Tanzania Journal of Development Studies, Vol. 22, No. 2, 2024: 47–68

Perceived Influence of Digital Transformation on the Performance of Microfinance Institutions in Tanzania

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Abstract

This study investigates the perceived influence of digital transformation (DT) on the performance of microfinance institutions (MFIs) in Tanzania; focusing on managerial, financial, and operational dimensions. Employing the resource-based view (RBV), the study demonstrates how digital transformation serves as a crucial asset that enhances organizational performance and provides a competitive edge. With the aid of self-administered questionnaires, the data were collected from 146 randomly sampled MFI owners/managers, and analysed using the partial least squares–structural equation modelling (PLS-SEM) technique in SmartPLS 5. The findings reveal that DT positively and significantly influences the managerial, financial, and operational performance of MFIs. The paper emphasizes the contribution of RBV in showing how DT is an unique and valuable resource that drives performance and competitive advantage within the financial sector. To policymakers and practitioners, the findings inform targeted policies and initiatives that facilitate technology adoption and resource optimization. Furthermore, the findings encourage future research to explore the diverse economic sectors, methodological approaches, and contextual variables to deepen the understanding of the impact of digital transformation across various settings.

Keywords: *digital transformation, performance of microfinance institutions, perceived influence*

https://dx.doi.org/10.56279/NJIY8787/TJDS.v22i2.3

Introduction

The increasing adoption of digital technologies (digital transformation) has profoundly reshaped operations across various sectors, particularly within financial services (Pal et al., 2023). Rajgopal et al. (2023) define digital transformation as the integration of digital technologies into all organizational facets, altering how organizations deliver value and engage with stakeholders, including customers. As such, it is a critical driver of organizational performance, enhancing areas such as records management, employee evaluation, and social responsibility within the workplace. It fosters social responsibility by enabling transparent communication and inclusive decision-making processes (Kohtamäki et al., 2020), while also boosting employee engagement, and upholding ethical standards (Rajgopal et al.,

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2023). Additionally, digital transformation includes performance management systems that assess employee quality and contributions more accurately, thereby enhancing employee performance (Kohtamäki et al., 2020).

Moreover, digitalization enhances staff training by providing up-to-date resources (Kohtamäki et al., 2020), enabling employees to deliver cutting-edge services, and ensuring higher levels of customer satisfaction. By integrating digitally transformed systems, organizations can more effectively and efficiently meet performance goals, regulatory requirements, and stakeholder demands. Firms with digitally transformed systems can retain customers by offering them personalized services and efficient solutions tailored to their needs (Rajgopal et al., 2023). For businesses like microfinance institutions (MFIs)—which are organizations that provide small loans, savings accounts, and other financial services to low-income individuals who lack access to traditional banking services—digital integration helps them in understanding customer behaviour and preferences. This facilitates the delivery of targeted products and services through data-driven decision-making. Digital services—such as mobile banking and online account management—further enhance customer convenience and satisfaction (Niemand et al., 2021), helping organizations meet their goals of stronger stakeholder relationships, higher client loyalty, and long-term success (Koloseni & Mandari, 2024). For small financial businesses like MFIs, these technological advancements are crucial for growth and competitiveness.

Understanding the performance of MFIs is crucial as it directly impacts their ability to support economic development and financial inclusion (Pal et al., 2023). In Tanzania, a large segment of the population runs small businesses without adequate access to financial services, underscoring the critical role of microfinance institutions (MFIs) in meeting their financial needs (Gwanyemba & Kilonzo, 2023). Despite their developmental importance, the low performance of MFIs in developing countries remains a significant challenge. The increasing number of layoffs among employees in MFIs can largely be attributed to the financial strains these institutions experience due to their inability to retain and pay staff. As MFIs struggle to maintain profitability—often due to low loan repayments or poor resource management—they may be forced to reduce their workforce to stay afloat. This reduction in the number of employees is a direct consequence of the institutions' inability to generate sufficient revenue to cover operational costs, including salaries. In many cases, this financial instability may result into MFIs failing to attract and retain skilled personnel, leading to further operational inefficiencies. It is important to note that such challenges, although specific to MFIs, reflect broader issues within the financial sector; including market saturation, competition, and customer risk profiles.

Moreover, a worrying trend has been observed in developing contexts where several registered and licensed MFIs have been closing their doors within three years of their inception (Al-Doori, 2020). This pattern of early closure is largely a consequence of escalating operational costs, which include employee salaries,

office overheads, and technological infrastructure. According to Ampah (2021), these mounting expenses can be alleviated through the adoption of digital systems, which streamline operations and reduce the need for a large workforce. Digital tools and platforms can automate many manual processes, such as loan application assessments, customer data management, and repayment tracking; thereby reducing the reliance on manual labour and lowering operational costs (Aghazadeh et al., 2024). One key issue is the lack of financial literacy among the target population, particularly in rural areas, which can be effectively addressed through digital tools, as noted by Ampah (2021). Many MFIs struggle to fully understand the needs of their potential clients through face-to-face interactions alone, leading to lower repayment rates and financial instability. However, digital platforms can provide clearer and more accessible financial education, thereby improving client understanding and repayment rates (Aghazadeh et al., 2024).

Microfinance Institutions (MFIs) need to achieve higher performance as they directly influence stakeholders' satisfaction by demonstrating their ability to generate returns on their investments (Batchimeg, 2017). Higher performance enhances service delivery, expands access to underserved populations (Heredia et al., 2022; Slavković et al., 2023), boosts stakeholder confidence, and attracts investors (Indriastuti & Kartika, 2022). Among other indicators, performance reflects the effectiveness of operational strategies, including digital transformation (Rajgopal et al., 2023). Through the lens of the resource-based view (RBV) by Penrose (1959), digital transformation is a critical resource that businesses can leverage to enhance their competitive advantage. It optimizes operational efficiencies (Pal et al., 2023), extends the scope of services (Kromidha, Yadav & Ilavarasan, 2023), strengthens networks (Dorfleitner, Forcella & Nguyen, 2022; Pal et al., 2023), and improves managerial performance (Abdulquadri et al., 2021). However, despite these theoretical predictions from the RBV, the impact of digital transformation in the microfinance sector remains insufficiently researched.

This study ties into the RBV, which emphasizes the importance of valuable, rare, inimitable, and non-substitutable (VRIN) resources in enhancing organizational performance. In the context of MFIs, technology serves as a critical organizational resource that can significantly impact an institution's ability to compete and grow (Sinha & Ghosh, 2022). As a valuable asset, technology can streamline operations, improve efficiency, and support better decision-making by providing access to real-time data (Atiyas & Dutz, 2021). It is rare since not all MFIs may possess the same level of technological infrastructure or expertise, making it a unique advantage (Atiyas & Dutz, 2021). Technology is also inimitable and non-substitutable because it may be deeply embedded within an organization's operations, shaping its culture, processes, and service offerings in ways that are difficult for competitors to replicate (Hadeed, 2022). By effectively leveraging technology as a key resource, MFIs can enhance their operational performance, improve financial stability, and position themselves for long-term sustainability in a competitive market (Kimoni, 2023). However, the effect of digital transformation on MFIs in Tanzania remains unclear.

Despite extensive research on the nexus between digital transformation and performance, a knowledge gap exists, particularly concerning MFIs in developing contexts like Tanzania. Much of the existing research on digital transformation and MFI performance has been conducted in advanced economies (Setiawan et al., 2022; Shehadeh et al., 2023; Shen, Zhang & Liu, 2022) where digital infrastructure, technological adoption and regulatory environments are more mature (Shehadeh et al., 2023; Tafotie, 2020). Due to this maturity, the findings from these studies have limited relevance to developing countries such as Tanzania, leaving a contextual gap with significant policy and practical implications. Theoretically, this study tests the RBV in Tanzania's digitally less mature microfinance sector.

Literature

The RBV posits that an organization's performance is determined by its ability to leverage internally held resources that are valuable, rare, inimitable, and non-substitutable (Barney, 1991; Penrose, 1959). Among these resources, financial assets, skilled personnel, and physical infrastructure—such as machinery—are essential. However, in today's rapidly evolving business environment, digital technologies have emerged as critical resources that organizations can exploit to gain a competitive edge. For microfinance institutions (MFIs), digital tools have the potential to significantly enhance operational efficiency, streamline loan processing, improve customer service, and contribute to long-term managerial and financial performance. These technologies enable MFIs to reach wider customer bases, reduce operational costs, and offer faster, more reliable services that are vital for maintaining sustainability and growth (Binaluyo, Santos & Agustin, 2024).

In addition to improving day-to-day operations, digital technologies allow MFIs to adopt advanced analytics to better track performance metrics, assess risk, and fine-tune their financial strategies. This shift towards a more data-driven approach strengthens financial decision-making and enhances managerial effectiveness by facilitating improved strategic planning and performance monitoring (Liu et al., 2023). There is a wealth of empirical evidence across various sectors highlighting the positive impact of digital transformation on organizational performance, often categorized into three key dimensions: operational performance, financial performance, and managerial performance. For MFIs, integrating digital technologies can lead to significant improvements in these areas, thereby enhancing both short-term efficiency and long-term competitive positioning.

Digital Transformation and Organizational Operational Performance

The influence of digital transformation has primarily been assessed at an individual level within larger organizations (Guzmán-Ortiz et al., 2020; Niemand et al., 2021). Undoubtedly, digital transformation is a powerful tool for microfinance institutions, including those in finance, to build and maintain operational performance in the digital age (Mavlutova et al., 2022; Mpofu, 2023). Scholars have highlighted that transformed systems play a crucial role in organizational operations, as businesses aim to improve efficiency while reducing costs (Mavlutova et al., 2022; Mpofu &

Mhlanga, 2022). Several findings indicate that digitalized systems enhance specific business processes, including the provision of services (Abdulquadri et al., 2021), promotions (Shi & Wang, 2023), and customer retention (Gil-Gomez et al., 2020), among others. However, little attention has been directed towards examining the relationship between digital transformation and operational performance at the micro level, particularly in MFIs in developing contexts.

As digital technologies continue to evolve, they enhance the performance and growth of existing businesses, and enable the creation of new, competitive ventures (Abdulquadri et al., 2021). These technological transformations improve organizational operations, promote innovative service delivery, and inspire the development of new business models (Gil-Gomez et al., 2020). Many firms see digital transformation as a key strategy for driving profitability through innovation (Gil-Gomez et al., 2020). However, most research (Guzmán-Ortiz et al., 2020; Mavlutova et al., 2022) has focused on larger firms in developed regions like the United States, Europe, and the Middle East, with less attention being given to MFIs in developing contexts. This gap may stem from the varied and complex impacts of digital transformation in the MFI sector. While much of the academic focus has been on broader trends—such as the growth of digital users (Dorfleitner et al., 2022) and customer satisfaction (Abdulquadri et al., 2021)—the specific effects on MFIs remain underexplored. For instance, research by Miguel et al. (2022) and Mavlutova et al. (2022) on the automobile industry emphasized the role of digital transformation in improving stakeholder satisfaction, an insight that could also apply to MFIs as they embrace digital change.

Another notable explanation is based on the fact that digital transformation, as a single variable, is difficult to measure by itself. Most studies focus on other factors such as financial performance resulting from specific types of digital technologies, rather than on the broader concept of digital transformation. For instance, Ballouk et al. (2024) concluded that social media usage as part of digital technologies positively influences banking performance in terms of customer satisfaction. Similarly, Nu'man et al. (2020) found that social networking significantly influences firm performance in the manufacturing sector. They further suggest that the influence of digital transformation is often assessed through its various components and their direct effects on key performance metrics. By examining specific digital tools like social media and social networking, researchers struggle to precisely determine how digital transformation contributes to enhanced performance in different industries, thus limiting a more tangible measure of its benefits. This approach clearly explains the role of digital transformation in improving operational, managerial, and financial outcomes across sectors (Abdulquadri et al., 2021; Kitsios, Giatsidis & Kamariotou, 2021).

Moreover, most studies primarily focus on various technologies within the spectrum of digital transformation, neglecting the holistic concept of digital transformation in organizational operations (Mpofu & Mhlanga, 2022). Generally,

organizations benefit from the combination of various aspects of digital systems examined by scholars, without fully considering digital transformation in its entirety (Abdulquadri et al., 2021; Aghazadeh et al., 2024). This oversight may explain why the effects of digital transformation on organizational performance remain uncertain. While the potential advantages of digital technologies are well-documented in academic studies and business reports, they often assume that digital transformation has a significant impact on organizations, but fail to explain how it influences organizational performance (Mpofu, 2022). Tsou and Chen (2023) noted that most organizations spend over US$1m annually on digital transformation projects to enhance performance. Despite the substantial investments directed toward digital transformation, however, limited attention has been given to its influence on the performance of MFIs in the context of developing economies (Mpofu, 2022). Based on the above-reviewed literature, this study proposes the following hypothesis:

H1: *There is a positive relationship between digital transformation and organizational operational performance.*

Digital Transformation and Organizational Financial Performance

Unlike traditional information technology (IT), modern digital tools sustain the operations of existing businesses and encourage the implementation of innovations, ultimately enhancing organizational growth (Nu'man et al., 2020). They facilitate more efficient processes, improve customer interactions, and create new business models; hence leading to increased competitiveness and market share in the sector where a business operates (Ballouk et al., 2024). According to Tsou and Chen (2023), organizational financial performance is a crucial indicator of financial health and success. It is evaluated through metrics such as revenue growth, profitability, return on assets, return on equity, and overall financial stability. These measures reflect the effectiveness of a company's operational strategies and practices, demonstrating its ability to generate income, efficiently utilize resources, and maintain a robust financial position in the sector (Nu'man et al., 2020). Therefore, transforming an organization's operation through digital systems plays a significant role in driving financial performance, and positioning businesses for long-term success in an increasingly digital economy.

Kitsios et al. (2021) highlighted that digital transformation enhanced the financial performance of the banking sector in Greece by leveraging advanced technologies to boost marketing efforts and increase advertising reach, subsequently driving higher customer engagement and loan uptake. Utilizing digital platforms enables banks to tailor their marketing campaigns more precisely to reach a broader audience, thereby attracting new customers and retaining existing ones (Abdulquadri et al., 2021). This increase in a customer base contributes to the growth of a bank's profit, and establishes a strong foundation for sustained financial success in the competitive financial services market (Abdulquadri et al., 2021; Aghazadeh et al., 2024). By expanding their value proposition and enabling more innovative and effective advertising strategies, banks

can increase their market share and create more personalized banking experiences, further solidifying customer loyalty (Kitsios et al., 2021). Additionally, integrating digital tools streamlines operations and reduces costs, contributing to overall profitability (Ballouk et al., 2024). Ultimately, the strategic use of digital transformation allows banks to achieve significant financial gains and maintain a competitive edge in an increasingly digital landscape.

Wang et al. (2024) conducted a study focusing on digital transformation and the financial performance of insurance companies in China. Their findings revealed that digital transformation significantly enhances the financial performance of insurance companies by driving revenue growth through advanced technologies that improve customer acquisition and retention (Abdulquadri et al., 2021; Aghazadeh et al., 2024). However, the study also indicated that personalized marketing and streamlined services help attract more customers, thereby boosting a company's income (Mpofu, 2022). This revenue growth positively influences the return on assets (ROA) by optimizing the use of resources to generate profits. As Abdulquadri et al. (2021) suggest, an improved return on assets (ROA) enhances the return on equity (ROE), demonstrating a company's effectiveness in delivering returns to shareholders. Therefore, by leveraging digital tools, insurance companies may achieve substantial financial growth and stability, thus strengthening their competitive position in the market.

The unique challenges and opportunities presented by Tanzania's economy—including limited infrastructure and varying levels of technological adoption—underscore the need for tailored studies to understand how digital transformation can enhance financial performance within the microfinance sector (Ngowi, 2022). While existing studies have extensively explored the impact of digital transformation on financial performance in larger financial institutions across developed economies (Tsou & Chen, 2023; Wang et al., 2024), there is a significant need for researching MFIs in Tanzania as they are critical in promoting financial inclusion among underserved communities, where traditional banking services are often inaccessible (Minja et al., 2022). Hence, understanding how digital transformation strategies can be effectively implemented and adapted to overcome infrastructural challenges and leverage technological opportunities is crucial for enhancing the operational efficiency, customer outreach, and overall financial sustainability of MFIs in Tanzania (Mpofu, 2022). Based on the above-reviewed literature, this study proposes the following hypothesis:

H2: *There is a positive relationship between digital transformation and organizational financial performance.*

Digital Transformation and Organizational Managerial Performance

Organizational managerial performance in the context of digital transformation within financial institutions involves effectively leveraging digital tools and systems to optimize workforce management, enhance operational efficiency, and facilitate

strategic decision-making (Dorfleitner et al., 2022). This includes overseeing how digital technologies streamline and automate processes, thereby reducing operational costs and improving overall performance metrics. Engaging employees with digital systems for communication and data acquisition enables managers to enhance collaboration, access real-time information, and make informed decisions swiftly (Kitsios et al., 2021). This integration of digital tools not only empowers managers to better control and coordinate workforce activities, but also fosters a dynamic organizational environment that is responsive to technological advancements and competitive pressures in the financial sector. Thus, managerial performance in the digital transformation era is characterized by the adept utilization of digital resources to drive operational excellence and strategic growth initiatives within financial institutions.

In their study, Wanyonyi and Ngaba (2021) discovered that digital transformation positively impacts managerial satisfaction, notably within savings and credit cooperative societies in Kakamega County, Kenya. The study demonstrated that implementing digital technologies facilitated smoother and more efficient operational processes, enhancing managers' ability to oversee daily activities and make informed decisions. Similarly, Abdulquadri et al. (2021) noted that by streamlining tasks such as member management, loan processing, and financial reporting through digital platforms, managers experienced increased customer satisfaction due to improved accuracy, speed, and accessibility of information. This transformation boosted managerial efficiency and contributed to overall organizational effectiveness, highlighting the significant role of digital tools in modernizing financial services, and enhancing stakeholder satisfaction in cooperative societies.

In their study, Jardak and Ben-Hamad (2022) centred on Swedish-listed companies to explore the impact of digital transformation on management performance. Their findings highlighted a discernible relationship where digital transformation positively influences how effectively and efficiently management functions within these organizations. This aligns with the suggestion from Wang et al. (2024): that the adoption of digital technologies contributes to enhanced managerial decision-making, operational efficiencies, and strategic agility. Such improvements or adoption are crucial for navigating contemporary business challenges, leveraging data-driven insights, and fostering innovation in managerial practices. The study by Jardak and Ben-Hamad (2022) highlights the significance of digital transformation in optimizing managerial performance, thereby reinforcing the competitive position and long-term sustainability of companies operating in dynamic and digitally-driven environments, where competition is particularly intense.

Linggadjaya et al. (2022) conducted a study examining the impact of digital transformation on PT Bank, formerly known as Jago TBK, as it transitioned from a conventional bank to a digital bank. Their findings revealed a significant positive effect of digital transformation on managerial performance within the bank. As

noted by Wanyonyi and Ngaba (2021), this transformation enabled PT Bank to streamline operations, enhance decision-making processes, and improve overall efficiency in service delivery. By leveraging digital technologies, the bank optimized resource allocation, increased customer satisfaction through enhanced digital interactions, and adapted more swiftly to market demands. Additionally, the digital transformation empowered the management to exercise greater control over employees, improve performance while reducing costs, align staff through effective digital communication channels, and facilitate the acquisition and integration of new data (Nu'man et al., 2020). These outcomes underscore the transformative potential of digital transformation in the banking sector, where adopting advanced technologies enhances managerial capabilities; and enables institutions to navigate challenges and capitalize on opportunities in the digital age.

Despite extensive studies on digital transformation and its impact on managerial performance in contexts such as Sweden, China, and Indonesia, applying these findings directly to MFIs in Tanzania may not be appropriate due to significant contextual differences. While our assumptions align with their findings, the unique challenges in Tanzania necessitate a dedicated study to ensure relevance and applicability. Such a verification is crucial because Tanzania faces challenges such as limited internet penetration, varying levels of technological literacy (Maro et al., 2024), and an evolving regulatory environment for digital financial services (Koloseni & Mandari, 2024). These factors, coupled with unique socio-economic conditions and customer behaviours in Tanzania's microfinance sector, underscore the need for a focused study to explore how tailored digital transformation initiatives can effectively enhance managerial performance, promote financial inclusion, and support sustainable economic development in the country. Therefore, a dedicated study is essential to empirically establish whether digital transformation can influence managerial performance within MFIs in Tanzania. Based on the above-reviewed literature, this study proposes the following hypothesis:

H3: *There is a positive relationship between digital transformation and organizational managerial performance.*

Research Methodology

The study followed a positivist philosophy, and employed a quantitative approach and an explanatory design that objectively explained the cause-and-effect relation between variables. Using a structured online questionnaire, the survey targeted purposively sampled MFIs with at least three years of operation (Massawe, Mbura & Elly, 2024). A 7-point Likert scale items were selected and modified based on the literature and a pilot survey. These questionnaires were deployed in Dar es Salaam, Dodoma, and Mwanza—regions that adequately represent Tanzania's commercial and administrative landscapes. These regions account for 61% of all microfinance institutions in Tanzania (Songorwa & Mashenene, 2024), meaning the data collected from these areas can be considered representative of the overall

microfinance landscape in the country. To gather reliable performance information, MFIs were selected as the unit of analysis based on their registration in the central bank's database, with their owners/managers serving as the unit of inquiry due to their regular involvement in the day-to-day financial activities. A sample of 198 owners/managers were contacted using simple random sampling via a random number generator and self-administered questionnaires, representing 89% of all institutions in these three regions. After thoroughly cleaning the data to check for non-responses, missing values, and outliers to ensure data integrity and reliability, 146 responses were qualified for analysis, yielding a 74% response rate. The structural equation modeling (SEM) was then employed, using the SmartPLS software, to test the hypothesized relationships among observable and latent variables within the designated theoretical framework.

Measurement and Structural Models Assessment

Table 4 shows that the indicator loadings exceed 0.5, while measures such as composite reliability, Cronbach's Alpha (α), and rho_A are above 0.7; indicating strong reliability across indicators and constructs. Descriptive statistics reveal mean and median values above 4 on the 7-point Likert scale, suggesting a general agreement with the hypothesized relationships in the study. The average standard deviation of 1.69 indicates minimal variation among responses, supporting the consistency of respondents' perceptions with the study's hypotheses. These descriptive statistics reflect a collective agreement among respondents on the significant impact of digital transformation on organizational performance. The overall statistics show a cumulative mean of 6 and a median value of 7, which, based on the 7-point Likert scale, indicates a consensus that digital transformation positively influences the performance of microfinance institutions.

Additionally, the cumulative standard deviation of 1.8, as shown in Table 4, is below 3; suggesting a general agreement among respondents regarding the positive influence of digital transformation. This relatively low standard deviation indicates a high level of consistency in respondents' views, reinforcing the conclusion that digital transformation is broadly perceived as beneficial for the performance of microfinance institutions, as suggested by Massawe et al. (2024). The consistency in responses underscores the positive perception of digital transformation in enhancing operational effectiveness, and overall performance in these institutions (Cheng, Xue, Yang & Ma, 2023). Notably, managerial performance (MP) responses have the lowest mean value (5), while financial performance (FP) has the highest (6.6); reflecting the varying levels of digital transformation and their influence on organizational performance. The standard deviations of 0.89 for MP and 0.6 for FP suggest differing degrees of distribution around the mean, with FP showing less variability. This indicates a more consistent impact of digital transformation on financial performance compared to managerial performance. The standard deviation values below 3 further highlight the limited variation in responses, emphasizing the uniformity in respondents' views.

Table 4: Summarized Indices for Measurement Models

Variables	Indicator	Reliability		Convergent Validity	HTMT	Model Type
		Indicator Loadings	*Internal Consistency*	*AVE*		
DT	DT2	0.635				
	DT3	0.788				
	DT4	0.721	0.822	0.538	<0.85	Reflective
	DT5	0.779				
	DT (SD=0.95, M= 5.7, MD =5.8)					
FP	FP1	0.735				
	FP2	0.631				
	FP3	0.789				
	FP4	0.673	0.864	0.516	<0.85	Reflective
	FP5	0.741				
	FP6	0.728				
	FP (SD=0.6 M=6.6, MD=7)					
MP	MP1	0.649				
	MP3	0.755				
	MP4	0.853	0.831	0.555	<0.85	Reflective
	MP5	0.707				
	MP (SD=0.89, M= 5, MD=6.4)					
OP	OP1	0.816				
	OP2	0.808				
	OP3	0.805	0.879	0.554	<0.85	Reflective
	OP4	0.670				
	OP5	0.813				
	OP (SD=2, M= 6, MD=6.3)					

Notes: SD-Standard Deviation, M-Mean, MD- Median, Convergent validity – AVE values are > 0.5; indicator reliability – indicator loadings are > 0.5; internal consistency reliability – values are > 0.7.

Source: Field data.

The statistics obtained from the structural equation modelling (PLS-SEM), as detailed in Table 4, provide deeper insights into the relationship between digital transformation and performance in microfinance institutions. The data reveal that digital transformation has a more pronounced and stable effect on financial outcomes than on managerial efficiency. This emphasizes the importance of focusing on financial metrics when evaluating the benefits of digital initiatives in the microfinance sector.

Additionally, the consistent responses suggest a shared perception among respondents regarding the critical role of digital transformation in enhancing financial performance. Convergent validity was achieved, as the average variance extracted (AVE) values exceeded 0.5, indicating that each construct explains more than half of the variance in its indicators (Hair, 2019). Discriminant validity was confirmed as the heterotrait-monotrait ratio (HTMT) values for the three concepts were below 0.85 (Webber, Critchfield & Soble, 2020). For reflective variables,

HTMT indices below 0.85 indicate acceptable discriminant validity (Hair, 2019). Table 5 shows the highest HTMT index at 0.337, demonstrating that the constructs' discriminant validity is acceptable, thus ensuring the measurement model's quality.

Table 5: Discriminant Validity on Heterotrai-Monotrait Ratio (HTMT)

Variables	DT	FP	MP	OP
DT	**0.733**			
FP	0.545	**0.718**		
MP	0.526	0.546	**0.745**	
OP	0.449	0.5	0.377	**0.744**

Notes: The HTMT indices are less than 0.85, indicating that discriminant validity was established.

The assessment of collinearity was essential, as its presence can distort statistical results, leading to inaccurate conclusions. Accordingly, the results in Table 6 show that the highest value for inner variance inflation factor (VIF) is 3.664, which is well below the commonly accepted threshold of 5. This indicates that there was no multicollinearity issue. Consequently, the absence of multicollinearity allows for a further analysis to proceed without concerns about biased path coefficients or compromised validity of the results (Hair et al., 2020). The low VIF value confirms that the independent variables are sufficiently distinct from each other, ensuring the robustness and reliability of the subsequent analyses (Hair et al. 2020).

Table 6: Collinearity Assessment through VIF

Variables	VIF for Variables	Items	VIF- Items Level
DT	1.00	DT2	1.294
		DT3	1.544
		DT4	1.268
		DT5	1.402
FP	1.00	FP1	2.303
		FP2	1.536
		FP3	1.708
		FP4	1.742
		FP5	1.917
		FP6	2.076
MP	1.00	MP1	1.308
		MP3	1.317
		MP4	1.976
		MP5	1.605
OP		OP1	2.799
		OP2	3.664
		OP3	2.653
		OP4	2.524
		OP5	2.986
		OP6	1.202

Notes: VIF values less <5 indicating no collinearity
Source: Field Data Extracted from Smart PLS3 (2023).

Table 6 and Figure 1 demonstrate that the three hypothesized relationships (FP, MP, and OP) were significant, hence supporting the hypotheses. The application of digital transformation in MFIs shows a strong influence on operational performance with a path coefficient of 0.545, followed by 0.526 for managerial performance (MP), and 0.449 for financial performance (FP). Overall, digital transformation accounts for 27.7% of the variance in managerial performance (MP), 20.2% in operational performance (OP), and 29.7% in financial performance (FP).

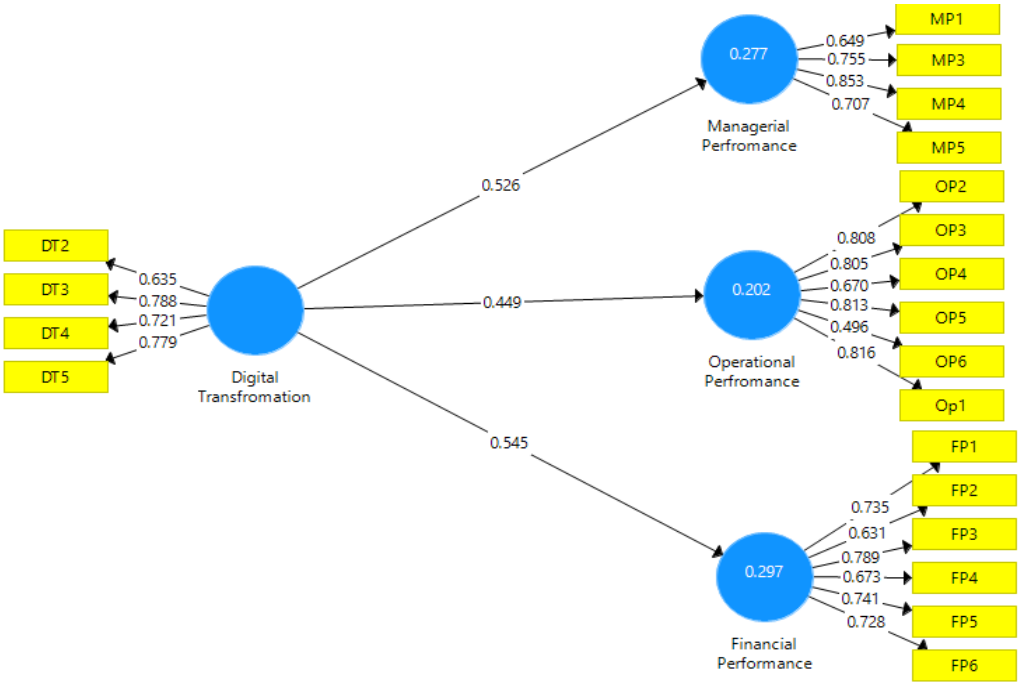

Figure 1: The Study Final Model
Source: Survey data (2024)

The smallest effect size (f^2) of digital transformation is 0.253 for operational performance (OP), followed by 0.383 for managerial performance (MP), and 0.422 for financial performance (FP). These values exceed the small effect size threshold of 0.02, indicating that the digital transformation variables are not only significant but also relevant to organizational performance. The Q^2 values for digital transformation's impact on each hypothesized relationship are 0.128 for managerial performance (MP), 0.097 for operational performance (OP), and 0.117 for financial performance (FP): all of which are greater than zero, confirming the predictive relevance of digital transformation. Values for these three significant relationships are above the threshold of zero, reinforcing their relevance.

The Study Model

The study's final model, as presented in Table 7 and Figure 1, reveals that digital transformation has a significant positive influence on MFI performance in Tanzania. Under the RBV framework, the model highlights how digital transformation enhances managerial, financial, and operational performance; offering a roadmap for adopting digital transformation strategies within the Tanzanian microfinance sector.

Table 7: Summary of Hypothesis Testing

Relationships	Beta (*β*)	p-value	t-value	Q^2	f^2	CI 95%	VIF
DT -> FP	0.545	0.000	6.569	0.117	0.422	[0.389, 0.665]	1.000
DT-> MP	0.526	0.000	6.902	0.128	0.383	[0.395, 0.64]	1.000
DT-> OP	0.449	0.000	5.459	0.097	0.253	[0.300, 0.567]	1.000

Notes: Effect size values (f^2) values > than the threshold of small effect 0.02, p-values < than 0.05, t-values > 1.65, VIF<5 (no multicollinearity issue), Q^2 > zero indicating model predictive relevance (Cohen, 1988; Hair & Ringle, 2019).

Discussion of the Study Findings

This paper aimed to use RBV to explain the perceived influence of digital transformation and the performance of MFIs, focusing on key managerial, operational, and financial performance. A final model was introduced to incorporate the attributes of digital transformation and the MFI variables. The findings indicate a significant positive relationship between digital transformation and the performance of MFIs in Tanzania. Our results align with those of Savastano et al. (2022), who found that digital transformation exerts sustainable business excellence in a turbulent scenario during the COVID-19 in Europe. This suggests that digital transformation is crucial for maintaining business resilience and effectiveness in challenging economic conditions.

The analysis revealed that the relationship between digital transformation and financial performance had the highest impact among the tested hypotheses, with a beta coefficient (β) of 0.545. This was followed by managerial performance (β=0.526), and operational performance (β=0.449). These indices are consistent with H1, H2, and H3; which hypothesized that digital transformation has a positive influence on managerial, operational, and financial performance (Abdulquadri et al., 2021). These findings indicate that digital transformation exerts the most significant influence on financial performance, suggesting that companies that embrace digital transformation are likely to see substantial improvements in their financial outcomes. Furthermore, these study findings align with those of Nicolaï and Grange (2021), who emphasized that digital transformation enhances financial performance by improving operational efficiency, reducing costs, and enabling innovative service offerings in Canada. This implies that, similarly for financial institutions in developing contexts like Tanzania, embracing digital tools and technologies could lead to improved financial outcomes, expanded customer reach, and enhanced competitiveness in the financial sector. Additionally, in Tanzania, where access to

financial services in rural areas remains limited, digital transformation could bridge this gap by providing more inclusive, accessible, and affordable financial products, ultimately driving the growth and sustainability of MFIs.

According to Abdurrahman et al. (2024), digital transformation significantly influences managerial performance in commercial banks in Japan by enhancing decision-making, operational efficiency, and overall management effectiveness. Although their findings stem from a different context, they align with those of the current study, which highlight a positive influence of digital transformation on managerial performance of MFIs in Tanzania. This suggests that, despite contextual differences, the benefits of digital transformation in improving managerial functions—such as real-time data analysis, enhanced communication, and streamlined decision-making—are broadly applicable. For MFIs in developing contexts like Tanzania, embracing digital tools can equip managers with deeper insights, greater control over operations, and the ability to make more informed strategic decisions. By adopting digital technologies, MFIs in Tanzania can enhance their managerial performance, align their operations with modern best practices, and navigate the challenges of serving financially excluded populations in the digital era. Managerial performance benefits notably from digital transformation, indicating significant improvements in management efficiency and decision-making processes (Shanti et al., 2023). While operational performance is positively influenced, it shows the least improvement among the three domains, suggesting that although digital transformation contributes to operational efficiency, its effects are more pronounced in the financial and managerial aspects.

Cheng et al. (2023) indicate that digital transformation significantly influences operational performance in the hospitality industry in China, emphasizing how digital tools enhance efficiency, service delivery, and overall operational outcomes. Although their findings are based on the hospitality industry in China, they provide an empirical foundation for the current study, which examines the influence of digital transformation on the operational performance of MFIs in a developing country context, such as Tanzania. This suggests that, despite differences in industry and geographical contexts, the core principles of digital transformation—such as process automation, data analytics, and digital platforms—can have a similarly positive effect on operational performance across various sectors. In the case of MFIs in Tanzania, adopting digital technologies can streamline key operations—including loan processing, customer service, and financial management—thereby improving both efficiency and accuracy. This operational enhancement can reduce costs, increase service delivery speed, and boost customer satisfaction—thereby ultimately elevating overall performance. Therefore, the positive impact of digital transformation on operational performance observed in China's hospitality industry can be extended to MFIs in Tanzania. These findings offer valuable insights into how digital tools can optimize operations and support the long-term growth and sustainability of financial institutions in developing economies.

Theoretically, the results emphasize the effectiveness of the RBV in assessing digital transformation as a crucial asset for MFIs in Tanzania. The RBV, initially developed and predominantly used in established business contexts in developing economies, has now been tested in a developing country context, broadening its scope to microfinance institutions. The variables examined in this study—managerial, financial, and operational performance—have been widely used in developed countries' contexts, and their application in the Tanzanian context is now proven to be meaningful (Guzmán-Ortiz et al., 2020). This demonstrates that these variables are also relevant and impactful in developing countries. The model developed in this study can be utilized by microfinance institutions in Tanzania as an operational framework, enabling them to enhance performance through digitalization. This application underscores the practical significance of the RBV, and highlights the transformative potential of digital assets in improving the efficiency and effectiveness of microfinance operations in developing economies.

This study provides valuable insights into the digital transformation of Tanzania's financial sector, aligning with the findings of Guzmán-Ortiz et al. (2020) on digital transformation and its impact on the performance of insurance companies in Peru. Both studies underscore the importance of identifying key factors influencing digital adoption to develop effective strategies in the contexts of developing countries. Specifically, this paper highlights the need for MFIs in Tanzania to prioritize digital transition by focusing on enhancing managerial activities, streamlining operations, and optimizing financial processes. To drive performance, MFIs must redesign their business strategies to align with digital objectives, leveraging detailed insights into their operational, managerial, and financial needs. By adopting this approach, MFIs can improve efficiency, enhance competitiveness, and achieve long-term success; reflecting the broader implications of digital transformation strategies across the financial sector.

The study findings underscore the critical need for targeted support from policymakers and practitioners to advance the digital transformation of MFIs in Tanzania. To fully harness the benefits of digital technologies, the government and relevant stakeholders must develop and implement policies that encourage and facilitate technology adoption within the microfinance sector, as emphasized by Kamal et al. (2011). This support should include initiatives to improve digital infrastructure, such as expanding internet access and enhancing technological literacy among MFI staff and customers. Additionally, it is essential to establish training programs and provide financial incentives to help MFIs effectively integrate and optimize digital resources. By addressing these needs, policymakers can create an enabling environment that fosters an efficient use of digital tools; hence driving significant improvements in the performance of MFIs. Ensuring robust support for digital transformation efforts will enable MFIs in Tanzania to manage their operations more effectively, enhance financial outcomes, and improve overall service delivery. This, in turn, will contribute to the broader goals of financial inclusion and economic development in the country.

Contribution of the Study

This study makes significant contributions to the theoretical, practical, empirical, and policy dimensions. Theoretically, it enhances the literature by providing empirical evidences of the positive relationship between digital transformation and the performance of MFIs, contributing new insights into technology adoption, organizational performance, and digital innovation, particularly in developing economies. Practically, the study offers actionable guidance for MFI managers by emphasizing the strategic value of digital transformation in improving operational efficiency, customer experience, and profitability through investments in digital tools such as mobile banking and automated financial systems. Empirically, the research fills a gap by providing robust evidence linking digitalization to MFI performance; and uses structural equation modelling (SEM) to analyze its influence on financial, operational, and managerial outcomes. From a policy perspective, it informs policymakers in developing countries about the importance of supporting digital transformation in MFIs to promote financial inclusion and institutional sustainability; recommending regulations, incentives, and digital infrastructure investments to foster growth in the sector.

Conclusion

This study highlights the significant and positive impact of digital transformation on the performance of MFIs in Tanzania, particularly in enhancing managerial, financial, and operational outcomes. The findings emphasize the importance of adopting advanced digital tools—such as customer relationship management systems, digital payment platforms, and data analysis tools—to improve operational efficiency and customer engagement. According to Zhang et al. (2022), MFIs should prioritize staff training to ensure proficiency in using these technologies to fully capitalize on their benefits. Such initiatives will not only enhance operational performance but also strengthen their competitive position, thereby contributing to the long-term success and sustainability of MFIs in the digital era (Shehadeh et al., 2023).

The study also supports the RBV by demonstrating that digital transformation serves as a key resource for enhancing organizational performance. Digital assets and capabilities, which are valuable and non-substitutable resources, enable MFIs to streamline operations and gain a competitive advantage, particularly in environments with limited technological infrastructure. By extending the RBV to a developing country context like Tanzania, this study provides a framework for understanding how digital resources can drive competitive advantage in such settings. Furthermore, the study addresses a gap in the literature by offering empirical evidence from a developing economy; and underscores the importance of adapting digital strategies to local conditions. It also encourages further research into digital transformation across diverse contexts, emphasizing the need for tailored strategies and broader applications in both developed and developing regions.

References

Abdulquadri, A., Mogaji, E., Kieu, T. A. & Nguyen, N. P. (2021). Digital transformation in financial services provision: A Nigerian perspective to the adoption of chatbot. *Journal of Enterprising Communities: People and Places in the Global Economy,* 15(2): 258–281.

Abdurrahman, A., Gustomo, A. & Prasetio, E. A. (2024). Enhancing banking performance through dynamic digital transformation capabilities and governance, risk management, and compliance: Insights from the Indonesian context. *The Electronic Journal of Information Systems in Developing Countries,* 90(2): e12299.

Aghazadeh, H., Zandi, F., Amoozad Mahdiraji, H. & Sadraei, R. (2024). Digital transformation and SME internationalisation: unravelling the moderated-mediation role of digital capabilities, digital resilience and digital maturity. *Journal of Enterprise Information Management,* 37(5): 1499–1526.

Al-Doori, M. D. A. (2020). *Microfinance and its role in the development of small enterprises projects.* Sosyal Bilimler Enstitüsü,.

Ampah, F. K. (2021). *Assessing the Impact of Collapse of Microfinance Institutions on Its Customers in Ghana* (*a Case Study of Cape Coast Metropolis*). University of Cape Coast,.

Atiyas, İ. & Dutz, M. A. (2021). Digital Technology Uses among Informal Micro-Sized Firms. *World Bank Policy Research Working Paper,* 9573.

Ballouk, H., Ben Jabeur, S., Boubaker, S. & Mefteh-Wali, S. (2024). The effect of social media on bank performance: An fsQCA approach. *Electronic Commerce Research,* 24(1): 477–495.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of management,* 17(1): 99–120.

Batchimeg, B. (2017). Financial performance determinants of organizations. The case of Mongolian companies. *Journal of competitiveness,* 9(3).

Binaluyo, J. P., Santos, A. R. & Agustin, N. B. (2024). Challenges and opportunities for digital transformation in Philippine microfinance institutions. *International Journal of Economics and Financial Issues,* 14(5): 269–278.

Cheng, X., Xue, T., Yang, B. & Ma, B. (2023). A digital transformation approach in hospitality and tourism research. *International Journal of Contemporary Hospitality Management,* 35(8): 2944–2967.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Earlbaum Associates.

Dorfleitner, G., Forcella, D. & Nguyen, Q. A. (2022). The digital transformation of microfinance institutions: an empirical analysis. *Journal of Applied Accounting Research,* 23(2): 454–479.

Gil-Gomez, H., Guerola-Navarro, V., Oltra-Badenes, R. & Lozano-Quilis, J. A. (2020). Customer relationship management: digital transformation and sustainable business model innovation. *Economic research-Ekonomska istraživanja,* 33(1): 2733–2750.

Guzmán-Ortiz, C., Navarro-Acosta, N., Florez-Garcia, W. & Vicente-Ramos, W. (2020). Impact of digital transformation on the individual job performance of insurance companies in Peru. *International Journal of Data and Network Science,* 4(4): 337–346.

Gwanyemba, J. K. & Kilonzo, R. (2023). Accessibility of institutional support to nonfarm micro manufacturing enterprises in rural Tanzania. *International Journal of Social Science Research and Review,* 6(6): 101–111.

Hadeed, R. (2022). *Exploring the relationship between technology adoption orientation, capabilities, service offering and patient satisfaction in general practice: A study of* 21 *surgeries in the West Midlands.* University of Warwick,.

Hair. (2019). *Multivariate data analysis*. Andover, Hampshire, United Kingdom: Cengage.

Hair, Howard, M. C. & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research,* 109*:* 101–110.

Hair, & Ringle, C. (2019). Rethinking some of the rethinking of partial least squares. *European Journal of Marketing*.

Heredia, J., Castillo-Vergara, M., Geldes, C., Gamarra, F. M. C., Flores, A. & Heredia, W. (2022). How do digital capabilities affect firm performance? The mediating role of techno-logical capabilities in the "new normal". *Journal of Innovation & Knowledge,* 7(2): 100171.

Indriastuti, M. & Kartika, I. (2022). The impact of digitalization on msmes' financial performance: The mediating role of dynamic capability. *Jurnal Economia,* 18(2): 240–255.

Jardak, M. K. & Ben Hamad, S. (2022). The effect of digital transformation on firm performance: evidence from Swedish listed companies. *The Journal of Risk Finance,* 23(4): 329–348.

Kamal, M., Weerakkody, V. & Irani, Z. (2011). Analyzing the role of stakeholders in the adoption of technology integration solutions in UK local government: An exploratory study. *Government Information Quarterly,* 28(2): 200–210.

Kimoni, L. M. (2023). Effect of digital technology adoption on the performance of commercial banks in Kenya. Master's thesis, KCA University. Retrived from http:// repository. kcau. ac.ke/handle/123456789/1487

Kitsios, F., Giatsidis, I. & Kamariotou, M. (2021). Digital transformation and strategy in the banking sector: Evaluating the acceptance rate of e-services. *Journal of Open Innovation: Technology, Market, and Complexity,* 7(3): 204.

Kohtamäki, M., Parida, V., Patel, P. C. & Gebauer, H. (2020). The relationship between digitalization and servitization: The role of servitization in capturing the financial potential of digitalization. *Technological Forecasting and Social Change,* 151: 119804.

Koloseni, D. & Mandari, H. (2024). Expediting financial inclusion in Tanzania using FinTech: The perspective of diffusion of innovation theory. *Technological Sustainability,* 3(2): 171–194.

Kromidha, E., Yadav, N. & Ilavarasan, P. V. (2023). Digital microfinance crowdfunding for disconnected women entrepreneurs in India. *International Journal of Entrepreneurship and Small Business,* 50(4): 459–481.

Linggadjaya, R. I. T., Sitio, B. & Situmorang, P. (2022). Digital transformation of PT Bank Jago TBK from conventional bank to digital bank. *International Journal of Digital Entrepreneurship and Business,* 3(1): 9–22.

Liu, J., Zhou, K., Zhang, Y. & Tang, F. (2023). The effect of financial digital transformation on financial performance: the intermediary effect of information symmetry and operating costs. *Sustainability,* 15(6): 5059.

Maro, S. H., Kondoro, A. W., Mtebe, J. S., Proctor, J., Komba, A. & Haßler, B. (2024). Exploring the feasibility of deploying technology enhanced school-based teacher continuous professional development in Internet-limited environments in Tanzania. *International Review of Research in Open and Distributed Learning,* 25(2): 60–76.

Massawe, D. P., Mbura, O. K. & Elly, T. (2024). Continuous social media use intention in the accommodation sector recovery during post-Covid-19 pandemic: Reflection on the Tanzania experience. *ORSEA JOURNAL,* 13(2).

Mavlutova, I., Spilbergs, A., Verdenhofs, A., Natrins, A., Arefjevs, I. & Volkova, T. (2022). Digital transformation as a driver of the financial sector sustainable development: An impact on financial inclusion and operational efficiency. *Sustainability,* 15(1): 207.

Minja, J. J., Mbura, O. K. & Charles, G. (2022). The influence of trainees' characteristics on the transfer of entrepreneurship training: Evidence from microfinance institutions in Tanzania. *International Journal of Training and Development,* 26(3): 448–471.

Mpofu, F. Y. (2022). Industry 4.0 in financial services: Mobile money taxes, revenue mobilisation, financial inclusion, and the realisation of sustainable development goals (SDGs) in Africa. *Sustainability,* 14(14): 8667.

Mpofu, F. Y. (2023). Digital entrepreneurship, taxation of the digital economy, digital transformation, and sustainable development in Africa. *The Fourth Industrial Revolution in Africa: Exploring the Development Implications of Smart Technologies in Africa*, 193–219.

Mpofu, F. Y. & Mhlanga, D. (2022). Digital financial inclusion, digital financial services tax and financial inclusion in the fourth industrial revolution era in Africa. *Economies,* 10(8): 184.

Ngowi, H. P. (2022). Toward industrialization in Tanzania: What is the role of the agricultural sector? In *The Palgrave Handbook of Africa's Economic Sectors* (pp. 155–175): Springer.

Nicolaï, M. & Grange, C. (2021). The digital transformation of retail during the COVID-19 pandemic: A comparative study in Canada, China, and France. *The Impact of COVID*19 *On E-Commerce*, 1–18.

Niemand, T., Rigtering, J. C., Kallmünzer, A., Kraus, S. & Maalaoui, A. (2021). Digitalization in the financial industry: A contingency approach of entrepreneurial orientation and strategic vision on digitalization. *European Management Journal,* 39(3): 317–326.

Nu'man, A. H., Nurwandi, L., Bachtiar, I., Aspiranti, T. & Pratama, I. (2020). Social networking, and firm performance: Mediating role of comparative advantage and sustainable supply chain. *Int. J Sup. Chain. Mgt Vol,* 9(3): 664–673.

Pal, A., Dey, S., Nandy, A., Shahin, S. & Singh, P. K. (2023). Digital Transformation in microfinance as a driver for sustainable development. In *Handbook of Sustainability Science in the Future: Policies, Technologies and Education by 2050* (pp. 251–271): Springer.

Penrose. (1959). *The theory of the growth of the firm*. New York: John Wiley & Sons Inc. *Penrose,* 1: 1–23.

Rajgopal, S., Srivastava, A. & Zhao, R. (2023). Do digital technology firms earn excess profits? Alternative perspectives. *The Accounting Review,* 98(4): 321–344.

Savastano, M., Zentner, H., Spremić, M. & Cucari, N. (2022). Assessing the relationship between digital transformation and sustainable business excellence in a turbulent scenario. *Total Quality Management & Business Excellence*, 1–22.

Setiawan, M., Effendi, N., Santoso, T., Dewi, V. I. & Sapulette, M. S. (2022). Digital financial literacy, current behavior of saving and spending and its future foresight. *Economics of Innovation and New Technology,* 31(4): 320–338.

Shanti, R., Siregar, H., Zulbainarni, N. & Tony. (2023). Role of digital transformation on digital business model banks. *Sustainability,* 15(23): 16293.

Shehadeh, M., Almohtaseb, A., Aldehayyat, J. & Abu-AlSondos, I. A. (2023). Digital transformation and competitive advantage in the service sector: a moderated-mediation model. *Sustainability,* 15(3): 2077.

Shen, L., Zhang, X. & Liu, H. (2022). Digital technology adoption, digital dynamic capability, and digital transformation performance of textile industry: Moderating role of digital innovation orientation. *Managerial and Decision Economics,* 43(6): 2038–2054.

Shi, B. & Wang, H. (2023). An AI-enabled approach for improving advertising identification and promotion in social networks. *Technological forecasting and social change,* 188*:* 122269.

Sinha, S. & Ghosh, K. (2022). Organizational sustainability and performance improvement in microfinance institutions (MFIs): Managerial insights of what, why and how. *Social Responsibility Journal,* 18(2): 240–265.

Slavković, M., Pavlović, K., Mamula Nikolić, T., Vučenović, T. & Bugarčić, M. (2023). Impact of digital capabilities on digital transformation: The mediating role of digital citizenship. *Systems,* 11(4): 172.

Songorwa, M. & Mashenene, R. G. (2024). Microfinance institutions' performance in Tanzania: Social media marketing strategy perspective. *International Journal of Management, Accounting & Economics,* 11(9).

Tafotie, R. (2020). Fostering digital financial services in Africa: A case of embracing innovation for business and inclusion. *University of Luxembourg Law Working Paper* (2020–005).

Tsou, H.-T. & Chen, J.-S. (2023). How does digital technology usage benefit firm performance? Digital transformation strategy and organisational innovation as mediators. *Technology Analysis & Strategic Management,* 35(9): 1114–1127.

Wang, F., Jia, Y., Li, G., Lam, M. & Liu, Y. (2024). An empirical study of the relationship between digital transformation, corporate social responsibility and financial performance. *Business Ethics and Leadership,* 8(1): 57–73.

Wanyonyi, K. & Ngaba, D. (2021). Digital financial services and financial performance of savings and credit cooperative societies in Kakamega County, Kenya. *International Journal of Current Aspects in Finance, Banking and Accounting,* 3(1): 9–20.

Webber, T. A., Critchfield, E. A. & Soble, J. R. (2020). Convergent, discriminant, and concurrent validity of nonmemory-based performance validity tests. *Assessment,* 27(7): 1399–1415.

Zhang, X., Xu, Y. & Ma, L. (2022). Research on successful factors and influencing mechanism of the digital transformation in SMEs. *Sustainability,* 14(5): 2549.