

Journal of

Business and Strategic Management

(JBSM) **Digital Dynamic Capabilities and Bank Adaptation to
Technological Disruption**



CARI
Journals

Digital Dynamic Capabilities and Bank Adaptation to Technological Disruption



Dr. Doreen Muriu

USIU-A

<https://orcid.org/0009-0008-5421-8765>

Accepted: 20th March, 2026, Received in Revised Form: 28th March, 2026, Published: 8th April, 2026



Abstract

Purpose: This systematic review examines the role of digital dynamic capabilities in enabling banks to navigate and thrive amid rapid technological disruptions. It defines these capabilities, assesses their influence on banks' competitiveness, and explores how they facilitate the effective integration of innovations such as FinTech, artificial intelligence (AI), and blockchain.

Methodology: Following PRISMA guidelines, the review screened 52 studies from an initial pool of 508 records.

Findings: The findings reveal an interconnected process through which banks build and deploy digital dynamic capabilities. Sensing technological disruptions and opportunities emerges as foundational, requiring banks not only to detect changes but to interpret their implications meaningfully within their specific organizational contexts. This sensing phase flows naturally into seizing opportunities, where effective resource orchestration proves essential for mobilizing assets and aligning them with strategic goals. In turn, transforming organizational structures allows banks to embed these digital capabilities deeply, shifting toward agile methodologies and strengthening internal governance to support sustained adaptation.

Unique Contribution to Theory, Practice and Policy: Technological innovations such as AI and blockchain then amplify these capabilities, delivering a competitive edge by simultaneously improving operational efficiency through faster processing, reduced costs, and fewer errors, while elevating customer engagement via personalized services, seamless digital experiences, and heightened trust and security. Regulatory frameworks play a dual role throughout this process: they foster innovation while necessitating careful balance among competition, data privacy, and consumer protection. By synthesizing the dynamic capabilities literature with empirical evidence from banking, this review makes a distinctive contribution. Theoretically, it advances the digital dynamic capabilities framework by clarifying its micro-foundations and application in a highly regulated, information-intensive sector. For policy, it underscores the need for regulatory approaches that promote innovation without compromising stability or inclusion. For practice, it offers bank leaders a coherent roadmap for cultivating sensing, seizing, and transforming routines that convert technological disruption into sustained advantage. Future research should extend this work by examining the intersection of digital dynamic capabilities and financial inclusion, particularly in emerging economies, and by evaluating their effectiveness across diverse regulatory contexts.

Keywords: *Technological disruptions, Adaptation, Dynamic Capabilities, Fintech, Artificial Intelligence (AI), Digital Dynamic Capabilities*

Introduction

Technological disruption is increasingly dominating various industries, including the banking sector, where innovations such as financial technologies (FinTech), digital banking services, blockchain, and artificial intelligence (AI) are rapidly reshaping the financial landscape (Agrawal et al., 2024). For instance, KPMG (2025) reported that global FinTech investment rebounded to \$116 billion across 4,719 deals in 2025, up from \$95.5 billion across 5,533 deals in 2024, driven by advancements in mobile payments, peer-to-peer lending, and robo-advisory services. These developments challenge traditional banking models, compelling banks to evolve swiftly to survive and thrive. However, mere adoption of new technologies is insufficient for survival. Faro et al. (2024) emphasize that navigating technological disruption demands a profound shift in operational models, market responsiveness, and real-time innovation.

Central to this adaptation are digital dynamic capabilities the organization's higher-order processes and capacities to sense emerging digital opportunities and threats, seize them through resource mobilization and integration, and continuously transform or reconfigure internal and external competences to sustain competitiveness amid digital change (Teece et al., 1997; Asamoah et al., 2025). In banking, these capabilities are essential for addressing not only rapid technological evolution but also shifting consumer preferences, regulatory demands, and novel business models. The surge in mobile banking and digital wallets has driven adoption rates above 80% in many developed markets, significantly reducing physical branch usage (Accenture, 2021). In emerging economies, similar innovations have advanced financial inclusion; for example, Kenya's M-Pesa mobile money platform has achieved remarkable penetration, reaching over 90% in recent years, and enabled millions previously excluded from formal banking to participate in digital transactions, transfers, and payments. Concurrently, AI and blockchain compel banks to rethink core strategies and operations. This systematic review therefore explores digital dynamic capabilities and investigates how banks can harness these processes to adapt to and capitalize on technological disruptions.

Statement of the Problem

In the current Kenyan financial market, most traditional commercial banks are harnessing digital dynamic capabilities to adapt seamlessly to technological disruptions, sustaining competitiveness alongside pioneering platforms like M-Pesa. Specifically, M-Pesa has achieved 91% mobile money penetration and processed transactions worth KSh 83.7 trillion in 2025, approximately four times Kenya's GDP, driving financial inclusion from 27% in 2006 to over 84% today (Safaricom PLC, 2025; Central Bank of Kenya, 2025). However, many traditional banks struggle to develop and deploy digital dynamic capabilities amid FinTech dominance, resulting in eroded market share, operational inefficiencies, and slower innovation. This poses a critical problem for traditional banks facing viability threats, regulators concerned with systemic stability, and underserved populations experiencing uneven inclusion benefits (Musau & Muathe, 2025).

Existing studies, such as Odhiambo and Mang'ana (2022) and Musau and Muathe (2025), focus on technological adoption and competitive strategies in Kenyan banks but remain empirical and context-specific, lacking a systematic integration of the Resource-Based View (RBV) with DDCs. Therefore, this review addresses the gap by conducting a PRISMA-based systematic analysis of 52 studies to examine digital dynamic capabilities-RBV integration for enhanced bank adaptation

Objectives and Scope

1. Define and explore digital dynamic capabilities in the context of banking
2. Examine the role of sensing, seizing, and transforming in digital dynamic capabilities
3. Assess the impact of technological innovation on banks' competitive advantage
4. Explore the role of regulatory frameworks in shaping digital transformation in banks.
5. Investigate the integration of the Resource-Based View (RBV) with digital dynamic capabilities to explain how banks leverage valuable, rare, inimitable, and non-substitutable resources to achieve sustained competitive advantage amid technological disruption

Methodology

A systematic literature review approach was adopted to ensure a comprehensive and transparent review of the relevant literature on digital dynamic capabilities and their role in bank adaptation to technological disruption. The review methodology follows the guidelines outlined by Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Liberati et al., 2009), which ensures a structured and replicable review process. The PRISMA guidelines include specific stages: identification, screening, eligibility, and inclusion, which were rigorously followed to maintain clarity and minimize bias in the selection process. To gather relevant studies, a comprehensive search was conducted across five major academic databases: Web of Science, ScienceDirect, SSRN, Scopus, and Google Scholar. These databases were selected based on their wide coverage of peer-reviewed journals, working papers, and industry reports. The search was limited to articles published between 2012 and 2026, focusing on studies related to digital dynamic capabilities, technological disruption in banking, and financial inclusion. Keywords like "digital dynamic capabilities," "bank adaptation," "technological disruption," and "financial inclusion" were used to filter relevant results. Quality assessment of the included studies was conducted using a customized appraisal checklist adapted from Mixed Methods Appraisal Tool (MMAT), evaluating methodological transparency, theoretical/analytical rigor, relevance to the review questions, and overall credibility, with only medium- to high-quality studies retained to ensure the reliability and robustness of the synthesized findings. This minimized bias and enhanced the trustworthiness of the evidence on digital dynamic capabilities in banking.

The following table summarizes the search process, including the number of articles retrieved, screened, and included in the final review:

Table 1: PRISMA Table

Stage	Description	Number of Records
Identification	Records identified through databases	508
Duplicates removed	Records removed	156
Screening	Records screened (titles/abstracts)	352
Records excluded	Irrelevant or off-topic	247
Eligibility	Full-text articles assessed	105
Full-text excluded	Did not meet inclusion criteria	53
Included	Studies included in review	52

A total of 52 articles were included in the final review after screening for relevance, quality, and methodological rigor.

Literature Review

The banking sector has historically depended on physical infrastructure, such as branches, and direct, face-to-face customer interactions to deliver services and build relationships (Agarwal, 2024). This traditional model began to evolve in the early 2000s with the emergence of online banking, which introduced greater convenience and accessibility. The pace of change accelerated significantly over the past decade, driven by the widespread adoption of mobile banking platforms and the rise of FinTech innovations that challenged established practices and expanded service delivery options (Agrawal et al., 2024).

Central to banks' ability to navigate this ongoing shift are digital dynamic capabilities, which enable organizations to continuously sense emerging digital opportunities and threats, integrate new technologies, and adapt their operations in response to rapid environmental changes (Engelmann, 2024). These capabilities extend beyond mere technology adoption, emphasizing higher-order processes that allow banks to remain resilient and competitive in a digitally disrupted landscape.

Scholars have extensively examined the core components of dynamic capabilities; sensing, seizing, and transforming as applied to banking and related contexts. Sensing involves detecting and interpreting digital disruptions and opportunities; seizing entails mobilizing and orchestrating resources to capture value from those opportunities; and transforming requires reconfiguring organizational structures, processes, and competences to sustain adaptation (Engelmann, 2024; Ahmed et al., 2024; Leemann et al., 2021). Research highlights how banks apply these processes to respond to technological shifts, often through iterative experimentation rather than linear implementation.

Technological innovations have also played a pivotal role in reshaping banking processes and enhancing competitive positioning. Advances such as AI-based credit scoring, blockchain-enabled applications, and automated systems have made operations more agile, efficient, and customer-centric, reducing costs, improving decision-making accuracy, and enabling personalized services (Hossain, 2020; Musau & Muathe, 2025). These developments not only streamline traditional activities but also open new avenues for value creation and market expansion.

Nevertheless, as digital transformation intensifies, regulatory frameworks have evolved in parallel to address the implications of these changes. Regulators face the ongoing challenge of balancing the promotion of innovation and competition with the need to safeguard consumers, maintain financial stability, and mitigate risks such as data privacy breaches and cybersecurity threats (Blind, 2016; Pisarkiewicz & Parcu, 2024). This dynamic interplay between innovation drivers and regulatory oversight continues to shape the trajectory of digital banking. The literature presents the multifaceted nature of digital transformation in banking, where historical legacies intersect with emerging capabilities, technologies, and governance mechanisms to determine long-term adaptation and success.

Thematic Analysis of Literature

Historical Context of Digital Dynamic Capabilities in Banking

The concept of dynamic capabilities, rooted in Teece et al. (1997), describes an organization's capacity to sense opportunities and threats, seize them through resource reconfiguration, and transform competences for sustained competitiveness. To begin with, the 2008 Subprime Crisis, contributed to banks adopting dynamic capabilities (Cheng et al., 2023). Traditional banks responded by consolidating via mergers and adopting conservative postures, which temporarily suppressed innovation and new entrants (Pereira et al., 2024, citing Thakor, 2020). This "bonanza" phase gave way to the 2010s FinTech explosion. During this phase, disruptors broke legacy value chains in payments, lending, and advisory services through agile digital models, forcing incumbents to rethink capabilities (Gomber et al., updated in Pereira et al., 2024). Global FinTech users reached 5.62 billion by 2023, with digital payments dominating (Statista, 2023, cited in Pereira et al., 2024). The COVID-19 pandemic proved the decisive inflection point. It triggered an abrupt shift to digital channels, slashing physical branch usage and exposing gaps in real-time adaptability. Studies document how the crisis accelerated sensing of AI, blockchain, and cloud opportunities while demanding rapid seizing through agile squads and regulatory sandboxes (Naeem & Ozuem, 2021; Bhatt et al., 2022; Zuo et al., 2021). In Brazil, for example, open finance initiatives and cloud migrations highlighted cultural and governance barriers that only DDC could overcome (Pereira et al., 2024; McKinsey & Company, 2020). Only 30 % of banks achieved true transformation despite 80 % attempting digital solutions, underscoring the need for higher-order capabilities (Boston Consulting Group, 2022, cited in Pereira et al., 2024).

Post-2020 scholarship has operationalized DDC empirically. Abdurrahman (2024) fused DC with the TOE framework in banking, proving that technological and ecosystem capabilities drive innovation and digital transformation outcomes. In China, He et al. (2025) demonstrated DDC moderating big-data analytics capabilities to enhance performance across Guangdong banks. Jordanian commercial banks studies similarly link digital transformation capabilities to strategic repositioning and performance gains (Alqararah, 2025). In emerging markets, early mobile innovations such as Kenya's M-Pesa (launched 2007) prefigured modern DDC by enabling financial inclusion at scale; by the mid-2020s, these models evolved into broader sensing–seizing–transforming processes. Therefore, banks that cultivate these higher-order processes, rather than merely adopting technology, achieve resilience and sustainable performance in an environment where digital change is no longer episodic but continuous.

The Role of Sensing, Seizing and Transforming

The foundational role of sensing, seizing, and transforming in the development of digital dynamic capabilities cannot be overlooked in the digital landscape of organizations. In banking, where regulatory pressure, legacy systems, and institutional risk logics are dominant, digital dynamic capabilities are shaped as much by managerial cognition and structural constraints as by technological innovation. To begin with, sensing in banks cannot be reduced to environmental scanning or data analytics. Engelmann (2024) challenges the traditional view of sensing as passive detection, arguing instead that it is performative, enacted through organizational routines and managerial framing. In banking, this insight is particularly important. Banks are saturated with data, yet the ability to interpret digital disruption meaningfully depends on dominant institutional logics (Matysiak et al., 2018). Matysiak et al. (2018) argue that a risk-minimization logic may frame fintech startups as compliance threats rather than innovation partners. Thus, sensing is not technologically constrained but cognitively mediated.

Ahmed et al. (2024) extend this by emphasizing change sensing, which is the capacity to recognize internal readiness gaps alongside external opportunities. For banks, sensing digital opportunity without acknowledging internal infrastructural rigidity produces misalignment. For instance, identifying the opportunity of AI-based credit scoring is insufficient if legacy core systems cannot support real-time data integration. Cheng and Corsaro (2024) further complicate sensing by linking it to internationalization. Digital banking platforms transcend national boundaries, but regulatory heterogeneity persists. However, sensing alone does not generate competitive advantage. The analytical tension emerges in the move from sensing to seizing.

Seizing, in banking, is fundamentally about resource orchestration under conditions of uncertainty. Ahmed et al. (2024) highlight leadership commitment as central to seizing digital transformation. Yet in banking, leadership commitment is often moderated by risk governance structures. A study by Leemann, Kanbach, and Stubner (2021) question the linearity of sensing–seizing–transforming, showing that strategic renewal often emerges through experimentation rather than grand strategic

shifts. Rather than wholesale transformation, banks frequently adopt incremental digital overlays. This raises a critical analytical question: does incremental seizing undermine transformative potential? The answer appears contingent on organizational flexibility. If incremental investments accumulate into systemic capability development, they reinforce digital dynamic capability. If they remain siloed experiments, they generate digital fragmentation.

Wilke and Kanbach (2026) emphasize IT-enabled dynamic capabilities as evolutionary constructs. From this perspective, seizing depends not merely on capital allocation but on the flexibility of digital architecture. Banks operating with modular IT systems can redeploy digital assets more effectively. Conversely, those burdened by monolithic legacy systems face structural rigidity. Thus, seizing is conditioned by prior transformation investments. These recursive dynamics blurs the boundaries between seizing and transforming. The role of the chief digital officer, highlighted by Barrachina et al. (n.d.), further illustrates this complexity. The chief digital officer is not simply an implementer but an orchestrator who aligns digital initiatives with organizational governance. Therefore, seizing in banks is both structural and political involving power redistribution within organizational hierarchies.

Transforming, on the other hand, involves reconfiguring deeply institutionalized structures. Engelmann's (2024) performative perspective suggests transformation is enacted in everyday practices. In banks, this includes shifting from waterfall IT development to agile methodologies, embedding digital risk governance frameworks, and normalizing experimentation. However, such shifts are frequently impeded by monolithic legacy systems, which, due to their rigid, tightly coupled architectures, resist incremental change, limit modularity, and perpetuate structural inertia. However, Matysiak et al. (2018) warn that dominant logics constrain transformation. Banking institutions historically prioritize stability and compliance. Karami (2025) integrates market sensing with digital logistics and sustainability, emphasizing systemic integration. Moreover, Cheng and Corsaro (2024) show that digital capabilities enable international scalability, but only if organizational structures support global integration.

Technological Innovation as a Key Competitive Advantage

The concept of competitive advantage refers to the unique attributes or capabilities that allow a company to outperform its rivals (Musau & Muathe, 2025). In the banking sector, competitive advantage has traditionally been linked to physical infrastructure, customer service, and pricing strategies. However, as digital transformation accelerates, technological innovation has emerged as a critical enabler of sustained competitive advantage. According to Odhiambo and Mang'ana (2022), banks that strategically embrace technological innovations such as mobile banking platforms, automated teller machines (ATMs), and digital wallets can gain a competitive edge by enhancing their customer service offerings, reducing costs, and improving operational efficiency. This perspective is reinforced by Hossain (2020), who examines how technological innovation has impacted the competitive development of Bangladesh's private commercial banks. Hossain argues

that digital innovations such as mobile banking, internet banking, and automated payment systems not only increase efficiency but also provide a mechanism for business growth by expanding market reach.

As digital banking channels evolve, new technologies such as service automation, data analytics, and digital payment solutions become key to maintaining competitive advantage. Musau and Muathe (2025) explore how these innovations are positioned as the future of banking in Kenya. The study finds that service automation such as the use of chatbots, automated customer service systems, and AI-driven financial advisory services improves operational efficiency by reducing reliance on human resources while offering round-the-clock service. This operational efficiency translates into cost savings and allows banks to reinvest in other areas of their business, such as product innovation or market expansion. Musau and Muathe (2025) emphasize that data-driven decision-making is central to providing personalized banking experiences that increase customer satisfaction and loyalty. This approach is further supported by Akinwale, Adepoju, and Olomu (2017), who demonstrate that digital technologies (e.g., data analytics platforms and machine learning algorithms) contribute to a bank's profitability by enhancing decision-making and allowing for more accurate credit risk assessments and loan management. According to Musau and Muathe (2025), these innovations are not only driving financial inclusion but also enhancing the speed and convenience of banking services, which ultimately strengthens customer loyalty and engagement.

Dynamic capabilities are crucial because the pace of technological change in the banking sector requires banks to be agile and responsive. Ul Amin and Khan (2024) argue that dynamic capabilities enable banks to sense new technological opportunities, seize these opportunities, and reconfigure their operations in line with evolving digital trends. Max et al. (2021) further argue that digital transformation is an ongoing process, requiring banks to possess the agility to adopt new technologies, integrate them into existing systems, and scale their operations as necessary. This is particularly important in the digital era, where technological disruption is constant. Norouzi, Nosrat Panah, and Barani (2022) note that leaders who prioritize digital transformation and create a culture that values technological experimentation are more likely to ensure that their institutions stay ahead of the competition. This is because digital leadership enables banks to align technological innovations with business strategies and foster an innovation culture that drives long-term growth.

This leadership-driven approach is echoed by De Fano, Schena, and Russo (2025), who discuss the concept of AI ambidexterity, the ability of organizations to balance new AI applications with refining existing AI systems. For banks, adopting this ambidextrous innovation approach requires strong leadership support and a willingness to invest in both cutting-edge technologies and existing infrastructure improvements. In resource-based view perspective, Wibisono and Supoyo (2023) argue that banks can achieve a competitive advantage by leveraging technological assets that are

valuable, rare, and inimitable. These technological resources include proprietary algorithms, data analytics platforms, and digital banking systems that are difficult for competitors to replicate. This perspective highlights that technology alone does not guarantee success; banks must also have the organizational capabilities to fully exploit these digital resources. Van Hoang et al. (2025), further supports this concept by arguing that digital capabilities, whether in the form of AI, data analytics, or payment platforms, must be continuously improved and aligned with organizational strategy to provide long-term competitive differentiation.

Regulatory Responses on the Adoption of Digital Dynamic Capabilities

Innovations in digital banking channels have significantly enhanced the availability and accessibility of financial services, expanding reach and convenience for customers (Pisarkiewicz & Parcu, 2024). At the same time, these advancements introduce complexities that necessitate adaptive regulatory frameworks to govern digital finance effectively. While regulatory responses generally aim to promote competition, innovation, and market integrity, they also impose challenges related to data privacy, cybersecurity, compliance burdens, and the need for a level playing field among traditional banks, FinTech firms, and third-party providers (Seyedjafarrangraz et al., 2025). In this context, regulatory environments form a critical part of the external dynamism that banks must navigate through their digital dynamic capabilities (DDCs).

DDCs enable banks to treat regulations not merely as constraints but as catalysts for sustained adaptation and competitive advantage. A prominent example is the European Union's Payment Services Directive 2 (PSD2) and associated open banking regulations, which mandate banks to share customer data with authorized third-party providers upon consent. This fosters a more competitive ecosystem by spurring new services and products (Van Hoang et al., 2025). The Korea Development Institute's (2021) analysis underscores the value of such frameworks in opening data access and driving competition. However, these rules also generate a multifaceted compliance landscape, requiring banks and providers to manage heightened obligations (Laba et al., 2025). A key challenge lies in data privacy: with more entities accessing sensitive banking information, robust cybersecurity becomes essential, alongside strict adherence to the General Data Protection Regulation (GDPR), which safeguards consumer privacy (Bharti & Aryal, 2023). Here, DDCs support banks in sensing privacy risks, seizing compliant data-sharing models, and transforming governance to integrate privacy-by-design principles.

Regulatory frameworks intended to enhance competition can inadvertently stifle innovation if overly rigid or poorly calibrated. Blind (2016) notes that stringent rules or burdensome compliance demands may deter technological investment, particularly for smaller institutions facing elevated costs. Heled (2015) adds that such frameworks can inadvertently create protective barriers favoring large incumbents with greater resources to meet complex requirements. For instance, the UK's Digital Competition Bill (2024) seeks to regulate digital platforms for fairness, yet overly restrictive antitrust provisions could impose unintended hurdles on digital banks (Dubey, 2025).

Banks with strong DDCs are better positioned to sense these regulatory pressures as threats or reconfiguration opportunities, seize value through agile compliance strategies, and transform operations to maintain innovation momentum.

The fast-evolving technological landscape in finance demands regulatory agility the capacity of regulators to respond swiftly to innovations and market shifts (Laba et al., 2025). Pisarkiewicz and Parcu (2024) emphasize that such agility is vital for effective oversight of digital markets and stability preservation. As data-driven technologies like AI, blockchain, and machine learning reshape banking, regulators must evolve dynamically to protect consumers and ensure fair competition. This agility aligns with and reinforces banks' DDCs by fostering an environment where sensing emerging tech-regulatory intersections, seizing compliant innovation paths, and transforming internal capabilities become more feasible. Haykal (2025) highlights the growing sophistication of cybersecurity threats in evolving digital services, underscoring the need for regulators to continually update frameworks. Seyedjafarrangraz, De Fuentes, and Zhang (2025) advocate for longitudinal cross-country studies to map global regulatory responses, further illustrating the adaptive interplay.

Mechanisms such as regulatory sandboxes-controlled environments for testing innovative digital banking services can profoundly influence sector dynamics by lowering entry barriers for new entrants (Amaral et al., 2023). These sandboxes facilitate banks' seizing and transforming processes under DDCs, offering low-risk spaces for experimentation, resource reconfiguration, and capability development in harmony with rules, thus mitigating perceived burdens and accelerating adoption. Pisarkiewicz and Parcu (2024) caution, however, that sandboxes require flexibility to match technological pace; overly restrictive designs could exclude smaller innovators.

A persistent regulatory challenge involves ensuring data-sharing rules (e.g., under open banking) avoid exposing consumers to undue privacy risks. Chen, Li, and Zhang (2024) stress the growing imperative for responsible innovation amid advancing digitalization. Seyedjafarrangraz et al. (2025) call for global regulatory collaboration to harmonize standards across jurisdictions, enabling consistent compliance for multi-region operators and supporting innovation without sacrificing protection. Pisarkiewicz and Parcu (2024) further advocate regulatory convergence as digital technologies increasingly merge traditional banking, FinTech, and digital currencies.

Ultimately, agile, collaborative, and balanced regulatory frameworks complement banks' digital dynamic capabilities by creating a supportive external context for sensing opportunities in regulated spaces, seizing value through compliant yet innovative strategies, and transforming organizations to thrive amid ongoing digital and regulatory disruption. This is essential for banks to harness technological change while upholding stability, consumer trust, and inclusive growth.

Digital dynamic capabilities and financial inclusion

Digital financial services have proven to be instrumental in providing access to banking services for populations that were historically excluded from formal financial systems (Faro et al., 2024). According to Grebem and Mihus (2025), the ability of banks to leverage mobile banking, digital wallets, and micro-lending platforms has enabled broader financial access, especially in regions with limited banking infrastructure. The role of dynamic capabilities in promoting financial inclusion is particularly evident in the study by Wati (2024), which underscores the importance of dynamic capabilities, such as the ability to leverage emerging technologies and integrate digital tools into their operations.

Similarly, Xu et al. (2025) present an integrated model that links digital inclusion with sustainable economic performance by arguing that financial institutions that leverage digital capabilities are more likely to foster inclusive growth and sustainable development. Building on this idea, Laba, Dewi, and Alamzah (2025) argue that while financial literacy is essential for making informed financial decisions, the digital capabilities of financial institutions are equally important in ensuring that financial products are tailored to the needs of businesses. Another study by Faro et al. (2024) argue that financial institutions must not only embrace technology but also cultivate organizational agility to stay competitive and ensure that their services reach underserved communities.

Abdurrahman (2025) further explores the impact of digital transformation on digital product innovation within the banking industry. The study integrates the Resource-Based View (RBV) and dynamic capabilities processes to provide a more comprehensive explanation of sustained competitive advantage in dynamic digital environments. RBV posits that firms achieve superior performance through possession of valuable, rare, inimitable, and non-substitutable (VRIN) resources such as proprietary digital technologies, data assets, and technological infrastructure in banking. However, in rapidly changing contexts like technological disruption, static resource advantages alone are insufficient; this is where dynamic capabilities extend RBV by emphasizing the firm's higher-order processes to sense opportunities, seize them through resource reconfiguration, and transform the organization accordingly (Teece et al., 1997). Abdurrahman highlights how financial institutions can leverage their VRIN digital resources (per RBV) while deploying strong dynamic capabilities to continuously adapt, integrate, and reconfigure those resources. This integration enables the creation of innovative products such as micro-lending platforms, mobile payments, and digital savings tools that are accessible to underserved populations. Ultimately, this alignment of RBV's focus on resource heterogeneity with DC's emphasis on resource evolution allows banks to innovate in ways that directly enhance financial inclusion, tailoring solutions to meet the unique needs of excluded or underbanked segments.

In a similar vein, Valdez-Juárez et al. (2024) discuss how digital transformation and dynamic capabilities contribute to the financial performance of SMEs in Mexico. The study argues that dynamic capabilities enable financial institutions to create financial products that are specifically

designed to address the challenges faced by SMEs, such as access to credit and capital. By leveraging digital tools such as data analytics, AI, and cloud computing, banks can provide customized financial solutions that enhance financial inclusion and promote long-term sustainability for SMEs. The findings suggest that dynamic capabilities allow financial institutions to remain competitive by continuously adapting to technological advancements and responding to the changing needs of SMEs.

The role of financial inclusion in building financial capability is also examined by Greben and Mihus (2025), who emphasize the transformative impact of financial inclusion on individuals' ability to make sound financial decisions. The study demonstrates that when individuals gain access to digital financial services, they are better equipped to manage their finances, save for the future, and access credit. Financial inclusion thus plays a central role in promoting economic empowerment and financial literacy. Greben and Mihus (2025) argue that digital capabilities in financial institutions are essential for reaching underserved populations and ensuring that they have access to the tools needed to build financial capability.

The theme of dynamic capabilities and digital financial services enhancing financial inclusion is further supported by Asamoah et al. (2025), who focus on the relationship between digital innovation, managerial capabilities, and financial performance in the banking sector. The study by Asamoah et al. (2025) finds that banks that possess strong digital innovation capabilities are better equipped to offer inclusive financial services and improve their financial performance. The research underscores that dynamic managerial capabilities, such as the ability to leverage digital platforms, adapt to market changes, and develop new financial products, are critical for enhancing financial inclusion and promoting sustainable development.

Organizational and Cultural Barriers to Digital Transformation.

While integration of technologies such as mobile banking, digital payments, and AI-driven services has been seen as a game-changer in expanding financial inclusion, improving operational efficiency, and enhancing customer engagement, the process of digital transformation is not without significant challenges (Aboulkacim et al., 2025). One of the most common organizational barriers to digital transformation is the persistence of legacy systems, which were often not designed with digital integration in mind. Gupta (2018) argues that outdated technological infrastructures in banks are a significant hindrance to adopting new digital tools. Legacy systems often operate in silos, making it difficult for organizations to implement modern solutions that require interoperability between various platforms. Therefore, Gupta (2018) emphasizes that banks must either re-engineer or replace their legacy systems to support the introduction of digital banking channels (DDCs). However, such transitions are often costly, time-consuming, and risk-laden. The financial and operational costs of replacing outdated systems can deter many organizations from fully embracing digital transformation.

The cost of change is a key concern in organizations with deeply embedded legacy systems. According to Trushkina et al. (2020), the complexity of updating or replacing these systems presents a major organizational barrier, especially when organizations are already accustomed to established workflows and technologies. Cultural inertia, which refers to the reluctance to adopt change, is more pronounced when employees and leaders are invested in the status quo (Gupta, 2018). This resistance to change, particularly in public organizations or more bureaucratic structures, is further compounded by the fear of disruption to daily operations. In this regard, Rusu et al. (2020) explore how cultural barriers affect digital transformation, particularly in public organizations in Sri Lanka. The study reveals that in traditional settings, organizational inertia often manifests in reluctance to shift from manual processes to automated systems. This resistance to change creates a significant barrier to digital transformation, as employees fear the unknown and worry about job security due to the automation of processes. Rusu et al. (2020) argue that overcoming cultural inertia is vital for successfully implementing digital transformation, as it requires organizations to foster a culture that is more open to innovation and continuous learning.

The introduction of advanced technologies in the banking sector, such as AI, machine learning, and blockchain, demands employees who possess high-level technical skills. However, many banks face a significant skills gap, a barrier to fully embracing digital transformation. Aboukacim et al. (2025) emphasize that a lack of digital expertise is particularly evident in public sector organizations, where the focus has traditionally been on regulatory compliance and service delivery rather than technological advancement. In particular, there is a notable shortage of digital champions or leaders who can drive change within organizations (Aboukacim et al., 2025). Similarly, Syed et al. (2023) argue that digital transformation barriers are especially pronounced in developing countries, where access to high-quality digital education is often limited. The lack of training programs tailored to the needs of employees in financial institutions results in low levels of digital literacy and a lack of confidence in using digital tools. Thus, without the proper skills, employees may resist using digital systems or fail to maximize their potential, thereby slowing the pace of transformation.

Furthermore, Trushkina et al. (2020) discuss the role of organizational culture in shaping the success of digital transformation efforts. They argue that a culture of innovation is necessary to support the adoption of digital technologies, but many organizations in the public sector struggle to build such a culture due to their hierarchical and bureaucratic structures. These structures typically favor stability over change, making it difficult for employees to experiment with or adapt to new digital tools. Besides, the study by Bjerke-Busch and Aspelund (2021) highlights the difficulties of fostering a digital culture in the public sector, particularly in bureaucratic organizations where employees are not accustomed to taking risks or making quick decisions. Digital transformation often requires empowered teams that can act quickly, adapt to change, and solve problems innovatively skills that are not typically emphasized in traditional, top-down organizational cultures. Bjerke-Busch and Aspelund argue that public organizations, in particular,

must invest in changing their organizational culture to support digital agility and risk-taking, which are essential for the successful implementation of digital transformation.

Effective leadership is critical to overcoming cultural and organizational barriers to digital transformation. Jakab, Kaszás, and Ernszt (2023) assert that the leadership style within an organization directly influences how easily the workforce can embrace technological change. In the case of digital transformation, leaders must foster a vision that aligns with the goals of digital integration and must create an environment that encourages innovation, collaboration, and continuous learning. Jakab et al. emphasize that digital champions, who are leaders with a deep understanding of digital tools and technologies, play a key role in driving cultural change within organizations. These leaders are responsible for creating a culture of digital adoption and ensuring that employees are provided with the resources and training they need to succeed in a rapidly changing environment.

Firican (2023) explores the relationship between digital culture and organizational readiness for digital transformation. Firican argues that digital transformation cannot succeed without the buy-in of leadership, which is essential for driving the digital cultural shift within the organization. Leaders must demonstrate a commitment to digital adoption, invest in training programs, and provide the necessary resources for employees to develop digital competencies. A failure to lead by example can significantly hinder the transformation process, as employees are less likely to embrace new technologies if they do not see leadership actively engaged in the transformation.

To overcome these barriers, it is essential for organizations to develop a holistic strategy that addresses both technological and cultural challenges. Uzule and Verina (2023) suggest that financial institutions must prioritize digital skills development, implement leadership training programs, and invest in building a digital culture that encourages innovation and experimentation. This can involve organizational restructuring to promote cross-functional collaboration, empowerment, and entrepreneurial thinking among employees. Additionally, organizations must provide a safe space for experimentation, allowing employees to test new technologies and approaches without the fear of failure.

Bjerke-Busch and Aspelund (2021) also recommend the creation of a supportive infrastructure that fosters a culture of digital resilience. This includes establishing training programs that enhance digital literacy at all levels of the organization and encouraging employees to take ownership of their own digital skills development. Furthermore, organizations should provide ongoing support through mentorship, feedback loops, and communities of practice to ensure that employees remain engaged and motivated throughout the digital transformation process.

Managerial Implications

1. Financial institutions should prioritize continuous investment in digital transformation to build and sustain strong digital dynamic capabilities.

2. Managers should encourage a mindset of continuous learning and experimentation across all levels of the bank by setting clear goals for innovation, rewarding digital-savvy employees, and championing change throughout the organization.
3. Managers should view evolving regulatory frameworks, such as open banking and PSD2, as opportunities to drive innovation and enhance customer value rather than as constraints.
4. Managers should focus on using digital technologies to expand banking services to underbanked or underserved populations.

Policy Implications

1. Policymakers should design regulations that foster innovation while maintaining financial stability.
2. As digital banking platforms and third-party collaborations increase, policymakers must ensure that strong data security and privacy protections are in place.
3. Policymakers should prioritize digital solutions that drive financial inclusion, particularly in underserved and remote areas.
4. Policymakers should ensure that regulations are balanced and equitable, providing a level playing field for both traditional banks and new FinTech companies.
5. In an increasingly globalized financial environment, policymakers should work toward creating international standards for digital banking and financial services.

Conclusion and Future Research

In conclusion, this review has shown that digital dynamic capabilities play a crucial role in enabling banks to adapt to technological disruptions, fostering innovation, and maintaining competitiveness in an increasingly digital landscape. Through the ability to sense, seize, and transform, banks leverage emerging technologies like AI, blockchain, and mobile banking, thereby enhancing operational efficiency, customer engagement, and critically, financial inclusion. This is made possible by extending accessible services such as mobile payments, micro-lending, and digital savings tools to underserved populations. This enables them to stay ahead of market changes. However, challenges such as regulatory compliance, organizational barriers, and data security remain significant. Building on these insights, future research should focus on exploring the intersection of digital dynamic capabilities, regulatory frameworks, and financial inclusion, particularly in emerging economies. Additionally, there is a need for more empirical studies examining how digital dynamic capabilities impact performance across different regulatory environments and banking models. Instead of local assessment, future studies should also consider assessing the effect of digital dynamic capabilities on cross-border banking, especially in terms of global regulatory harmonization and international financial inclusion initiatives.

References

- Abdurrahman, A. (2025). Examining the impact of digital transformation on digital product innovation performance in banking industry through the integration of resource-based view and dynamic capabilities. *Journal of Strategy & Innovation*, 36(1), 200540.
- Aboulkacim, A., Lemperos, D., & Rusu, L. (2025). Structural and cultural barriers to digital transformation in Swedish public organizations. *Procedia Computer Science*, 256, 106-113.
- Agrawal, S. S., Rose, N., & PrabhuSahai, K. (2024). The fintech revolution: AI's role in disrupting traditional banking and financial services. *Decision making: applications in management and engineering*, 7(1), 243-256.
- Ahmed, S., Abd Aziz, N., Haque, R., Bin S. Senathirajah, A. R., & Qazi, S. Z. (2024). Digital transformation in Malaysian manufacturing: a study of change sensing and seizing capabilities. *Cogent Business & Management*, 11(1), 2392046.
- Akinwale, Y. O., Adepoju, A. O., & Olomu, M. O. (2017). The impact of technological innovation on SME's profitability in Nigeria. *International Journal of Research, Innovation and Commercialisation*, 1(1), 74-92.
- Amaral, A., Morgan, M. G., Mendonça, J., & Fuchs, E. R. (2023). National core competencies and dynamic capabilities in times of crisis: adaptive regulation of new entrants in advanced technology markets. *Research policy*, 52(4), 104715.
- Asamoah, C. A., Takyi, K. N., Klapalová, A., Agirre-Aramburu, I., & Matošková, J. (2025). Dynamic Managerial Capabilities, Digital Innovation and Perceived Financial Performance in the Banking Sector. *Scientific African*, e03157.
- Barrachina, M., Gonzalez-Sanchez, M. B., & Berbel-Vera, J. Key Cdo Functions for Successful Digital Transformation: Insights from a Delphi Study. *Available at SSRN 3984134*.
- Bharti, S. S., & Aryal, S. K. (2023). The right to privacy and an implication of the EU General Data Protection Regulation (GDPR) in Europe: Challenges to the companies. *Journal of Contemporary European Studies*, 31(4), 1391-1402.
- Bjerke-Busch, L. S., & Aspelund, A. (2021). Identifying barriers for digital transformation in the public sector. In *Digitalization: Approaches, case studies, and tools for strategy, transformation and implementation* (pp. 277-290). Cham: Springer International Publishing.
- Blind, K. (2016). 15. The impact of regulation on innovation. *Handbook of innovation policy impact*, 450, 40.

- Central Bank of Kenya. (2025). Kenya National Financial Inclusion Strategy (2025-2028). <https://www.centralbank.go.ke/wp-content/uploads/2025/12/Kenya-National-Financial-Inclusion-Strategy-2025-2028.pdf>
- Cheng, S., Fan, Q., & Huang, M. (2023). Strategic orientation, dynamic capabilities, and digital transformation of commercial banks: a fuzzy-set QCA approach. *Sustainability*, 15(3), 1915.
- Chen, Y., Li, J., & Zhang, J. (2024). Digitalisation, data-driven dynamic capabilities and responsible innovation: An empirical study of SMEs in China. *Asia pacific journal of management*, 41(3), 1211-1251.
- Cheng, M., & Corsaro, D. (2024, August). Nexus of Digitalization and Internationalization: A Review of DDCs in International Business Strategy. In *27th EISIC Conference Proceedings*. Federico Brunetti.
- De Fano, D., Schena, R., & Russo, A. (2025). Harnessing AI ambidexterity for competitive advantage: the role of dynamic capabilities in digital innovation ecosystems. *European Journal of Innovation Management*, 1-15.
- Dubey, A. (2025). A Legal and Economic Analysis of the Draft Digital Competition Bill, 2024. Available at SSRN 5615730.
- Engelmann, A. (2024). A performative perspective on sensing, seizing, and transforming in small- and medium-sized enterprises. *Entrepreneurship & Regional Development*, 36(5-6), 632-658.
- Faro, B., Abedin, B., Cetindamar, D., & Daneshgar, F. (2024). Dynamic capabilities for nimbleness and resilience in a continuous digital transformation: action design research in an Australian financial services organisation. *Journal of Enterprise Information Management*, 37(4), 1206-1226.
- Firican, D. A. (2023). Digital transformation and digital culture: A literature review of the digital cultural attributes to enable digital transformation. In *Proceedings of the International Conference on Business Excellence* (Vol. 17, No. 1, pp. 791-799). Sciendo.
- Greben, S., & Mihus, I. (2025). BRIDGING THE GAP: THE TRANSFORMATIVE ROLE OF FINANCIAL INCLUSION IN BUILDING FINANCIAL CAPABILITY. *Pedagogy and Education Management Review*, (3 (21)), 29-39.
- Gupta, S. (2018). Organizational barriers to digital transformation.
- Haykal, H. (2025). Toward a Responsive Legal Framework: Addressing Transaction Security Risks in Indonesia's Digital Banking Services. *International Journal of Law and Society*, 4(2), 234-249.

- Heled, Y. (2015). Regulatory competitive shelters. *Ohio St. LJ*, 76, 299.
- Hossain, M. Z. (2020). *An Innovative Growth Model for Competitive Development of Private Commercial Banks of Bangladesh* (Doctoral dissertation, University of Dhaka).
- Jakab, B., Kaszás, N., & Ernszt, I. (2023). The impact of organizational culture on the opportunities and threats in digital transformation. *International Journal of Management, Knowledge and Learning*, 12(1), 8-19.
- Karami, M. (2025). Integrating Market Sensing, Digital Logistics, and Green Operations: A Dynamic Capabilities Perspective on Superior Business Performance. *TMP Universal Journal of Law, Business, and Management*, 1(3).
- Korea Development Institute. (2021). *Case Studies on the Regulatory Challenges Raised by Innovation and the Regulatory Responses*. OECD Publishing.
- KPMG. (2024). *Global fintech investment rebounds in 2025, supported by stronger exit activity*. <https://kpmg.com/xx/en/media/press-releases/2026/02/global-fintech-investment-rebounds-in-2025-supported-by-stronger-exit-activity.html#:~:text=2025%20%E2%80%93%20Key%20highlights,across%201%2C055%20deals%20in%202025>.
- Laba, A. R., Dewi, A. R. S., & Alamzah, N. (2025). The Influence of Dynamic Capabilities, Financial Literacy, and Financial Inclusion on Sustainability of MSMEs in East Kalimantan, Indonesia: The Mediating Role of Financial Performance. *Global Business & Finance Review*, 30(10), 216.
- Leemann, N., Kanbach, D., & Stubner, S. (2021). Breaking the paradigm of sensing, seizing, and transforming-evidence from Axel Springer. *Journal of Business Strategies*, 38(2), 95-124.
- Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gøtzsche, P. C., Ioannidis, J. P., ... & Moher, D. (2009). The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate healthcare interventions: explanation and elaboration. *Bmj*, 339.
- Marx, C., de Paula, D., & Uebernickel, F. (2021). Dynamic capabilities & digital transformation: A quantitative study on how to gain a competitive advantage in the digital age.
- Matysiak, L., Rugman, A. M., & Bausch, A. (2018). Dynamic capabilities of multinational enterprises: the dominant logics behind sensing, seizing, and transforming matter!. *Management International Review*, 58(2), 225-250.
- Musau, N. N., & Muathe, S. M. (2025). Service Automation, Data Analytics and Digital Payment Solutions: The Future of Competitive Advantage of Commercial Banks in Kenya.
- Norouzi, H., Nosrat Panah, R., & Barani, S. (2022). The influence of digital leadership on firm performance in dynamic environments: The role of dynamic capabilities, business model

- innovation, and sustainable competitive advantage. *Journal of Business Management*, 14(3), 445-474.
- Odhiambo, O. E., & Mang'ana, R. (2022). Strategic adoption of technological innovations on competitive advantage of commercial banks in Kenya. *Journal of Business and Strategic Management*, 7(2), 16-36.
- Pisarkiewicz, A. R., & Parcu, P. L. (2024). Empowering Regulatory Agility: Bridging the Technological Gap for Effective Digital Markets Oversight.
- Rusu, L., Balasuriya, P. B., & Bah, O. (2020, November). Cultural barriers in digital transformation in a public organization: A case study of a Sri-Lankan organization. In *European, Mediterranean, and Middle Eastern Conference on Information Systems* (pp. 640-656). Cham: Springer International Publishing.
- Safaricom PLC. (2025). Annual report and financial statements.
- Syedjafarrangraz, F., De Fuentes, C., & Zhang, M. (2025). Mapping the global regulatory terrain in digital banking: a longitudinal study across countries. *Digital Policy, Regulation and Governance*, 27(3), 327-347.
- Syed, R., Bandara, W., & Eden, R. (2023). Public sector digital transformation barriers: A developing country experience. *Information Polity*, 28(1), 5-27.
- Trushkina, N., Abazov, R., Rynkevych, N., & Bakhautdinova, G. (2020). Digital transformation of organizational culture under conditions of the information economy. *Virtual Economics*, 3(1), 7-38.
- UI Amin, N., & Khan, M. A. (2024). Driving Competitive Advantage in the Digital Era: The Role of Dynamic Capabilities, Innovation, and Leadership. *Dinasti International Journal of Economics, Finance & Accounting (DIJEFA)*, 5(5).
- Uzule, K., & Verina, N. (2023). Digital barriers in digital transition and digital transformation: Literature review. *Economics and Culture*, 20(1), 125-143.
- Valdez-Juárez, L. E., Ramos-Escobar, E. A., Hernández-Ponce, O. E., & Ruiz-Zamora, J. A. (2024). Digital transformation and innovation, dynamic capabilities to strengthen the financial performance of Mexican SMEs: a sustainable approach. *Cogent Business & Management*, 11(1), 2318635.
- Van Hoang, D., Thi Hien, N., Van Thang, H., Nguyen Truc Phuong, P., & Thi-Thuy Duong, T. (2025). Digital capabilities and sustainable competitive advantages: The case of emerging market manufacturing SMEs. *Sage Open*, 15(2), 21582440251329967.

- Washington, P. B., Rehman, S. U., & Lee, E. (2022). Nexus between regulatory sandbox and performance of digital banks—A study on UK digital banks. *Journal of Risk and Financial Management*, 15(12), 610.
- Wati, I. (2024). Digital Financial Services and Financial Inclusion as Drivers of SME Performance: The Moderating Effect of Dynamic Capabilities. *Jurnal Pustaka Cendekia Hukum dan Ilmu Sosial*, 2(3), 491-502.
- Wibisono, H., & Supoyo, M. (2023). Business transformation: exploring dynamic capabilities, technological innovation, and competitive advantage through the lens of resource-based view in construction services companies. *Journal of Contemporary Administration and Management (ADMAN)*, 1(3), 263-270.
- Wilke, B., & Kanbach, D. K. (2026). IT-enabled dynamic capabilities: classification and evolution of key concepts in the literature. *Journal of Organizational Change Management*, 1-17.
- Xu, Y., Faraz, A. Z., Sarfraz, M., Arshad, S., Sun, J., & Ahmad, A. (2025). Strategic capabilities for sustainability: An integrated model of digital inclusion and sustainable performance. *Sustainable Development*.



©2026 by the Authors. This Article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>)