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THE DIGITAL EVOLUTION OF BUSINESS, EDUCATION, AND GOVERNANCE IN EMERGING ECONOMIES

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ABSTRACT

This review article examines how digital transformation is reshaping business, education, and governance in emerging economies. While these nations face challenges such as limited infrastructure, weak policy frameworks, and low digital literacy, they also hold immense potential for inclusive digital growth. A systematic literature review based on the PRISMA protocol identified key digital research themes: e-government, mobile money, digital financial services, and ICT-led capacity building. Mobile money and financial inclusion emerged as the most cited themes, with over 2,000 citations, highlighting global policy and scholarly attention. Due to ongoing public sector reforms, E-government and digital education platforms are also central, particularly in Sub-Saharan Africa. Interest in AI and Smart Agriculture is growing, while the importance of data privacy is rising amid increased surveillance and ethical concerns. Strategic recommendations include expanding broadband and electricity access, especially in rural areas, as foundational infrastructure for digital services. Governments must also invest in digital skills training for civil servants, educators, entrepreneurs, and citizens. Robust legal and institutional frameworks are needed to ensure data protection, privacy, and ethical AI use. Additionally, fostering innovative ecosystems through support for incubators, tax incentives, and R&D funding can stimulate local entrepreneurship. Multilateral institutions such as the World Bank, UNDP, and AfDB play a vital role in accelerating digital transformation across emerging economies.

KEYWORDS

Digital Transformation, Emerging Economies, E-Governance, Digital Education, Digital Business, Artificial Intelligence

CITATION

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1. Introduction

This paper explores how digital transformation impacts the evolving dynamics of business, education, and governance in emerging economies. The global digital revolution presents emerging economies with a mix of opportunities and challenges, particularly concerning government, education, and business. The worldwide digital transformation is altering every sector of society. In developing economies, this change is especially powerful, offering distinct chances for bypassing conventional development routes. With the rise of internet access and advancements in digital infrastructure, fields like commerce, education, and administration are experiencing major transformations (World Bank, 2021). This chapter examines the future perspectives of these sectors within the framework of digital transformation, utilizing a systematic literature review (SLR) based on Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)¹ methodology and enhanced by bibliometric mapping through VOS viewer². By focusing on how digital technologies such as e-

¹. PRISMA denotes the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines. PRISMA provides a transparent and replicable framework for selecting, reviewing, and synthesizing academic literature. The PRISMA process enhances objectivity, reduces selection bias, and increases the reliability of findings (Moher et al., 2009).

² **VOS viewer** is a powerful software tool used for constructing and visualising bibliometric networks. It's especially useful for creating keyword co-occurrence maps, author collaboration networks, and citation relationships among journals, documents, or researchers. VOS viewer is widely recognised in scientometric and bibliometric research for its capacity to visualise complex relationships between keywords, authors, institutions, and research themes (Van Eck & Waltman, 2010).

governance, AI, digital entrepreneurship, and e-learning reshape the institutional and socio-economic landscapes in developing nations, we aim to identify core trends and outline strategic imperatives for sustainable digital integration.

The worldwide digital revolution offers developing economies a challenging mix of transformative prospects and significant obstacles, especially in the areas of governance, education, and commerce. Digital technologies present a distinct opportunity for these economies to bypass conventional development phases, facilitating quicker entry to global markets, enhanced governance through electronic platforms, and broader access to quality education through online resources (Ndung'u & Signé, 2020; World Bank, 2021). Digital tools can improve transparency, accountability, and service delivery for governments through e-governance efforts, whereas in education, digital platforms enable wider access to the learning materials, overcoming challenges linked to teacher shortages and geographical barriers (UNESCO, 2021). In the business realm, digital transformation creates fresh opportunities for entrepreneurship, financial inclusion, and innovation networks, allowing micro, small, and medium-sized enterprises (MSMEs) to utilize digital payments, mobile banking, and e-commerce platforms (GSMA, 2022). Nonetheless, these prospects come with their own difficulties. A large segment of the population in developing economies still does not have access to dependable internet infrastructure, affordable digital devices, or sufficient digital literacy, worsening the digital divide and reinforcing existing inequalities (ITU, 2020). In governance, challenges involving cybersecurity, data security, and policy inconsistencies can weaken the trustworthiness and efficiency of digital reforms (OECD, 2020). In education, even with the rise of online platforms, challenges such as language barriers, relevant content, and digital training for educators continue to be significant hurdles. For companies, the implementation of digital technologies is frequently hindered by insufficient funding, restricted technical knowledge, and weak regulatory structures to encourage innovation and safeguard digital rights (Chakravorti et al., 2020). Consequently, the digital revolution can be seen as a double-edged sword: it offers resources that can hasten inclusive development, yet its advantages depend on a nation's capability to strategically invest in infrastructure, develop digital skills, and implement supportive policies that promote equity, innovation, and sustainability.

2. Literature Review

2.1 Theoretical underpinnings

This chapter is underpinned by two key theories:

2.1.1 Diffusion of Innovations Theory

The Diffusion of Innovations Theory (Rogers, 1962) elucidates how, why, and at what speed new concepts and technologies circulate within cultures and communities. It classifies adopters into innovators, early adopters, early majority, late majority, and laggards, according to their readiness and capacity to embrace innovation. This theory offers a structure to evaluate adoption obstacles, policy spread, and the scalability of digital technologies across government, education, and business areas in emerging markets. The pace of digital adoption differs according to infrastructure, social systems, and economic preparedness (Rogers, 2003). For instance, rural areas might be classified as part of the "late majority" or "laggards" group because of restricted access to electricity, internet services, and digital skills. On the other hand, public agencies and urban tech startups could function as "innovators" or "early adopters," influencing future directions for digital transformation in governance and business.

2.1.2 Technology-Organization-Environment (TOE) Theoretical framework

The Technology-Organisation-Environment (TOE) framework expounded by Tornatzky & Fleischer in 1990 recognizes three essential contexts that affect a company's or organization's technology adoption: Technological environment (e.g., digital frameworks, platform access), Contextual organisational factors (e.g., backing from leadership, internal capability), Ecological setting (e.g., policy framework, market demands, rivalry). The TOE framework is especially helpful for examining how different contextual factors affect regions and sectors, illustrating why digitalization thrives in certain emerging economies while stagnating in others. The TOE framework clarifies institutional and systemic preparedness for digital transformation in developing economies. In the public sector, the organizational environment encompasses bureaucratic systems and civil service skills; in education, it pertains to school administration and curriculum design; in business, it involves company size, financial access, and responsiveness. Digital policy frameworks, clear regulations, and support from international donors are crucial in influencing digital transformation paths.

2.2 Empirical Literature Review

This section presents some extant empirical studies on digital transformation regarding governance, education, and business in developing economies.

2.2.1 Digital Governance

Numerous empirical investigations underscore these changes. Obi, Iwasaki, and Sharma (2016) quantitatively evaluated e-government progress across 40 African nations. Utilizing UN e-Government indices, they identified that ICT infrastructure and human capital were the most significant indicators of e-government readiness, highlighting the critical role of fundamental capacity in digital transformations. In Ghana, Adu (2018) conducted qualitative interviews with civil servants and ICT officials to examine the adoption of e-governance. The research highlighted infrastructure deficiencies and bureaucratic resistance as significant obstacles, emphasising that effective execution necessitates a socio-technical harmony between digital technologies and institutional structures. In a different context, Zhou, Zhang, and Li (2020) investigated smart governance in Chinese cities through the use of big data analytics. The research revealed that data-driven systems improved real-time decision-making and public feedback mechanisms, acting as a prototype that could be tailored for other developing economies with robust data governance structures.

2.2.1 Digital Education

Piper, Zuilkowski, and Mugenda (2014) carried out a quasi-experimental investigation in Kenya as part of the PRIMR Initiative. The program that utilized mobile tablets for teaching literacy demonstrated statistically significant enhancements in English reading results for primary students. In Zambia, Kalonde (2017) examined rural schoolteachers and discovered that, although their views on ICT integration were favourable, inadequate infrastructure and training hindered its application. The research highlighted the necessity for programs aimed at enhancing teachers' digital skills. Mpungose (2020) utilised a mixed-methods approach in South Africa to explore the transition to online education amid COVID-19. Although urban students adjusted fairly effectively, those from rural and low-income regions faced digital exclusion, highlighting the ongoing digital divide. Digital learning platforms have greatly transformed conventional education models in the Global South. Nonetheless, differences in availability and application continue to be a key obstacle.

2.2.3 Digital Business and Entrepreneurship

Digital transformation has facilitated novel entrepreneurial models and informal sector innovations in developing economies. Edoho (2015) utilized qualitative approaches to examine how young Nigerian entrepreneurs utilized digital platforms like Instagram and WhatsApp to expand informal enterprises. The research highlighted digital entrepreneurship as a means for economic empowerment. Suri and Jack (2016) conducted longitudinal research in Kenya and Tanzania, demonstrating that mobile money services aided in reducing poverty and enhancing financial inclusion, especially for women. The empirical evidence showed that digital finance can serve as a social safety net. Mwangi and Brown (2022) examined panel data regarding SMEs in Nairobi and discovered that sales through platforms (e.g., Jumia, Kilimall) substantially boosted revenue for businesses owned by youth. These results reinforce the importance of digital platforms in fostering inclusive growth opportunities. Kumar and Goyal (2020) examined the use of artificial intelligence in farming within India. Their results showed enhanced crop forecasting and subsidy allocation, suggesting possibilities for duplication in African agricultural economies facing similar limitations.

Table 1 reports a summary of the empirical literature considered in this chapter.

Table 1. Summary of Selected Empirical Studies: 2013-2023

Author(s)	Region	Sector	Key Findings
Obi et al. (2016)	Africa	<i>Governance</i>	ICT & human capital drive e-governance adoption
Adu (2018)	Ghana	<i>Governance</i>	Institutional barriers impede digital service delivery
Zhou et al. (2020)	China	<i>Governance</i>	Big data enables responsive, smart municipal governance
Piper et al. (2014)	Kenya	<i>Education</i>	Mobile Learning improved literacy outcomes
Kalonde (2017)	Zambia	<i>Education</i>	ICT uptake limited by infrastructure and teacher training
Mpungose (2020)	South Africa	<i>Education</i>	Digital divide persists in online learning
Edoho (2015)	Nigeria	<i>Business</i>	Informal entrepreneurs use social media for business growth
Suri & Jack (2016)	Kenya/Tanzania	<i>Business</i>	Mobile money reduces poverty and supports women
Mwangi & Brown (2022)	Kenya	<i>Business</i>	E-commerce increases SME revenue and youth entrepreneurship
Kumar & Goyal (2020)	India	<i>Business/Gov</i>	AI improves agriculture productivity and public subsidy efficiency

Source: Author's elaboration on Empirical Literature Review

3. Methodology

3.1 The Search Strategy, Inclusion and Exclusion Criteria

Methodologically, the research employed the systematic literature review (SLR) method according to De Freitas Netto et al (2020) based on the idea that the SLR approach permits scholars to root the study within the framework of current knowledge and theoretical concepts. Moreover, the SLR approach guarantees comprehensiveness and rigorous methodology in recognising pertinent research. The systematic review was carried out following the PRISMA framework (Page et al., 2021). Articles published from 2013 to 2023 that underwent peer review were gathered from the following three academic databases: Scopus, Web of Science, and Google Scholar. Key words like “digital transformation,” “e-governance,” “digital education,” “AI in developing markets,” and “digital business frameworks” were employed. The search also included a mapping approach using the VOS viewer software. VOS viewer facilitates the development of bibliometric networks that are based on various metrics, including citation and bibliographic coupling¹, among others (Moya-Clemente et al., 2021). In recent years, a considerable number of academic journals have shifted from conventional print formats to digital publications, adopting open-access policies that enable readers to access their content free of charge. The book chapter focused exclusively on articles published under the open-access model, while excluding those from subscription or paid models.

4. Findings and Discussions

The search yielded a total of 2,157 articles. Specifically, 511 articles were identified from SCOPUS, 975 from the Web of Science (WOS), and 671 from Google Scholar. During the screening phase, it was noted that 103 articles were duplicates found across the three academic databases surveyed, while 38 articles were found to be abridged, and 11 articles addressed the nexus between digital economy and economic growth rather than business, education, and governance in the backdrop of the changing digital landscape. Consequently, the total number of excluded articles, which included duplicates, abridged works, and those focused on the general

¹ Bibliometric coupling is a metric that measures the similarity between documents. It was employed in this study to identify related topics and groups of studies related to greenwashing from across the world regions. For an elaborate discussion, see for example, Jarneving (2007) in “Bibliographic coupling and its application to research”

digital economy, amounted to 152 articles. This resulted in a final sample of 2,005 articles selected from the three academic databases. Figure 1 shows the flow chart of the article selection process.

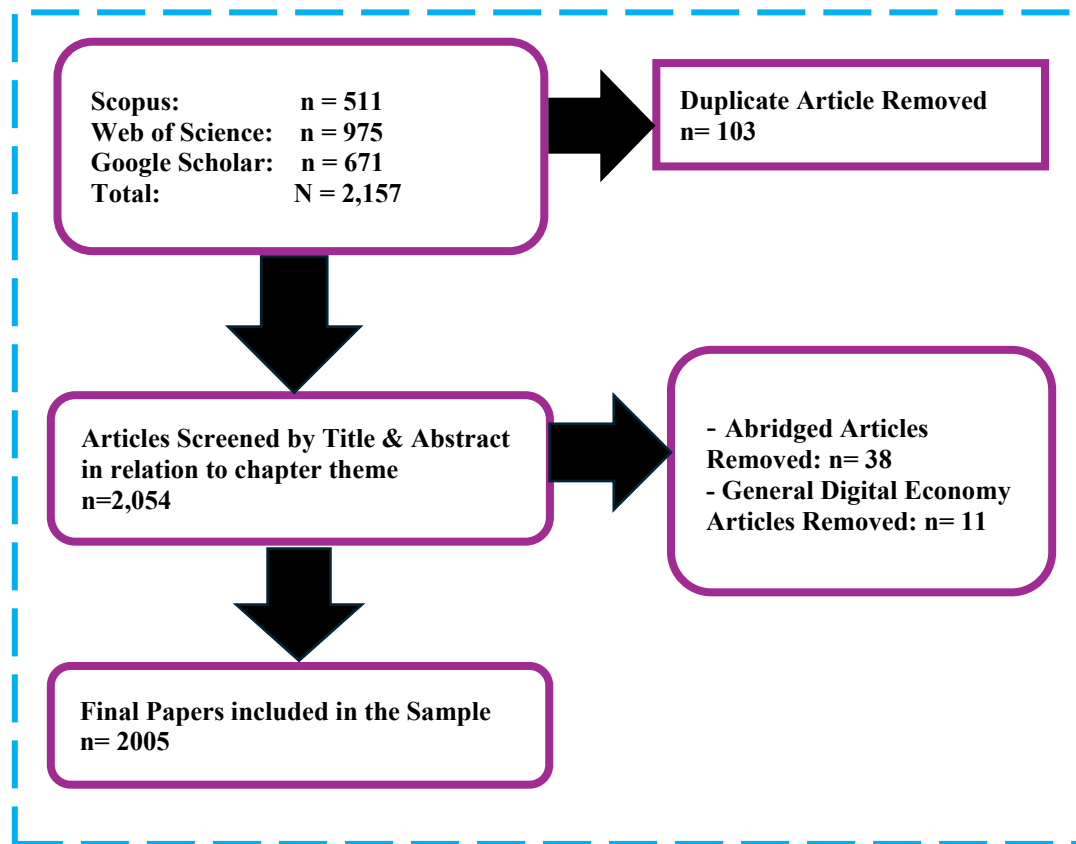


Fig. 1. PRISMA 2021 Flow Diagram: Article Identification and Selection Processes

Table 2 reports on the thematic concentrations, regional focus and citation frequencies of the articles in the sample.

Table 2. Thematic Concentrations, Regional Focus, and Citation Frequencies

Theme	Sector	World Region Focus	Sample Keywords	Total Citations
E-Government and Digital Governance	Governance	Sub-Saharan Africa, Asia	e-government, transparency, digital identity, service delivery	1,248
Mobile Money and Financial Inclusion	Business/Finance	East Africa, South Asia	mobile banking, digital wallets, financial access	2,113
AI and Smart Agriculture	Business/Gov	South Asia, Latin America	precision farming, AI, digital agriculture	989
Digital Learning Platforms	Education	Sub-Saharan Africa, South Asia	e-learning, EdTech, learning apps, education equity	1,076
COVID-19 and Online Education Shift	Education	Global South (mixed)	remote learning, pandemic, digital divide, e-content	834
Digital Entrepreneurship	Business	Nigeria, Kenya, India	informal sector, social media commerce, e-commerce	1,012

ICT Infrastructure and Capacity Building	Business, Governance &	Cross-regional	digital divide, broadband, policy, capacity building	872
Data Privacy and Cybersecurity	Governance	Africa, Southeast Asia	digital trust, surveillance, cybersecurity policy	443
AI in Public Administration	Governance	China, Brazil, India	Machine Learning, algorithmic governance	698
Blockchain for Transparency	Business/Gov	Latin America, Africa	blockchain, anti-corruption, trust	382

Table 2 reports the number of publications by specific world regions, the relevant themes where studies were concentrated and the total number of citations. East Africa and South Asia ranked 1st in terms of total citations with regard to mobile money and financial inclusion, focusing on the business sector, with 1248 citations. Sub-Saharan Africa (SSA) ranks 2nd, focusing on the theme of e-Government and Digital Governance, with total citations of 1248. Digital entrepreneurship theme ranks 3rd with three countries: Nigeria, Kenya, and India contributing to a total of 1012 citations. Digital learning, focusing on the education sector, ranks 4th with a total citation of 1076. The AI and Smart Agriculture theme ranks 5th with a total of 989 citations, while the theme of ICT infrastructure and capacity building, ranking sixth, cuts across the regions with a total citation of 872.

Figure 2 shows the bibliometric mapping of the data reported in Table 2. This gives a visual presentation of the research themes, publications, and citations in Table 2.

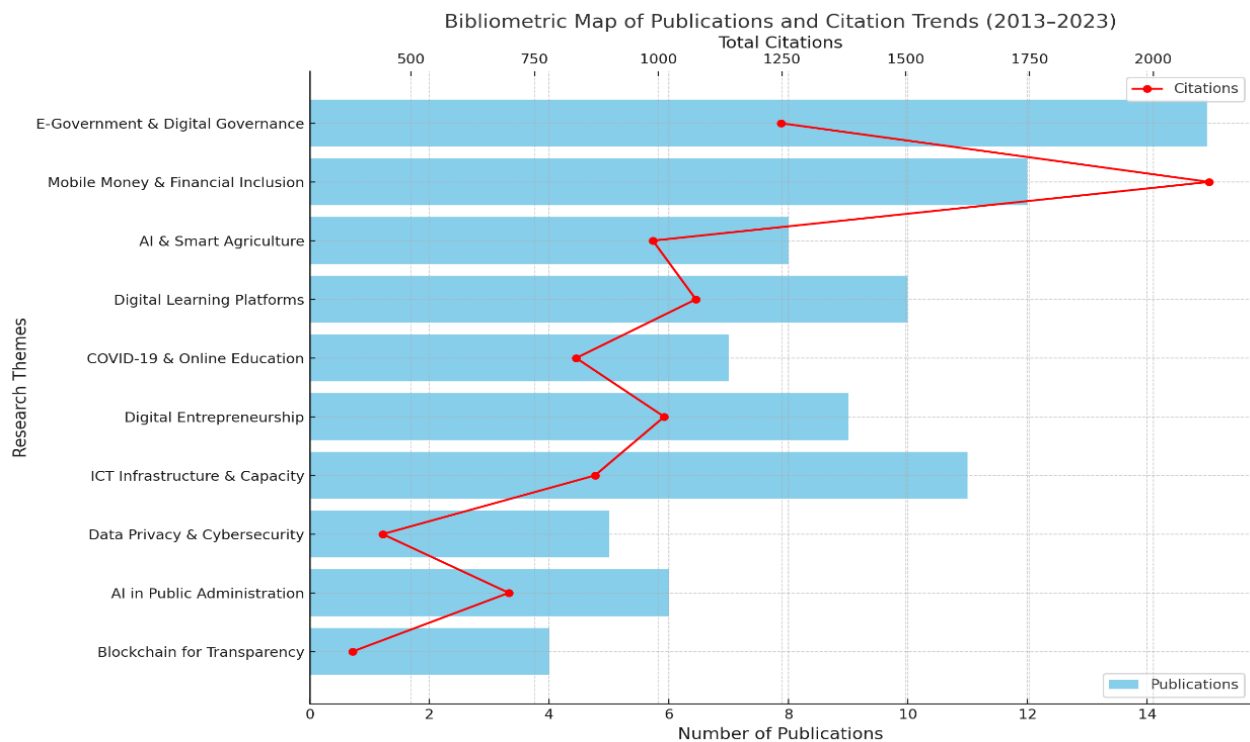


Fig. 2. *Bibliometric Map of Publications and Citations Trends-2013-2023*

Source: Author's Elaboration on Literature Review

The top three leading key thematic research areas unravelled by the systematic literature reviews are the e-government and digital government, with 15 publications, mobile money and financial services, hovering around 12 publications, and ICT and capacity building, with 11. Key insights gained from observations in Table 2 and Figure 2 are that, firstly, the mobile money and financial inclusion exhibit the largest citation count at 2,113, indicating significant scholarly and policy interest, particularly in Kenya, Tanzania, and Bangladesh

(Edoho, 2015; Mwangi & Brown, 2022). Second, e-Government and Digital Education Platforms are key areas of focus, especially in Sub-Saharan Africa, owing to public sector reforms and the modernisation of educational systems (Zhou, Zhang, and Li, 2020). Thirdly, artificial intelligence (AI) and Smart Agriculture are gaining traction in India and Latin America, although references are still lagging behind more established topics. Last and not least, although data privacy has fewer studies, its significance is increasing swiftly because of AI and surveillance ethics (Kumar and Goyal, 2020).

4.1 The Nexus among Digital Education, Governance and Business Entrepreneurship

Digital Transformation: Digital transformation refers to the integration of digital technology across all sectors of an economy, significantly altering how economies function and provide value (Fitzgerald et al., 2013). In developing countries, this change is hastened by mobile tech, cloud services, and AI, leading to important effects on institutional change and innovation (Ndung'u & Signé, 2020). In education, digital transformation is fundamentally altering pedagogical approaches and learning methodologies, thereby broadening access to high-quality educational resources through the utilisation of online platforms, digital materials, and virtual instructional environments. In the business sectors, digital technologies engender innovative paradigms of entrepreneurship, empowering micro, small, and medium enterprises (MSMEs) to penetrate broader markets through e-commerce and digital marketing initiatives. Innovations such as cloud computing, artificial intelligence-driven analytics, and mobile payment systems are significantly augmenting operational efficiency, customer service excellence, and financial inclusivity (Ndung'u & Signé, 2020).

Digital Governance: Digital governance refers to the use of digital technologies by governments to enhance the delivery of public services, improve policymaking, and strengthen transparency and accountability in governance structures. In developing countries, digital governance has emerged as a transformative force, driven by innovations in mobile connectivity, data platforms, and artificial intelligence (Obi, Iwasaki, and Sharma, 2016). In the governance sector, digital tools such as e-government portals, biometric identification systems, and blockchain-based registries are revolutionising service delivery by making it faster, more transparent, and less prone to corruption. These systems enable real-time monitoring of government programs, digital tax collection, and inclusive citizen participation through online feedback and digital voting platforms, thereby deepening democratic governance and trust in public institutions. In the field of education, digital governance is instrumental in managing national education systems more efficiently. Governments can utilise centralised education management information systems (EMIS) to track student enrollment, monitor teacher deployment, and ensure equitable allocation of resources across regions. Digital governance simplifies regulatory processes in the business environment by enabling online business registration, licensing, and tax filing. These digital systems reduce bureaucratic barriers and enhance business efficiency, especially for small and medium enterprises (Adu, 2018).

Digital Education: Digital education encompasses the incorporation of digital instruments, platforms, and content into pedagogical methodologies to augment accessibility, enhance quality, and increase efficiency in the delivery of educational services. In nations characterised by developmental challenges, digital education is progressively perceived as a significant enabler for addressing educational disparities and preparing learners with competencies requisite for the 21st century (UNESCO, 2022). Propelled by advancements in mobile technology, the proliferation of internet connectivity, and the emergence of cloud-based learning modalities, digital education is fundamentally transforming the processes by which knowledge is generated, disseminated, and consumed (Zuilkowski & Mugenda, 2014). Teachers benefit from digital training resources, interactive content, and real-time feedback systems, while students can engage in personalised learning at their own pace. Governments can use digital dashboards and Education Management Information Systems (EMIS) to monitor enrollment, attendance, resource allocation, and performance metrics. Additionally, digital education enables ministries of education to respond rapidly to disruptions, such as during the COVID-19 pandemic, by deploying remote learning strategies, radio/TV schooling, and mobile app-based instruction. Digital education plays a critical role in workforce development and innovation in the business sector. It supports lifelong learning, upskilling, and reskilling initiatives essential for adapting to the changing demands of the digital economy. Companies are increasingly collaborating with e-tech firms to provide online training and micro-credentialing programs tailored to industry needs (Chakravorti et al., 2020).

Digital Business and Entrepreneurship: The development and operation of companies that use digital technologies, such as mobile apps, e-commerce platforms, cloud computing, and artificial intelligence, to provide products and services are referred to as digital entrepreneurship and business. Digital business models are revolutionizing conventional economic operations in developing nations, lowering market access barriers,

and establishing novel routes for inclusive growth (Mwangi & Brown, 2022). This change is especially important when formal job options are scarce and informal economies predominate. Digital transformation allows micro, small, and medium enterprises (MSMEs) in the business sector to expand their operations and reach larger markets via social media marketing and online platforms (Suri & Jack, 2016). Entrepreneurs can now launch online businesses with little money, use mobile payment systems for transactions, and monitor customer behaviour using digital analytics tools. The digital platform-driven gig economy, which generates flexible work opportunities, is especially beneficial to young people and women who encounter obstacles in conventional employment markets. More and more schools are integrating coding, digital literacy, entrepreneurship education, and innovation labs into their curriculum (Edo, 2015). Aspiring business owners may get affordable instruction in financial management, business development, and digital marketing through mobile learning apps, e-tech platforms, and massive open online courses (MOOCs). These tools help would-be entrepreneurs learn independently and overcome obstacles to gaining knowledge. Governments have a crucial role in fostering digital entrepreneurship through supportive regulatory frameworks, investments in digital infrastructure, and public-private partnerships in terms of governance. Several African and Asian governments are establishing digital innovation centres, providing funding and incubation initiatives to support a vibrant digital startup environment (Demirgüç-Kunt et al., 2017; Kumar & Goyal, 2020; UNESCO, 2021).

4.2 Barriers and Strategies to Overcome Challenges in Digital Education, Governance, and Business Entrepreneurship in Emerging Countries

Despite the promising potential of digital transformation, developing nations encounter a number of challenges that prevent the successful integration of digital education, administration, and business entrepreneurship programs. The issues are complicated and cover economic, institutional, infrastructural, and socio-cultural aspects. A holistic, multi-sectoral approach is needed to address the hindrances to digital education, governance, and business in developing nations. Table 3 summarizes the challenges and strategies to overcome them.

Table 3. Challenges to Digital Business, Education and Governance

Barriers/Challenges	Proposed Strategy to Overcome Them
Lack of reliable digital infrastructure: A major obstacle is the absence of dependable digital infrastructure, such as internet access, electricity, and digital devices. Rural and underserved areas frequently have limited broadband coverage, which makes it hard for residents to engage in online education, access e-governance services, or participate in digital business activities (World Bank, 2021).	Governments and development partners should work together to expand digital infrastructure by forming public-private partnerships. Creative approaches like community internet hubs, mobile broadband services, and low-earth orbit satellites can help close connectivity gaps.
Digital Literacy and Skills Gaps: Many people in developing countries don't have the digital skills needed to use online platforms effectively. This issue is common among teachers, government workers, entrepreneurs, and marginalized groups like women and the elderly (UNESCO, 2022).	Countries should put into place national strategies for digital skills, which include training teachers, running entrepreneurship boot camps, and offering specific digital literacy programs. Working together with edtech firms and non-profit organizations can help reach more people and make these programs more accessible.
Regulatory and Policy Limitations: Unclear or outdated rules and regulations often hinder digital governance and innovation. Excessive bureaucracy, absence of strong data privacy laws, and insufficient cybersecurity protections can deter investment and make users less confident in digital platforms (OECD, 2020).	Governments need to update their digital policies to promote e-governance, safeguard data, and foster innovation. Using regulatory sandboxes can give digital startups a safe space to test new ideas while still protecting the public interest (UNCTAD, 2022).
Financial Constraints: Financial challenges, such as the high expenses for devices, data, and digital tools, create major affordability hurdles for students, entrepreneurs, and public organisations (GSMA, 2022). Getting funding for digital startups is still quite limited in many developing areas.	Targeted subsidies, affordable device programs, and microfinance initiatives can help reduce financial challenges. Governments and donors should support digital entrepreneurship funds and encourage inclusive fintech solutions to expand access to financial services.

Socio-Cultural Resistance and Gender Gaps: Cultural norms and gender inequality can restrict people's involvement in digital learning and starting digital businesses. Women often encounter barriers to accessing digital tools in many areas or are less represented in digital leadership roles (UN Women, 2021).	• Inclusive digital policies that address gender disparities and community engagement are crucial. Initiatives that promote women in tech, digital inclusion campaigns, and culturally sensitive outreach can help dismantle these barriers (UNESCO, 2022).
Low Institutional Capacity and Coordination: Government institutions in emerging countries often lack the coordination, skilled personnel, and data systems needed to manage digital transformation effectively (OECD, 2020).	• Developing institutional capacity by providing training, fostering international collaboration, and managing digital transformation effectively is crucial. Creating integrated digital governance systems and centralized platforms can help improve coordination among different ministries and agencies.

Source: Author's elaboration from various literature.

4.3 The Future Outlook for Digital Business, Education & Governance of Emerging Countries

4.3.1 Opportunities

The evolving digital environment gives developing or emerging nations a distinct chance to speed up progress and redefine their business, education, and governance paths. In contrast to developed countries hindered by inflexible legacy systems, emerging economies have the opportunity to adopt adaptive, scalable, and inventive digital solutions customised to their specific socio-economic conditions (AfDB, 2021; UNESCO, 2022)

Leapfrogging: A key opportunity is the potential to bypass conventional development phases by embracing mobile-first and cloud-native approaches. Instead of heavily investing in expensive, obsolete infrastructure like landlines or physical institutions, numerous developing economies are promptly adopting digital technologies. For instance, the extensive adoption of mobile money services such as M-Pesa in Kenya has facilitated financial inclusion without requiring a compact banking infrastructure (Ndung'u & Signé, 2020; World bank, 2021). Likewise, cloud computing enables public agencies and small enterprises to expand services without significant capital investment in physical IT infrastructure. This advancement enables both governments and entrepreneurs to quickly implement services, obtain real-time data, and promote innovation at reduced expenses.

Inclusive Growth: Digital technologies can help close the gaps that historically exist between urban and rural communities, genders, and formal and informal sectors. E-learning platforms, mobile health services, and digital identity systems are increasing access to vital services for marginalized communities. In education, mobile learning platforms can connect with distant learners who have limited access to traditional schools. In governance, digital ID initiatives and digital platforms allow rural residents to obtain benefits, register enterprises, or settle taxes without having to go to administrative hubs (African Union, 2020; World Bank, 2021). Through the use of data-informed service provision, governments and organizations can more effectively direct interventions, ensuring that resources are allocated to those who are most in need.

Innovation Ecosystems: Developing economies are experiencing a rise in entrepreneurial ventures, bolstered by the expansion of innovation ecosystems, such as startup incubators, accelerators, maker spaces, and co-working centres. These areas offer budding entrepreneurs access to guidance, initial funding, internet access, and collaborative networks. The emergence of mobile applications, fintech services, agritech innovations, and edtech resources highlights the increasing ability for local creativity that directly addresses community requirements (GSMA, 2022). In nations such as Nigeria, Rwanda, and Bangladesh, regional startups are creating scalable health, logistics, and education innovations that are revolutionising local economies and attracting global interest. These opportunities demonstrate that, with strategic investment and inclusive digital policies, emerging economies can harness the digital revolution to catch up with developed nations and lead in designing resilient, people-centred innovations that address 21st-century challenges.

4.3.2 Strategic Policy Recommendations

To fully harness the digital era's possibilities, developing economies must implement holistic and proactive policies that tackle fundamental deficiencies and strategic imperatives across various sectors. The subsequent recommendations delineate essential domains for policy intervention while concurrently highlighting the crucial significance of international collaboration.

Digital Infrastructure Investment: A robust and comprehensive digital infrastructure constitutes the fundamental framework for digital transformation. It is imperative that governments prioritise the enhancement of broadband connectivity, particularly in remote and rural regions, alongside ensuring a dependable electricity supply. Digital education, e-governance, and online business ecosystems cannot operate efficiently without these essential facilitators. Public-private partnerships (PPPs) and universal service funds may be utilised to finance the implementation of national broadband networks and initiatives for rural electrification (African Union, 2020; World Bank, 2021)

Capacity Building: The shift to digital technology requires a digitally skilled workforce and institutions that can adapt quickly. Governments need to invest in wide-ranging training programs for civil servants, teachers, entrepreneurs, and the general public. These programs should emphasise ICT skills, digital service provision, cybersecurity awareness, and managing innovation. Collaborations with universities, technical colleges, and online platforms can help expand these initiatives and ensure they reach both city and rural communities (Adu, 2018; UNESCO, 2022; WEF, 2023).

Data Governance Frameworks: As digital systems continue to grow, it is important to establish strong legal and institutional structures to manage data use, protect privacy, and safeguard digital rights. Comprehensive policies on data security, cybersecurity, and ethical AI practices are crucial for building trust with users and investors. Clear laws also facilitate easier cross-border data exchanges and support digital commerce. When creating these frameworks, governments should work with civil society, industry stakeholders, and international partners (Kumar & Goyal, 2020; World Bank, 2021)

Inclusive Digital Policy Design: Policies should consider differences based on gender, location, and socio-economic status. Special focus should be placed on marginalized groups such as women, people with disabilities, and rural communities. Programs ought to provide subsidies for devices and internet access, offer digital content in local languages, and support women-led digital businesses. Inclusivity should be integrated into every stage of digital policymaking, from planning and budgeting to execution and assessment (World Bank, 2021; UNESCO, 2022).

Support for Local Innovation and Entrepreneurship: Governments should foster innovation ecosystems by backing digital incubators, accelerators, and funding options for startups. Providing research and development incentives, tax benefits to small and medium-sized tech enterprises, and streamlining regulations can help boost local entrepreneurship. Education systems should also be revamped to promote creativity, problem-solving skills, and entrepreneurial spirit from a young age, ensuring that future talent is prepared to meet the needs of a digital economy (AfDB, 2021).

Role of Multilateral Institutions: Multilateral organisations like the World Bank, United Nations Development Programme (UNDP), and the African Development Bank (AfDB) are essential in speeding up digital progress in developing countries. They contribute mainly in three ways: providing funding through concessional loans, grants, and mixed finance options to help build digital infrastructure, improve education technology, develop e-governance systems, and support startup ecosystems. For instance, AfDB's Digital Moonshot Initiative plans to invest \$25 billion in Africa's digital economy by 2030 (AfDB, 2021). These organisations also act as platforms for sharing best practices worldwide, coordinating efforts among donors, and promoting collaboration across borders on issues like digital public goods, cybersecurity, and AI governance. Programs such as the World Bank's Digital Economy for Africa (DE4A) encourage regional cooperation and enable countries to learn from each other's experiences (World Bank, 2021; AfDB, 2021; African Union, 2020).

5. Anticipated Trends

As developing or emerging economies adopt digital technologies, several innovative trends are set to impact governance, education, and business practices significantly. These technologies aim to improve efficiency and transparency and offer tailored solutions for longstanding development issues. Blockchain is expected to improve trust and openness in government operations significantly (African Union, 2020). For example, it can be used in land registration to create secure, unchangeable records that help prevent fraud, settle disputes, and make verifying land ownership easier. Countries like Ghana and Rwanda are already testing blockchain-based land registry systems to strengthen land rights and attract investment. Additionally, blockchain is becoming a key tool for secure digital voting, providing clear audit trails and reducing the chances of election fraud, helping to build more trustworthy democratic processes, especially in places where electoral confidence is low. With climate change and food insecurity becoming pressing issues, AI-powered precision agriculture is likely to be a game-changer for developing economies. Technologies like machine

learning and remote sensing allow small-scale farmers to keep track of their crops' health, forecast harvests, improve irrigation practices, and spot pests or diseases instantly. Mobile AI advisory services can give farmers tailored advice on planting, harvesting, and reaching markets. This boosts productivity and helps build resilience and sustainability in farming systems, especially important where agriculture is a primary source of income (African Union, 2020; World Bank, 2021; UNESCO, 2022).

Conclusions

This review article explores how digital transformation impacts the evolving dynamics of business, education, and governance in emerging economies. The global digital revolution presents emerging economies with a mix of opportunities and challenges, particularly concerning government, education, and business. Methodologically, the research employed a systematic literature review following the PRISMA protocol. Findings indicate that the top leading digital thematic research areas are e-government and digital government, mobile money and financial services, and ICT and capacity building. Key insights gained from the review are that the mobile money and financial inclusion exhibit the largest citation count at 2,113, indicating significant growing scholarly and policy interest in this area. Second, e-Government and Digital Education Platforms are key areas of focus, especially in Sub-Saharan Africa. Thirdly, artificial intelligence (AI) and Smart Agriculture are gaining traction in emerging economies. Finally, although data privacy has fewer studies, its significance is increasing swiftly because of AI and surveillance ethics. Therefore, the strategic recommendations are that governments prioritise enhancing broadband connectivity, particularly in remote and rural regions, and ensure a dependable electricity supply because digital education, e-governance, and online business ecosystems cannot operate efficiently without these essential facilitators. The shift to digital technology requires a digitally skilled workforce and institutions that can adapt quickly. Therefore, governments need to invest in wide-ranging training programs for civil servants, teachers, entrepreneurs, and the general public. As digital systems continue to grow, it is important to establish strong legal and institutional structures to manage data use, protect privacy, and safeguard digital rights. Comprehensive policies on data security, cybersecurity, and ethical AI practices are crucial for building trust with users and investors. Governments should foster innovation ecosystems by backing digital incubators, accelerators, and funding options for startups. Multilateral Institutions like the World Bank and the African Development Bank (AfDB) remain critical partners in speeding up digital progress in emerging economies.

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