, digital computers were primarily used by governments, military institutions, and large organizations for complex data processing tasks. The 1970s and 1980s witnessed significant technological advancements with the introduction of microprocessors and personal computers. These developments allowed individuals and businesses to access computing technology on a much larger scale (Omoniyi & Omoniyi, 2026). During this period, innovations such as automated teller machines (ATMs), video games, and industrial robots demonstrated the expanding role of digital technology

in everyday life. The digital revolution accelerated further in the 1990s with the rapid growth of the internet and the development of the World Wide Web. Businesses began establishing websites, and digital communication became increasingly integrated into global economic activities (Gamji, et al., 2021).

By the early 2000s, the widespread adoption of mobile phones, digital cameras, and broadband internet connections further expanded the reach of digital technologies. Social media platforms later emerged as powerful tools for communication and information sharing, enabling individuals to interact across geographical boundaries in unprecedented ways. The digital revolution has therefore transformed not only technological systems but also social structures, economic activities, and cultural practices across the world.

2.7 Digital Revolution and Knowledge Creation

One of the most significant impacts of the digital revolution is its influence on knowledge creation and dissemination. Digital technologies enable individuals and institutions to generate, store, and share knowledge more efficiently than ever before (Iqbal, et al., 2020). Online platforms, digital libraries, and academic databases provide researchers and students with instant access to vast amounts of information. Educational institutions increasingly rely on digital learning management systems, virtual classrooms, and online collaboration tools to support teaching and learning processes (De Freitas, et al., 2020). The internet has also democratized access to knowledge by allowing individuals to publish and share information without the limitations of traditional publishing systems. As a result, knowledge production is no longer restricted to academic institutions but also occurs within online communities, professional networks, and digital platforms. However, the rapid expansion of digital information also presents challenges related to information overload, misinformation, and data management (Kanwal, et al., 2019).

These challenges explain the importance of effective knowledge management systems capable of organizing and filtering digital information.

2.8 Relationship between Knowledge Management and the Digital Revolution

Knowledge management and the digital revolution are closely interconnected. Digital technologies provide the infrastructure necessary for capturing, storing, and sharing knowledge within organizations. At the same time, knowledge management practices ensure that digital information is effectively organized and utilized (Romero-Ochoa, et al., 2025). The digital revolution has created an environment in which knowledge flows rapidly across organizational and geographical boundaries. This has increased the need for institutions to develop structured knowledge management strategies that enable employees to access relevant

information quickly and efficiently. Research suggests that organizations that successfully integrate knowledge management with digital technologies are better positioned to innovate and adapt to changing environments. Digital platforms facilitate collaborative learning, while knowledge management systems ensure that valuable insights are preserved and reused (Ismail & Awang, 2012).

Furthermore, governments around the world are increasingly adopting digital governance systems that rely on knowledge management practices to improve public service delivery and citizen engagement (McIver, et al., 2016). Digital transformation initiatives often involve the integration of knowledge repositories, data analytics tools, and communication platforms to support evidence-based decision-making.

2.9 Digital Revolution, Knowledge Management, and Education

Education plays a central role in the production and dissemination of knowledge within society. Educational institutions are responsible for transmitting knowledge from one generation to another while also generating new knowledge through research and innovation. The digital revolution has significantly transformed educational systems by introducing new teaching methods, digital learning resources, and online communication platforms (Gamji, Kara, & Nasidiand I, 2021). Digital technologies enable students and educators to access information from diverse sources, collaborate across geographical boundaries, and engage in interactive learning experiences (Kanwal, Nunes & Arif, 2019). Knowledge management practices are equally important in educational institutions because they help organize academic resources, research outputs, and instructional materials. Universities and research institutions often rely on digital repositories and academic databases to preserve scholarly knowledge and make it accessible to future generations. Effective integration of digital technologies and knowledge management systems therefore enhances the capacity of educational institutions to support research, teaching, and community development (Sobandi, et al., 2021).

3. Empirical Evidence on Knowledge Management and Digital Technologies

Empirical studies such as Ismail and Awang (2012) and Radicic & Petković, (2023) have increasingly highlighted the positive relationship between knowledge management and digital transformation. Research indicates that organizations that adopt digital technologies to support knowledge management processes often experience improved organizational performance, innovation capacity, and employee collaboration. For example, studies on digital governance demonstrate that governments that integrate digital technologies with knowledge management frameworks are better able to deliver public services efficiently and engage citizens in decision-making processes. Similarly, research on

organizational performance shows that companies with well-developed knowledge management systems tend to exhibit higher levels of productivity and competitiveness (French & Shim, 2016). In the educational sector, empirical evidence suggests that digital learning platforms and knowledge management systems improve students' access to information, promote collaborative learning, and enhance research productivity.

Digital libraries, for instance, provide scholars with immediate access to global knowledge resources that would otherwise be difficult to obtain (Alvarenga, et al., (2020). These findings reinforce the argument that the digital revolution and knowledge management are mutually reinforcing processes that together drive innovation and organizational development.

4. Theoretical Framework

4.1 Nonaka–Takeuchi Knowledge Creation Theory (SECI Model)

The Nonaka–Takeuchi Knowledge Creation Theory (SECI Model), first articulated by Ikujiro Nonaka & Hirotaka Takeuchi in the influential book *The Knowledge-Creating Company* (1995), provides a comprehensive explanation of how knowledge is generated, transferred, and institutionalized within organizations. The theory posits that knowledge creation occurs through the continuous interaction between two fundamental forms of knowledge: tacit knowledge and explicit knowledge. Tacit knowledge refers to personal, experiential, and context-specific knowledge that is difficult to formalize or communicate, while explicit knowledge refers to codified information that can be documented, stored, and transmitted systematically. The theory proposes that knowledge creation occurs through four dynamic processes collectively known as the SECI model, which includes Socialization, Externalization, Combination, and Internalization.

These processes form a spiral of knowledge transformation that allows organizations and institutions to generate innovation, enhance learning, and sustain competitive advantage. In the context of knowledge management and digital technology, the SECI model provides a theoretical lens for understanding how digital infrastructures facilitate knowledge creation and dissemination across institutional and organizational settings. The first stage, socialization, refers to the transfer of tacit knowledge from one individual to another through shared experiences, observation, mentorship, and collaboration. In educational institutions and modern organizations, digital technologies have significantly expanded opportunities for socialization by enabling collaborative learning environments, online communities of practice, and virtual professional networks. Platforms for collaborative learning, digital forums, and knowledge-sharing applications allow individuals to exchange experiential insights and professional expertise regardless of geographical

limitations.

Consequently, digital technologies serve as catalysts that extend the scope and speed of tacit knowledge sharing across institutions. The second stage, externalization, involves converting tacit knowledge into explicit knowledge through articulation, documentation, and conceptualization. This process is particularly important for knowledge management because it enables organizations to capture individual expertise and transform it into institutional knowledge. Digital technologies such as knowledge repositories, digital archives, collaborative writing platforms, and learning management systems facilitate this transformation. In educational settings, lecturers and researchers often convert their tacit pedagogical experiences into explicit instructional materials, digital content, and academic publications. Through this process, knowledge becomes accessible to a wider community of learners and professionals, thereby contributing to institutional learning and organizational transformation.

The third stage, combination, refers to the process of integrating different forms of explicit knowledge to generate new knowledge structures. Organizations and educational institutions increasingly rely on digital technologies such as databases, artificial intelligence tools, big data analytics, and digital knowledge management systems to combine diverse information sources. It is believed that synthesizing datasets, research findings, policy documents, and institutional knowledge, can generate new insights and innovative solutions to complex problems. In the educational sector, digital technologies enable the integration of academic resources, curriculum materials, and research outputs, thereby enhancing teaching effectiveness and institutional decision-making processes. The fourth stage, internalization, involves the process through which individuals absorb explicit knowledge and transform it into tacit knowledge through practice and experience. In other words, individuals learn by doing, thereby internalizing documented knowledge into their professional competencies and cognitive frameworks.

Digital learning technologies such as simulation tools, online training platforms, virtual laboratories, and interactive learning systems significantly enhance this process. These technologies allow learners and employees to experiment with new knowledge, apply theoretical concepts in practical contexts, and develop deeper understanding through experiential learning. The SECI model conceptualizes these four processes as a continuous spiral of knowledge creation, where knowledge moves from individual levels to group levels and eventually to organizational and societal levels. This spiral perspective aligns closely with the idea of organizational and educational transformation, as it highlights how knowledge flows across different layers of institutions and generates innovation over time. In knowledge-driven economies, organizations that effectively manage these knowledge conversion

processes are more likely to adapt to technological changes, foster creativity, and achieve sustainable development.

From a positional perspective, the SECI theory also helps explain how individuals and institutions occupy different roles within knowledge ecosystems. Organizational leaders, educators, technology specialists, and knowledge workers contribute differently to the knowledge creation process depending on their expertise, technological access, and institutional authority. Digital technologies increasingly reshape these positions by democratizing knowledge production and enabling decentralized knowledge networks. As a result, knowledge is no longer confined to hierarchical organizational structures but flows through interconnected digital platforms and collaborative networks. In contemporary educational systems, the integration of digital technology into knowledge management practices has transformed the way knowledge is produced, distributed, and utilized.

Universities and research institutions now rely on digital repositories, open-access platforms, collaborative research environments, and online learning systems to enhance knowledge exchange and innovation. These developments reinforce the relevance of the SECI model because they illustrate how digital infrastructures facilitate the transformation of tacit knowledge into explicit knowledge and vice versa. Furthermore, the SECI model underscores the importance of organizational culture and leadership in fostering effective knowledge management systems. Institutions must create supportive environments that encourage knowledge sharing, collaboration, and continuous learning. Digital technology alone cannot guarantee organizational transformation; rather, transformation occurs when technological infrastructures are integrated with supportive institutional cultures and knowledge-sharing practices.

5. Conclusion

The digital revolution has fundamentally transformed the way information and knowledge are created, stored, and disseminated across societies. Advances in digital technologies have enabled organizations and institutions to process vast amounts of information quickly and efficiently, thereby enhancing communication, collaboration, and innovation. At the same time, the growing volume of digital information has increased the importance of knowledge management systems capable of organizing and utilizing knowledge resources effectively. Knowledge management ensures that valuable organizational knowledge is preserved, shared, and applied to improve decision-making and institutional performance. The relationship between the digital revolution and knowledge management is therefore complementary. Digital technologies provide the tools and infrastructure necessary for knowledge creation and dissemination, while knowledge management

practices ensure that these resources are effectively utilized. In the context of education and organizational development, the integration of digital technologies and knowledge management systems offers significant opportunities for improving learning outcomes, research productivity, and institutional effectiveness. As societies continue to advance into the digital age, the ability to manage knowledge effectively will remain a critical factor in achieving sustainable development and organizational success.

References

- Al-Emran, M., Mezhyuev, V., & Kamaludin, A. (2018). Technology acceptance model in educational technology. *International Journal of Emerging Technologies in Learning*, 13(6), 4–20.
- Alvarenga, A., Matos, F., Godina, R., & Matias, J. C. O. (2020). Digital transformation and knowledge management in the public sector. *Sustainability*, 12(14), 5824.
- Becerra-Fernandez, I., & Sabherwal, R. (2015). Knowledge management: Systems and processes. *Routledge*.
- Bharadwaj, A., El Sawy, O., Pavlou, P., & Venkatraman, N. (2013). Digital business strategy: Toward a next generation of insights. *MIS Quarterly*, 37(2), 471–482.
- De Freitas, V., Yáber, G., & Zepa, C. (2020). Knowledge management systems: Structural model of its success determinants in higher education institutions. *Journal of Business*, 12(2), 45–63.
- Dukić, D., Dukić, G., & Penny, K. (2012). Knowledge management and e-learning in higher education. *International Journal of Knowledge and Learning*, 8(3–4), 313–327.
- French, A. M., & Shim, J. P. (2016). The digital revolution: Internet of Things, 5G, and beyond. *Communications of the Association for Information Systems*, 38, 840–850.
- Gamji, M. B., Kara, N., Nasidi, Q. Y., & Abdul, A. I. (2021). The challenges of digital divide and the use of Web 2.0 platforms as knowledge sharing tools among Nigerian academics. *Information Development*, 38(1), 97–109.
- Hess, T., Matt, C., Benlian, A., & Wiesböck, F. (2016). Options for formulating a digital transformation strategy. *MIS Quarterly Executive*, 15(2), 123–139.
- Iqbal, M., Astuti, E. S., Trialih, R., Wilopo, W., Arifin, Z., & Aprilian, Y. A. (2020). The influence of information technology resources on knowledge management capabilities. *Human Systems Management*, 39(2), 219–230.
- Ismail, R., & Awang, M. (2012). Knowledge-management contextual factors in the emergence of ICT in schools. *International Journal of Management Studies*, 19(2), 67–88.
- Kane, G. C., Palmer, D., Phillips, A. N., Kiron, D., & Buckley, N. (2015). Strategy, not technology, drives digital transformation. *MIT Sloan Management Review*, 14(1), 1–25.
- Kanwal, S., Nunes, M. B., & Arif, M. (2019). Knowledge management practice in South Asian higher education institutions. *Education + Training*, 61(7/8), 897–915.
- Martins, J. M., Gomes, M., Braga, V., & Branco, F. (2023). Digital knowledge management and technostress in organizations: Sustainability implications. *Sustainability*, 15(2), 1184.
- McIver, D., Fitzsimmons, S., & Flanagan, D. (2016). Instructional design as knowledge management. *Journal of Management Education*, 40(1), 47–75.
- Nambisan, S., Lyytinen, K., Majchrzak, A., & Song, M. (2017). Digital innovation management: Reinventing innovation management research in a digital world. *MIS Quarterly*, 41(1), 223–238.
- Omoniyi, T. O., & Omoniyi, A. T. (2026). Integrating technology in pedagogy: Transforming classroom learning in the 21st century. In L. M. Hernández Govea, C. Morales Guzmán, G. Murillo González, & E. García Moreno (Eds.), *Post-digital education: Pedagogy, technology, and transformation* (pp. 74–103). Zenodo.
- Omoniyi T.O (2023) Exploratory Analysis of Core Transferable Soft-Skills for Employability in Higher Education Programme in Nigeria. In Education for Multidimensional Skills and Literacies: Developments And Directions.
- Radicic, D., & Petković, S. (2023). Impact of digitalization on technological innovations in small and medium-sized enterprises (SMEs). *Technological Forecasting and Social Change*, 191, 122474.
- Romero-Ochoa, M. A., Romero-González, J. A., Perez-Soltero, A., Terven, J., García-Ramírez, T., & Córdova-Esparza, D. (2025). Knowledge management strategies supported by ICT for the improvement of teaching practice. *Information*, 16(5), 414.
- Sharma, R., Mithas, S., & Kankanhalli, A. (2014). Transforming decision-making processes: A research agenda for understanding the impact of business analytics on organizations. *European Journal of Information Systems*, 23(4), 433–441.
- Silva, E. S., Oliveira, M., & Santos, R. (2022). Digital transformation and knowledge management relationships in scientific production. *Journal of Information Science*, 48(6), 765–781.
- Sobandi, A., Suryadi, E., Ramdhany, M. A., & Rasto, R. (2021). Knowledge management processes and teacher literacy skills in vocational schools. *Cakrawala Pendidikan*, 40(3), 653–665.
- Tarman, B., Kilinc, E., & Aydin, H. (2013). Using technology to improve student achievement in social studies. *Journal of Contemporary*

- Issues in Technology and Teacher Education*, 13(2), 186–196.
- Tarutė, A., & Gatautis, R. (2014). ICT impact on SMEs performance. *Procedia – Social and Behavioral Sciences*, 110, 1218–1225.
- Tiwana, A. (2000). The knowledge management toolkit. *Prentice Hall*.
<https://doi.org/10.1145/348772>
- Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research*, 122, 889–901.
- Vial, G. (2019). Understanding digital transformation: A review and research agenda. *Journal of Strategic Information Systems*, 28(2), 118–144.
- Westerman, G., Bonnet, D., & McAfee, A. (2014). The nine elements of digital transformation. *MIT Sloan Management Review*, 55(3), 1–6.
- Zack, M., McKeen, J., & Singh, S. (2009). Knowledge management and organizational performance. *Journal of Knowledge Management*, 13(6), 392–409.
- Zheng, W., Yang, B., & McLean, G. N. (2010). Linking organizational culture, structure, strategy, and organizational effectiveness. *Journal of Business Research*, 63(7), 763–771.