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DYNAMIC CAPABILITIES AND ORGANIZATIONAL PERFORMANCE OF DEPOSIT TAKING SACCOs IN NAIROBI COUNTY, KENYA: THE MODERATING ROLE OF DIGITAL TRANSFORMATION

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Abstract

This study examined the moderating role of digital transformation on the relationship between dynamic capabilities and the performance of deposit-taking SACCOs in Nairobi County, Kenya. The need for this study arose out of the increasing challenges facing the SACCO sector with regard to credit risk and competition from other financial institutions that are embracing digital technologies to improve the performance of their banking operations. Data were collected from 210 usable questionnaires that were distributed to deposit-taking SACCOs in the area of study, recording an 87.50% response rate. Results from the analysis revealed that dynamic capabilities had a positive and significant effect on the performance of the SACCOs. Dynamic capabilities accounted for an additional 19.4% of the variance in the performance of the SACCOs after accounting for the effects of the age and the size of the SACCOs. Furthermore, digital transformation was also found to have a positive and significant effect on the

performance of the SACCOs. Using Hayes PROCESS Model 1, it was established that digital transformation significantly moderated the effect of dynamic capabilities on the performance of the SACCOs. Effects were conditional such that dynamic capabilities had a positive effect on the performance of the SACCOs at low, moderate, and high levels of digital transformation. It was therefore concluded that the performance of deposit-taking SACCOs is enhanced when they have good dynamic and digital capabilities. Based on the findings of this study, recommendations are made for managers of these SACCOs to enhance their digital capabilities to improve their banking performance.

Keywords: Dynamic capabilities, digital transformation, organizational performance, deposit-taking SACCOs, Nairobi County, Kenya

INTRODUCTION

Cooperative financial institutions, such as credit unions and savings and credit cooperatives (SACCOs), are crucial for providing financial services to numerous individuals from around the world. These institutions experience increasing competition from digital financial institutions and face regulatory demands on their operations. According to the World Council of Credit Unions, there are hundreds of millions of members within credit unions and SACCOs worldwide, and these cooperative organizations control over trillions of United States dollars (WOCCU, 2023; Jones et al., 2019; McKillop et al., 2020; Kinyua & Maina, 2021). Additionally, the performance of credit unions and SACCOs is linked to various aspects of their operations, such as credit management, loan management, information technology (IT) capabilities, and member satisfaction (Hamann & Schiemann, 2021; Aguilera et al., 2024; Tawse & Tabesh, 2023).

In Africa, there are growing needs for access to financial institutions that offer members the ability to save and access loans. SACCOs and credit unions serve these needs, particularly in areas where commercial banks do not service as many individuals. Additionally, the increased use of mobile money in several African countries has created new opportunities for SACCOs to provide members with a broader range of financial services (GSMA, 2024; Co-op News, 2024; Mhlanga, 2020; Ozili, 2021). However, there are also increased challenges for SACCOs due to the growth of digital financial institutions that compete with them for SACCO members' services (Vial, 2019; Verhoef et al., 2021; Hanelt et al., 2021).

Kenya is one of the leading countries on the continent in terms of the development of its SACCO sector. The country has a growing number of regulated SACCOs whose assets total close to one trillion Kenya shillings. Additionally, there has been a growing number of members

who join these organizations each year to gain access to their financial services (SASRA, 2024; Central Bank of Kenya, 2024; Republic of Kenya, 2022). Despite the growth of SACCOs in Kenya, there are challenges to the performance of many of these SACCOs. There is a growing demand for their digital services and performance, the increasing need for high levels of loan quality, and increased competition from other financial institutions (Teece, 2018; Schilke et al., 2018; Kump et al., 2019).

The city of Nairobi is home to many of the country's largest SACCOs. Additionally, the city is the largest financial and commercial hub in the nation and features a growing number of members who are interested in the digital services that SACCOs offer (Ogindo & Njoka, 2023; Barba-Sanchez et al., 2024; Gun et al., 2024; Masoud & Basahel, 2023). These members demand that the SACCOs in which they are members offer mobile loans, online accounts, online deposits, and other digital services. Without a proper digital transformation of these SACCOs, many of the capabilities and managers that these institutions feature will not be able to provide the services that their members desire (Warner & Wager, 2019; Li et al., 2018; Sousa-Zomer et al., 2020).

Dynamic capabilities theory is a theory that describes how organizations can sense, seize, and transform in response to change in their environment. In the case of the SACCOs, their dynamic capabilities would include the various aspects of their organizations that allow them to sense, seize, and transform according to the opportunities or threats that emerge within their environment. For instance, their sensing capabilities may include monitoring the digital financial institutions in the area and their services. Their seizing capabilities may include launching a mobile loan application or service for their members. Their transforming capabilities may include the training of the managers of the SACCOs to better provide the digital services that their members desire (Teece, 2018; Kump et al., 2019; Bitencourt et al., 2020; Ferreira et al., 2020). These dynamic capabilities are linked to the performance of the SACCOs because they will impact the SACCOs' abilities to seize the opportunities that their environments offer them.

However, many studies have found that dynamic capabilities are most effective when there are other factors within the organization that enhance the effects of these dynamic capabilities. For instance, factors related to digital transformation of the SACCOs may enhance the dynamic capabilities of these organizations; the digitalization of the SACCO will enhance their capabilities to sense, seize, and transform according to the changes within their environments (Matarazzo et al., 2021; Ellstrom et al., 2022; Abdurrahman et al., 2024; Bieńkowska & Tworek, 2021). For instance, if these organizations are already digitalize, they will have enhanced dynamic capabilities to seize the increasing digital opportunities within their

environments (Nadkarni & Prugl, 2021; Wessel et al., 2021; Kraus et al., 2021; Appio et al., 2021).

In the study of the deposit-taking SACCOs in Nairobi County, the problem that exists is that many of these organizations have relatively poor performance indicators despite their growing size. For example, there are challenges in the quality of the loans that are made by these SACCOs to their members, and there are challenges in their ability to manage those loans. Additionally, there are performance challenges in the return on the assets of these organizations. Despite the digital platforms that have been established for these organizations, there is a need to determine if the dynamic capabilities of these SACCOs are linked to their performance more strongly when digital transformation within the organization is higher (Hanelt et al., 2021; Shen et al., 2025; Barba-Sanchez et al., 2024; Wei & Shen, 2025).

Various studies have been made regarding the dynamic capabilities of organizations and their relation to the performance of those organizations. For instance, various studies of the dynamic capabilities of manufacturing companies, banks, SMEs, logistics companies, hospitality companies, and technology companies have all demonstrated positive relationships between dynamic capabilities and company performance within those industries (Bitencourt et al., 2020; Ferreira et al., 2020; Pundziene et al., 2022; Scheuer & Thaler, 2023; Correa et al., 2022). Additionally, various other studies have examined the effect of digital transformation of organizations on their performance indicators, and each study has reported positive relationships between digital transformation and performance improvements in those organizations (Verhoef et al., 2021; Blichfeldt & Faullant, 2021; Nasiri et al., 2020; Eller et al., 2020). However, there have been few studies investigating whether digital transformation impacts the link between dynamic capabilities and the performance of organizations such as deposit-taking SACCOs in Nairobi County.

Therefore, the research that will be performed on the deposit-taking SACCOs in Nairobi County will contribute to the literature on dynamic capabilities, digital transformation, and SACCO literature in three main ways. First, the study will apply the theory of dynamic capabilities to an organization sector that is growing rapidly in Africa but that has yet to be studied as extensively as other organization sectors. Second, the relationship between dynamic capabilities and performance will be examined as a moderating variable rather than as a relationship between two variables on its own. Third, the study will utilize empirical data from 210 managers of SACCOs in Nairobi County to test the hypothesized relationships between the variables of interest. The remainder of the paper will discuss the literature that relates to the study of dynamic capabilities, digital transformation, and the performance of deposit-taking SACCOs in Nairobi County. Following that literature review, there will be a discussion of the

research methodology that will be used to investigate these relationships. Following that discussion, there will be a presentation and analysis of the data that was gathered from these 210 SACCO managers. Finally, there will be a discussion of the conclusions and recommendations that can be made following careful analysis of the presented data.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

The conceptual frameworks guiding this study include dynamic capabilities theory, the resource-based view of the firm, and structural contingency theory. Dynamic capabilities theory posits that firms continually renew their resource base by engaging in sensing, seizing, and transforming activities, particularly in changing environments (Teece, Pisano, & Shuen, 1997; Teece, 2018). The resource-based view maintains that firms experience competitive advantage due to their valuable, rare, inimitable, and well-organized resources (Barney, 1991; Barney et al., 2021; D'Oria et al., 2021). Lastly, the structural contingency theory of organizational capabilities contends that a firm's capabilities are effective only if they are in alignment with the structure and conditions of the external environment in which they operate (Donaldson, 2001; Burton et al., 2019). Thus, within this research, the concept of dynamic capabilities will be the focal strategic capability. Digital transformation will be the contextual condition that alters the strength of the relationship between this strategic capability and organizational performance. Organizational performance refers to the extent with which an organization fulfills its objectives and satisfactorily delivers upon its stakeholders. In the literature on measuring organizational performance, it is generally recognized that relying upon a single indicator to gauge an organization's level of performance can be problematic (Hamann & Schiemann, 2021; Aguilera et al., 2024). A more comprehensive indicator of organizational performance is the balanced scorecard, which measures financial performance, customer satisfaction, internal processes, and learning and development outcomes (Kaplan & Norton, 1996; Tawse & Tabesh, 2023). Additionally, in the context of SACCOs, the performance of an organization can be measured in relation to how satisfied its members are with the SACCO, how likely they are to remain members, the growth of the SACCO's deposits, and a variety of other metrics related to the SACCO's ability to remain competitive within its industry (SASRA, 2024; Ogindo & Njoka, 2023).

Furthermore, there are generally two ways of measuring an organization's performance: objective and subjective indicators. Objective indicators include the performance metrics mentioned above, but also may include, for instance, indicators related to financial statements published by the organization. Other indicators may include members' perceptions of an organization's performance, which can be captured from surveys of senior managers within the organization (Bourne et al., 2018; Hsu & Lu, 2024; Richard et al., 2009). In SACCOs, these

performance indicators relate to both objective measures of performance, but also how the SACCO performs in terms of the value that it provides to its members (McKillop et al., 2020; Jones et al., 2019; Treinta et al., 2020).

Dynamic capabilities refer to the various managerial and organizational capacities that enable firms to continually renew their resource base by engaging in sensing, seizing, and transforming activities (Teece, 2018; Kump et al., 2019). Sensing activities refer to the identification of possible opportunities or threats to the organization. Seizing activities refer to the commitment of resources to taking advantage of these opportunities. Finally, transforming activities refer to the actual changes to the firm's processes, structures, or assets following the determination that these alterations will increase the firm's performance (Warner & Wager, 2019; Matarazzo et al., 2021; Ellstrom et al., 2022).

A considerable volume of literature has investigated the relationship between dynamic capabilities and organizational performance. Most studies indicate a positive relationship between these two constructs, suggesting that firms that exhibit stronger dynamic capabilities tend to experience higher levels of organizational performance (Bitencourt et al., 2020; Ferreira et al., 2020; Pundziene et al., 2022; Scheuer & Thaler, 2023). For small and medium-sized enterprises, dynamic capabilities are generally linked with digital transformation and the resultant improvements in business performance (Matarazzo et al., 2021; Buzzao & Rizzi, 2021; Li et al., 2018). Furthermore, within the banking and digital financial institution sector, dynamic capabilities are linked with both digital transformation as well as improved organizational performance within these firms (Abdurrahman et al., 2024; Rebekah & Afjal, 2025; Alrub & Sanchez-Canizares, 2025).

Moreover, dynamic capabilities are especially important to examine within the context of deposit-taking SACCOs due to the regulation of these organizations, the necessity for them to compete with other financial institutions, and the various ways in which they can transform these organizations to meet the demands of their members. Many of these SACCOs may currently lack the dynamic capabilities to transform their operations, processes, and information systems. In such cases, they are likely to continue using a variety of manual processes and outdated systems. In contrast, SACCOs that exhibit strong dynamic capabilities will be able to transform their operations in a way that enhances the performance of these organizations as a whole (SASRA, 2024; Ogindo & Njoka, 2023; Njoroge et al., 2021; Kinyua & Maina, 2021). Thus, the first hypothesis to be tested in this investigation is as follows:

H01: There is no significant effect of dynamic capabilities on the organizational performance of deposit-taking SACCOs in Nairobi County, Kenya.

Digital transformation refers to the incorporation of digital technologies, data management systems, and organizational changes to improve an organization's processes, structures, and strategies (Vial, 2019; Verhoef et al., 2021; Wessel et al., 2021). Digital transformation is different from digitization in that digitization refers to the translation of paper-based processes into digital processes for ease of access, whereas digital transformation involves a complete reconfiguration of business processes (GSMA, 2024; SASRA, 2024; Barba-Sanchez et al., 2024).\

In the context of SACCOs, digital transformation may involve the implementation of mobile banking applications, the implementation of online member portals, automated loan processes, the implementation of a core banking system, the implementation of digital dashboards to monitor various metrics and the implementation of digital data analytics programs, digital credit scoring models, the implementation of cybersecurity systems, the upskilling of SACCO staff in digital processes, and the partnering with other digital financial technology (DAC) companies and individuals (GSMA, 2024; SASRA, 2024; Barba-Sanchez et al., 2024).

Digital transformation impacts organizational performance through several avenues. These include the fact that digital transformation can reduce transaction costs, increase the speed of processes, improve decisions, the customer experience, enabling firms to segment customers by data and to improve innovation and the creation of new business models (Nadkarni & Prugl, 2021; Appio et al., 2021; Kraus et al., 2021; Blichfeldt & Faullant, 2021). Furthermore, there have been various research studies that indicate that firms that have undergone a digital transformation experience improved performance, improved efficiency in their operations, and are able to innovate their products to remain competitive in their markets (Eller et al., 2020; Nasiri et al., 2020; Kohtamaki et al., 2020; Barba-Sanchez et al., 2024; Gun et al., 2024). Specifically within the context of SACCOs, digital transformation can improve access to members, reduce queues, speed up the process of obtaining loans, and improving the follow up process to recover loans from members (Ogindo & Njoka, 2023; Central Bank of Kenya, 2024).

However, digital transformation does not necessarily mean improved performance without the improvement of other aspects of the organization. Various scholars have pointed out that digital transformation requires certain managerial capabilities to ensure that the technology implemented into the organization can be effectively utilized by the members of that organization (Hanelt et al., 2021; Li et al., 2018; Sousa-Zomer et al., 2020; Mikalef et al., 2019). For instance, if a SACCO introduces a mobile application to its organization but does not create an appropriate back end system, it can lead to members of the SACCO being generally

disappointed with the organization. Similarly, if the SACCO introduces a management information system that contains data that cannot be relied upon, it can lead to poor decisions being made by the management of the SACCO. Thus, digital transformation is generally considered to be a capability that can enhance the impact of dynamic capabilities upon the performance of the organization (Warner & Wager, 2019; Wessel et al., 2021; van de Wetering et al., 2021).

The role of digital transformation as a moderator for the dynamic capabilities model is plausible due to the fact that digital transformation can increase the organization's ability to sense, seize, and transform within their markets. Digital transformation impacts each of these aspects of dynamic capabilities by increasing the organization's ability to collect data about its customers, to act upon opportunities that are recognized by the organization, and to transform its internal processes to better provide for its customers (Vial, 2019; Verhoef et al., 2021; Hanelt et al., 2021; Warner & Wager, 2019). Thus, it is plausible that dynamic capabilities have a stronger impact upon the performance of a SACCO if digital transformation is high rather than low.

Evidence from the existing literature supports the role of digital transformation as a moderator of the dynamic capabilities model. Bieńkowska and Tworek (2021) discovered that information technology can enhance the impact of managerial capabilities upon organizational outcomes. Barba-Sanchez et al. (2024) discovered that the digital and information technology capabilities of an organization are associated with the performance of that organization. Furthermore, Abdurrahman et al. (2024) discovered that dynamic and digital transformation capabilities both have an impact upon banking organization performance. Wei and Shen (2025) found that digital transformation can enhance sales, reduce costs, and enhance innovation. Finally, Jing and Fan (2024) found that digital integration within organizations can enhance the access to information and the coordination of the organization's operations. The findings of these studies indicate that SACCOs are likely to experience higher returns from their dynamic capabilities if they utilize digital transformation.

Considering the nature of interaction between SACCO members and various financial institutions in Nairobi County, the concept of digital transformation within SACCOs can significantly impact the ability of those organizations to convert sensing into action, seizing opportunities into performance, or even the transforming of SACCOs into performance. Those with high levels of digital transformation will be able to automate many of the processes of a SACCO and significantly reduce the amount of time that is required to transform ideas into performed actions. In contrast, SACCOs with low levels of digital transformation may be able to sense opportunities for improvement in their organizations and functions, but may require more

time and incision of costly procedures to implement any changes to increase their organizational performance. Thus, the second hypothesis to be tested in this research study will be:

H02: Digital transformation does not significantly moderate the relationship between dynamic capabilities and organizational performance of deposit-taking SACCOs in Nairobi County, Kenya.

In formulating the research study, dynamic capabilities will be the independent variable to be measured, the relationship between dynamic capabilities and organizational performance will be evaluated with organizational performance being the dependent variable, and digital transformation will be the variable that is to be measured as a possible moderating variable of the relationship between the two main variables. Additionally, the age of the SACCO and the size of the SACCO will be incorporated as control variables for the study; variables related to these factors have been published as those that can significantly impact the performance of SACCOs, regardless of their dynamic capabilities (Bakker & Josefy, 2018; Dang et al., 2018; Coad, 2018).

The nature of the cooperative financial industries, upon which SACCOs are based, presents additional factors that may impact the measurement of the dependent variable of this research study. Unlike commercial banks, both SACCOs and credit unions are owned by the individuals that they serve, and are structured in manners that provide for both the needs of the organization to remain financially sound as well as to provide for the welfare of those individuals who are both owners and customers of the organization. Research on the cooperative financial industries reveals that their performance is affected by factors other than financial performance alone, such as members' value of the SACCO, trust in the organization, access to its resources, and the quality of the services that it offers its members (Jones et al., 2019; McKillop et al., 2020; WOCCU, 2023; Co-op News, 2024). Furthermore, the growth and spread of digital finance throughout Kenya has enabled each of the country's members to easily compare the various financial institutions in which they may have an interest in establishing a deposit or obtaining a loan (Mhlanga, 2020; Ozili, 2021; Central Bank of Kenya, 2024; GSMA, 2024).

Related to the rise and spread of digital finance and the ability of each of Kenya's SACCO members to easily compare the various financial institutions in the nation, many studies have published the impact that digital entrepreneurship has had upon the nature of many organizations and their capabilities for quickly responding to the opportunities that emerge within their organization (Autio et al., 2018; Nambisan et al., 2019). For SACCOs, digital transformation may enable those organizations to sense opportunities beyond those that are formed through direct interaction with the members of the SACCO, as well as enable them to

more quickly act upon those opportunities through digital channels (Khin & Ho, 2019; Bouwman et al., 2019; Eller et al., 2020; Rupeika-Apoga et al., 2022).

The literature on digital servitization and process transformation provides another justification for the moderating effect. Digitally transformed organizations are able to combine their existing products, services, data and processes in ways that improve the customer experience and the reliability of the organization's processes. Although most studies on digital servitization relate to manufacturing and service industries, the arguments related to digital servitization are also applicable to SACCOs in the provision of financial services (Kohtamaki et al., 2020; Coreynen et al., 2020; Blichfeldt & Faullant, 2021). The use of mobile applications, agency networks, online banking services and systems allow SACCOs to transform their capabilities into performance (Nasiri et al., 2020; Sousa-Zomer et al., 2020; Wessel et al., 2021).

The literature on measuring and assessing complex constructs also provides support for the inclusion of control variables in the proposed model. Studies on constructs such as dynamic capabilities and digital transformation have indicated that each of these concepts can be measured using a series of indicators as determining a single indicator for such a concept can underrepresent the true value of that construct (Boateng et al., 2018; Kyriazos, 2018; Taber, 2018). Therefore, techniques such as factor analysis and internal consistency analysis can determine whether the series of indicators for a specific construct are sufficiently related to each other (Hair et al., 2019; Sarstedt et al., 2021). Additionally, the use of control variables is also supported by studies of organizational performance as various factors relating to an organization, such as its age and size, can impact its performance (Bakker & Josefy, 2018; Coad, 2018; Dang et al., 2018; Lisboa et al., 2018).

Furthermore, the literature on dynamic capabilities also indicates another justification for the inclusion of a moderating effect. More recent studies on dynamic capabilities indicate that the capabilities of an organization can have different impacts on organizational performance depending upon a variety of different factors within the organization and outside of the organization (Schilke et al., 2018; Bitencourt et al., 2020; Scheuer & Thaler, 2023). For instance, digital transformation of an organization should lead to an increase in the performance impact of its dynamic capabilities (Warner & Wager, 2019; van de Wetering et al., 2021; Li et al., 2022; Ellstrom et al., 2022).

Related research on banking and financial technology sectors also provides additional support for the proposed model. For instance, studies of banking and financial technology organizations have shown that the digitalization of banking organizations has the potential to increase cybersecurity demands for those organizations (Vial, 2019; Hanelt et al., 2021; Verhoef

et al., 2021). Additionally, other studies of banks and SACCOs have shown that the digital transformation of these organizations can lead to improvements in areas related to financial management for those organizations (SASRA, 2024; Central Bank of Kenya, 2024; Ogindo & Njoka, 2023). These improvements include the ability to manage deposits, loans and other financial activities for members of the SACCOs (Teece, 2018; Kump et al., 2019; Ferreira et al., 2020).

Another reason for investigating Nairobi County is that it features a dense landscape of SACCO head offices, bank partners, employers, fintech providers and digitally savvy members. This situation brings both opportunity and stress. SACCOs can draw on technology partners, skilled employees and large member populations, but they must also endure intense competition with banks, mobile money providers and digital lenders. This makes Nairobi a valuable location for exploring whether digital transformation enhances the effect of dynamic capabilities on performance because it offers a combination of competitive pressure, regulatory scrutiny and the expectation of services (GSMA, 2024; Republic of Kenya, 2022; SASRA, 2024; Ogindo & Njoka, 2023).The literature also suggests that digital transformation has a cultural and managerial aspect. Technology investments yield better dividends if the leadership conveys a digital ambition, staff are continually upskilled, and digital initiatives are part of the governance and performance management framework (Nadkarni & Prugl, 2021; Kraus et al., 2021; Appio et al., 2021). In the case of SACCOs, this implies that the board and executive management must regard digital transformation as an activity to be governed like a strategy. A mobile loan platform cannot be expected to have a major impact on performance without staff competence, cybersecurity awareness, data governance and process redesign (Matarazzo et al., 2021; Rupeika-Apoga et al., 2022; Barba-Sanchez et al., 2024).Accordingly, this study assumes that the performance benefits of dynamic capabilities will be moderated by digital transformation. At low levels of digital transformation, dynamic capabilities should still have a performance impact because managers will still be able to sense changes in the environment and mobilize resources to respond to them, albeit in manual and data-sparse fashion. At high levels of digital transformation, this effect should be much stronger because sensing will be data-enabled, seizing will be platform-enabled and transforming will be workflow-integrated (Vial, 2019; Warner & Wager, 2019; Hanelt et al., 2021; Wessel et al., 2021). This reasoning lays the foundation for the moderation effect being tested in this study.

Recent work on digital servitization and Industry 4.0 also demonstrates that digital value is created not through the integration of technologies into an organization, but through the integration of managerial actions with digital technologies to achieve desired outcomes (Ardolino et al., 2018; Frank et al., 2019; Sklyar et al., 2019; Kamalaldin et al., 2020). While

digital channels may increase the visibility, speed, or coordination of processes within a SACCO, the performance of those SACCOs will only be increased if those managers incorporate those digital channels into their credit processes, management of members, and management decisions.

Additionally, the literature on organizational performance is also supportive of the idea that a balanced view must be applied to the outcomes of SACCO digital channels. For instance, while a SACCO may exhibit increases in the number of members or the amount of money deposited into those SACCOs by their members, if the organization also exhibits slow loan processing times, increasing member complaints, failing digital channels, or increases in the cost of ensuring compliance with regulations, the overall performance of that organization is still lacking. Therefore, the study utilizes a variety of indicators of performance to evaluate SACCOs, both financial and non-financial indicators (Taouab & Issor, 2019; Colbran et al., 2019; Treinta et al., 2020; Hsu & Lu, 2024). These indicators are utilized to reflect the achievement of the organization's various goals (Aguilera et al., 2024; Hamann & Schiemann, 2021; Tawse & Tabesh, 2023).

Finally, another view of the literature that can be utilized to support the study of the performance of SACCOs with digital channels is through the resource-based view of the organization. More specifically, the resource-based view of the organization suggests that the organization's resources are only valuable if they are both organized and deployed by the organization (Barney, 1991; Barney et al., 2021; D'Oria et al., 2021; Ployhart, 2021). Furthermore, recent research utilizing this view of the organization suggests that the value of those resources is only distributed to the organization's performance if they are deployed to achieve specific actions within the organization (Aguilera et al., 2024; Hamann & Schiemann, 2021; Tawse & Tabesh, 2023). Thus, the dynamic capabilities of SACCOs are the actions that are taken to utilize the organization's data and digital technology to improve the value delivered to its members. Additionally, the digital transformation of these organizations will increase the speed with which those actions (capabilities) are deployed to achieve performance by those SACCOs.

RESEARCH METHODOLOGY

Considering the aims of the study, an explanatory research design was adopted to determine whether there is a relationship between the variables and whether a third variable affects that relationship (Creswell & Creswell, 2018; Saunders et al., 2019). A positivist orientation was employed in this research as data was collected in numerical form and utilized in statistical tests to determine relationships between the variables.

The population that was studied was the managers of the deposit-taking SACCOs in Nairobi County. The managers that were targeted include the CEOs and general managers of the SACCOs, as well as the heads of the different departments within those organizations (finance, credit, ICT, operations, internal audit and compliance), as well as the supervisory staff for the SACCOs. These individuals were surveyed as they are the individuals with the most knowledge of the organizations' capabilities, digital initiatives, and the performance of those organizations. The target population consisted of 598 individuals from 46 deposit-taking SACCOs in the County. Using Yamane's formula for sampling at a 5% margin of error, a sample size of 240 individuals was obtained. However, 210 questionnaires were correctly returned and filled by the target population, giving the study a response rate of 87.50%.

A structured questionnaire was used to gather the primary data that were used in the research study. The structure of the questionnaire was a five-point Likert scale to indicate the level of agreement of the statements in the questionnaire. Statements regarding dynamic capabilities was measured using 12 items. Digital transformation was measured using 12 items. Organizational performance was measured using 12 items. Additionally, questions regarding the age and size of the SACCOs were asked as these are control variables for the study. The questionnaires were correctly filled since s drop and pick method was employed to give the respondents adequate time to fill the questionnaires. Consequently. Data was cleaned and, missing values and outliers removed before analyzing the data.

The use of items for the constructs of dynamic capabilities, digital transformation, and organizational performance were used as these constructs are complex and cannot be measured using single indicators for each construct. The reliability of the measurements were tested using Cronbach's alpha, and the validity of the constructs were tested using principal component analysis, the Kaiser-Meyer-Olkin measure of sampling adequacy, and Bartlett's test of sphericity (Taber, 2018; Hair et al., 2019; Boateng et al., 2018; Kyriazos, 2018).

The model that was utilized for the study first regressed the organizational performance with the control variables. Then, the dynamic capabilities was measured and included in the model to determine the effect that they had on the performance of the SACCOs. Following that, the digital transformation was measured and included in the model to determine the effect that it had on the performance of the SACCOs. Finally, the interaction term between dynamic capabilities and digital transformation were included in the model. Prior to creating this interaction term, the variables were mean-centered to remove multicollinearity between the variables (Hayes, 2018; Hayes & Rockwood, 2020; Aguinis et al., 2021). Each of the hypotheses were tested at the 0.05 level of significance.

Table 1: Measurement of variables

Variable	Role	Number of items	Measurement	Sources
Organizational performance	Dependent variable	12	Five-point Likert scale measuring financial performance, member satisfaction, member retention, cost efficiency, loan processing, compliance outcomes, digital channel contribution and overall performance	Hamann & Schiemann, 2021; Aguilera et al., 2024; SASRA, 2024
Dynamic capabilities	Independent variable	12	Five-point Likert scale measuring sensing, seizing and transforming capabilities	Teece, 2018; Kump et al., 2019; Bitencourt et al., 2020
Digital transformation	Moderator variable	12	Five-point Likert scale measuring digital platforms, payment integration, process automation, data architecture, analytics, dashboards, digital risk management, staff upskilling, partnerships and digital leadership	Vial, 2019; Verhoef et al., 2021; Hanelt et al., 2021
Organization age	Control variable	1	Categorical measure of years of operation	Bakker & Josefy, 2018; Coad, 2018
Organization size	Control variable	1	Categorical measure of organizational scale	Dang et al., 2018; Lisboa et al., 2018

ANALYSIS AND FINDINGS

Response rate

The rate of response to the questionnaire was found to be strong. Out of the 240 questionnaires distributed, 210 were correctly completed and returned by the respondents while the remaining 30 questionnaires were not returned or were incomplete. Thus, the rate of response to the questionnaire was 87.50%, which is an adequate response for this study. The high response rate indicates the credibility of the data collected from the respondents who are all individuals in positions of authority within the deposit taking SACCOs. Additionally, the data screening process revealed that all the variables had complete observations from the respondents and no missing values. Hence, the data collected were suitable for analysis.

Table 2: Response rate

Category	Number of Questionnaires	Percentage (%)
Questionnaires distributed	240	100.00
Questionnaires correctly filled and returned	210	87.50
Questionnaires dropped or incomplete	30	12.50
Usable response rate	210	87.50

Descriptive statistics

The descriptive statistics of the organizational performance had a mean of 3.0702 and a standard deviation of 1.03288. The dynamic capabilities had a mean of 3.0821 and a standard deviation of 1.01469 while the digital transformation had a mean of 3.1067 and a standard deviation of 1.06026. The mean values for all these constructs are slightly above the midpoint of the five point scale indicating that there is a moderate level of agreement with the respondents with regard to these constructs. Thus, it appears that the deposit-taking SACCOs in Nairobi County have adopted both dynamic capabilities and digital transformation to some extent, but they are not yet fully developed within all of the SACCOs. Furthermore, the age of these organizations had a mean of 3.93 while their size had a mean of 2.96.

Table 3: Summary of descriptive statistics

Variable	N	Mean	Std. Deviation
Organizational performance	210	3.0702	1.03288
Dynamic capabilities	210	3.0821	1.01469
Digital transformation	210	3.1067	1.06026
Organization age	210	3.93	1.262
Organization size	210	2.96	1.460

Reliability analysis

The results of the analysis of reliability showed that the constructs reached a coefficient alpha of 0.70 or higher. For the construct of organizational performance, which consisted of 12 items, the alpha was determined to be .932. For the construct of dynamic capabilities, which consisted of 12 items, the alpha was determined to be .928. For the construct of digital transformation, which consisted of 12 items, the alpha was determined to be .936. Each of these values indicate that the items included in each of the constructs exhibited excellent reliability. The high reliability of these constructs indicates that the respondents reliably answered the items as they refer to each of the concepts.

Table 4: Reliability statistics

Construct	Number of items	Cronbach alpha
Organizational performance	12	.932
Dynamic capabilities	12	.928
Digital transformation	12	.936

Validity analysis

Construct validity was verified by factor analysis. For organizational performance, all 12 items loaded highly on one factor, with factor loadings of .707 to .794. The KMO measure for dynamic capabilities was .958 and Bartlett's Test of Sphericity was significant, chi-square = 1313.043, df = 66, p = .000. The KMO measure for digital transformation was .962 and Bartlett's Test was significant, chi-square = 1466.648, df = 66, p = .000. The high KMO scores and significant Bartlett tests demonstrate that the item correlations were suitable for factor analysis, indicating that the constructs had acceptable validity.

Table 5: Validity statistics

Construct	Validity results	Decision
Organizational performance	One component extracted; loadings .707-.794	All items retained
Dynamic capabilities	KMO = .958; Bartlett chi-square = 1313.043; df = 66; p = .000	Scale valid for analysis
Digital transformation	KMO = .962; Bartlett chi-square = 1466.648; df = 66; p = .000	Scale valid for analysis

Correlation analysis

The results of the correlation analyses demonstrate that there is a strong positive and statistically significant relationship between dynamic capabilities and organizational performance ($r = .718$, $p < .05$). Furthermore, there is also a strong positive relationship between digital transformation and organizational performance ($r = .715$, $p < .05$). The two variables relating to dynamic capabilities and digital transformation are also moderately and positively related to organizational performance ($r = .551$, $p < .05$). Additionally, the age and size of the SACCOs are also positively related to organizational performance.

Table 6: Correlation results

Variables	OP	DC	DT	OA	OS
Organizational performance (OP)	1				
Dynamic capabilities (DC)	.718**	1			
Digital transformation (DT)	.715**	.551**	1		
Organization age (OA)	.677**	.350**	.455**	1	
Organization size (OS)	.615**	.340**	.461**	.409**	1

Regression analysis

The results of the hierarchical regression analyses indicated that the independent variables of organization age and size accounted for 59.6% of the variance in organizational performance in Model 1 (R2 = .596). The addition of dynamic capabilities to Model 2 resulted in the explained variance (R2) increasing to .790. The coefficient for dynamic capabilities was positive and significant, beta = .492, SE = .036, $p < .05$. The null hypothesis that dynamic capabilities have no significant effect on organizational performance was therefore rejected. A positive and significant effect of dynamic capabilities was found for all stages of the process; stronger sensing, seizing and transforming capabilities results in an increase in the organizational performance of the SACCOs studied.

The addition of the independent variable of digital transformation to Model 3 resulted in an increase in the explained variance in organizational performance. Organization age was still significant in Model 3, beta = .224, SE = .028, $p < .05$. Organization size remained significant, beta = .127, SE = .024, $p < .001$. Dynamic capabilities remained positive and significant, beta = .257, SE = .043, $p < .05$. Furthermore, digital transformation also had a positive and significant effect on organizational performance; beta = .214, SE = .036, $p < .05$. The final direct-effects model accounted for 84.4% of the variance in organizational performance, R2 = .844, adjusted R2 = .840. As such, the null hypothesis that digital transformation has no significant effect on organizational performance was therefore rejected.

Table 7: Hierarchical regression results

Variables	Model 1 Coeff. (SE)	Model 2 Coeff. (SE)	Model 3 Coeff. (SE)
Organization age	.418(.040)***	.319(.030)***	.224(.028)***
Organization size	.287(.034)***	.206(.025)***	.127(.024)***
Dynamic capabilities	-	.492(.036)***	.257(.043)***
Digital transformation	-	-	.214(.036)***
R-square	.596	.790	.844
Adjusted R-square	.592	.787	.840
Delta R-square	-	.194	.054
F-statistic	152.596	257.815	221.103
P-value	.000	.000	.000

An additional moderation analysis using Hayes PROCESS Model 1 was performed to determine whether there was a relationship between digital transformation, dynamic capabilities, and organizational performance. Results for the overall model were statistically significant, with R = .9135, R2 = .8345, and F = 205.7211. The interaction between dynamic capabilities and digital transformation was also statistically significant, with a beta value of .1129, a standard error of .0295, a t-value of 3.8242, and a p-value of .0002; the confidence interval for the interaction term was from .0547 to .1711. Furthermore, the model change in R2 value for the interaction terms was .0119, which was also statistically significant. Overall, then, digital transformation was found to significantly moderate the relationship between dynamic capabilities and organizational performance.

Table 8: Moderation analysis results

Effect	Coefficient/Effect	SE	t-value	p-value	LLCI	ULCI
Constant	.4937	.2727	1.8101	.0717	-.0441	1.0314
Dynamic capabilities	.0594	.0947	.6270	.5314	-.1273	.2461
Digital transformation	-.1075	.0964	-1.1150	.2661	-.2975	.0826
DC x DT interaction	.1129	.0295	3.8242	.0002	.0547	.1711
Organization age	.2776	.0272	10.2030	.0000	.2239	.3312
Organization size	.1648	.0235	6.9980	.0000	.1183	.2112
Conditional effect at low DT	.2757	.0471	5.8527	.0000	.1829	.3686
Conditional effect at moderate DT	.4263	.0361	11.8122	.0000	.3551	.4974
Conditional effect at high DT	.5486	.0533	10.2967	.0000	.4435	.6536

The clarification of the conditional effects allowed to establish the nature of the moderation. At low levels of digital transformation, dynamic capabilities exhibited an effect size of beta = .2757, with a standard error of .0471 and a p-value of .0000. At moderate levels of digital transformation, dynamic capabilities exhibited an effect size of beta = .4263, with a standard error of .0361 and a p-value of .0000. Finally, at high levels of digital transformation, dynamic capabilities exhibited an effect size of beta = .5486, with a standard error of .0533 and a p-value of .0000. These results indicate that higher levels of digital transformation resulted in the dynamic capabilities to create stronger gains in organizational performance. Thus, the null hypothesis was rejected.

These results are in accord with the literature regarding the value of dynamic capabilities in the presence of digital transformation. Digital transformation enhances the sensing capabilities of an organization through providing access to data, it enhances seizing through automation of processes that must be performed to implement strategies, and it enhances the transforming capabilities of an organization through process automation. Thus, it is not surprising that SACCOs that possessed digital platforms, automated processes, dashboards and digital leadership experiences experienced greater gains in organizational performance from their dynamic capabilities. These results support the studies that investigated the relationship between dynamic capabilities, digital transformation, and outcomes in both financial and non-financial sectors of the economy (Warner & Wager, 2019; Vial, 2019; Verhoef et al., 2021; Abdurrahman et al., 2024; Barba-Sanchez et al., 2024).

CONCLUSION AND RECOMMENDATIONS

The study investigated the influence of dynamic capabilities on the organizational performance of deposit-taking SACCOs in Nairobi County, Kenya, with a special focus on the role of digital transformation as a moderating variable. The findings of the study showed that dynamic capabilities have a significant influence on the organizational performance of SACCOs. SACCOs that outperform others in their ability to sense and act on opportunities and threats within their environments tend to have better financial and operational outcomes as compared to their underperforming counterparts in the same environment.

The findings also show that digital transformation has a direct influence on the performance of SACCOs. SACCOs that have invested more significantly in their digital platforms and processes have outperformed those that have not. This finding calls for SACCOs to treat digital transformation as a performance-enhancing goal rather than a means of providing better services to their members.

Furthermore, digital transformation significantly strengthens the relationship between dynamic capabilities and the performance of SACCOs. The effect of dynamic capabilities on the performance of SACCOs is stronger at high levels of digital transformation as compared to low levels of digital transformation. These findings require SACCOs that would like to gain significant benefits from their dynamic capabilities to ensure that their digital systems are strong and efficient.

Based on these findings, it is recommended that SACCO managers improve their sensing, seizing, and transforming dynamic capabilities. They can do this by investing in digital platforms and processes that would enhance and accelerate the performance of their SACCO. Furthermore, SACCO boards and regulators should encourage an integrated digital transformation within SACCOs. They should also encourage the establishment of digital dashboards that would help them monitor the impact of digital transformation on the performance of their SACCO.

These findings contribute to the existing theories on dynamic capabilities and organizational performance. The findings also extend the theories on dynamic capabilities by demonstrating the importance of digital transformation within enhancing the performance of the three dynamic capabilities of SACCOs. Furthermore, the study also contributes to the existing literature on digital transformation as it establishes digital transformation as a moderating variable for dynamic capabilities and performance in deposit-taking SACCOs.

Despite the research presented in this study, some limitations exist in the findings. Future studies can expand upon the current study by comparing the findings from Nairobi to other parts of Kenya. Furthermore, future studies can utilize longitudinal data, include more financial indicators of performance, and study the impact of different aspects of digital transformation. Additionally, future studies can investigate the impact of other variables on the dynamic capabilities of SACCOs and their impact on the performance of these institutions.

REFERENCES

Abdurrahman, A., Gustomo, A., & Prasetio, E. A. (2024). Impact of dynamic capabilities on digital transformation and innovation to improve banking performance: A TOE framework study. Journal of Open Innovation: Technology, Market, and Complexity, 10(1), 100215. https://doi.org/10.1016/j.joitmc.2024.100215

Agaku, I. (2021). Methodological considerations for the design and implementation of reliable and valid web surveys. Public Health and Toxicology, 1(1), 4. https://doi.org/10.18332/pht/141977

Aguilera, R. V., De Massis, A., Fini, R., & Vismara, S. (2024). Organizational goals, outcomes, and the assessment of performance: Reconceptualizing success in management studies. Journal of Management Studies, 61(1), 1-36. https://doi.org/10.1111/joms.12994

Alrub, Y. A., & Sanchez-Canizares, S. M. (2025). Digital maturity, dynamic capabilities and competitive advantage in financial institutions. Journal of Business Research, 185, 114934.

Aguinis, H., Edwards, J. R., & Bradley, K. J. (2021). Improving our understanding of moderation and mediation in strategic management research. Organizational Research Methods, 24(4), 665-685.

Appio, F. P., Frattini, F., Petruzzelli, A. M., & Neirotti, P. (2021). Digital transformation and innovation management: A synthesis of existing research and an agenda for future studies. Journal of Product Innovation Management, 38(1), 4-20. https://doi.org/10.1111/jpim.12562

Autio, E., Nambisan, S., Thomas, L. D. W., & Wright, M. (2018). Digital affordances, spatial affordances, and the genesis of entrepreneurial ecosystems. Strategic Entrepreneurship Journal, 12(1), 72-95. https://doi.org/10.1002/sej.1266

Bakker, R. M., & Josefy, M. (2018). More than just a number? The conceptualization and measurement of firm age in an era of temporary organizations. Academy of Management Annals, 12(2), 510-536. https://doi.org/10.5465/annals.2017.0035

Barba-Sanchez, V., Meseguer-Martinez, A., Gouveia-Rodrigues, R., & Raposo, M. L. (2024). Effects of digital transformation on firm performance: The role of IT capabilities and digital orientation. Heliyon, 10(6), e27725. https://doi.org/10.1016/j.heliyon.2024.e27725

Barney, J. B. (1991). Firm resources and sustained competitive advantage. Journal of Management, 17(1), 99-120.

Barney, J. B., Ketchen, D. J., Jr., & Wright, M. (2021). Bold voices and new opportunities: An expanded research agenda for the resource-based view. Journal of Management, 47(7), 1677-1683. https://doi.org/10.1177/01492063211014276

Bieńkowska, A., & Tworek, K. (2021). The moderating role of IT in the process of shaping organizational performance by dynamic capabilities of controlling. Applied Sciences, 11(2), 889. https://doi.org/10.3390/app11020889

Bitencourt, C. C., de Oliveira Santini, F., Ladeira, W. J., Santos, A. C., & Teixeira, E. K. (2020). The extended dynamic capabilities model: A meta-analysis. European Management Journal, 38(1), 108-120. https://doi.org/10.1016/j.emj.2019.04.007

Blichfeldt, H., & Faullant, R. (2021). Performance effects of digital technology adoption and product and service innovation: A process-industry perspective. Technovation, 105, 102275.

Boateng, G. O., Neilands, T. B., Frongillo, E. A., Melgar-Quinonez, H. R., & Young, S. L. (2018). Best practices for developing and validating scales for health, social, and behavioral research. Frontiers in Public Health, 6, 149. https://doi.org/10.3389/fpubh.2018.00149

Bourne, M., Melnyk, S. A., & Bititci, U. S. (2018). Performance measurement and management: Theory and practice. International Journal of Operations & Production Management, 38(11), 2010-2021. https://doi.org/10.1108/IJOPM-11-2018-784

Bouwman, H., Nikou, S., & de Reuver, M. (2019). Digitalization, business models and SMEs: How do business model innovation practices improve performance of digitalizing SMEs? Telecommunications Policy, 43(9), 101828.

Burton, R. M., Obel, B., & Hakonsson, D. D. (2019). Organizational design: A step-by-step approach (4th ed.). Cambridge University Press.

Buzzao, G., & Rizzi, F. (2021). On the conceptualization and measurement of dynamic capabilities for sustainability: Building theory through a systematic literature review. Business Strategy and the Environment, 30(1), 135-175. https://doi.org/10.1002/bse.2614

Central Bank of Kenya. (2024). Mobile payments statistics. Central Bank of Kenya.

Coad, A. (2018). Firm age: A survey. Journal of Evolutionary Economics, 28(1), 13-43.

Colbran, R., Ramsden, R., Stagnitti, K., & Toumbourou, J. W. (2019). Advancing towards contemporary practice: A systematic review of organizational performance measures for non-acute health charities. BMC Health Services Research, 19, 132. https://doi.org/10.1186/s12913-019-3952-1

Co-op News. (2024). Africa's SACCO movement: Membership and assets continue to rise. Co-op News.

Coreynen, W., Matthyssens, P., & Van Bockhaven, W. (2020). Boosting servitization through digitization: Pathways and dynamic resource configurations for manufacturers. Industrial Marketing Management, 89, 285-301.

Correa, R. J., Teixeira, M. S., & Dias, J. G. (2022). Dynamic capabilities: Antecedents and implications for firms' performance. Journal of Business and Economics, 15(1), 125-142.

Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). SAGE.

D'Oria, L., Crook, T. R., Ketchen, D. J., Jr., Sirmon, D. G., & Wright, M. (2021). The evolution of resource-based inquiry: A review and meta-analytic integration of the strategic resources-actions-performance pathway. Journal of Management, 47(7), 1383-1429. https://doi.org/10.1177/0149206321994182

Dang, C., Li, Z., & Yang, C. (2018). Measuring firm size in empirical corporate finance. Journal of Banking & Finance, 86, 159-176. https://doi.org/10.1016/j.jbankfin.2017.09.006

Donaldson, L. (2001). The contingency theory of organizations. SAGE.

Eller, R., Alford, P., Kallmunzer, A., & Peters, M. (2020). Antecedents, consequences and challenges of small and medium-sized enterprise digitalization. Journal of Business Research, 112, 119-127.

Ellstrom, D., Holtstrom, J., Berg, E., & Josefsson, C. (2022). Dynamic capabilities for digital transformation. Journal of Strategy and Management, 15(2), 272-286.

Ferreira, J., Coelho, A., & Moutinho, L. (2020). Dynamic capabilities, creativity and innovation capability and their impact on competitive advantage and firm performance. Technovation, 92-93, 102061.

GSMA. (2024). The mobile economy Sub-Saharan Africa 2024. GSMA.

Gun, K., Kim, S., & Park, J. (2024). Digital transformation, operational efficiency and firm performance: Evidence from service firms. Technology in Society, 78, 102631.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). Multivariate data analysis (8th ed.). Cengage.

Hamann, P. M., & Schiemann, F. (2021). Organizational performance as a set of four dimensions: An empirical analysis. Journal of Business Research, 127, 45-65.

Hanelt, A., Bohnsack, R., Marz, D., & Antunes Marante, C. (2021). A systematic review of the literature on digital transformation: Insights and implications for strategy and organizational change. Journal of Management Studies, 58(5), 1159-1197. https://doi.org/10.1111/joms.12639

Hayes, A. F. (2018). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach (2nd ed.). Guilford Press.

Hayes, A. F., & Rockwood, N. J. (2020). Conditional process analysis: Concepts, computation, and advances in the modeling of the contingencies of mechanisms. American Behavioral Scientist, 64(1), 19-54. https://doi.org/10.1177/0002764219859633

Hsu, C. L., & Lu, H. P. (2024). Perceptual and archival indicators of public organizational performance: A meta-analytic perspective. Public Management Review, 26(4), 785-807.

Jing, X., & Fan, Y. (2024). Digital transformation, operational integration and performance improvement. Industrial Management & Data Systems, 124(8), 2365-2388.

Jones, P. A., Jussila, I., & Kalmi, P. (2019). The determinants of credit union development. Annals of Public and Cooperative Economics, 90(2), 225-247.

Kaplan, R. S., & Norton, D. P. (1996). The balanced scorecard: Translating strategy into action. Harvard Business School Press.

Khin, S., & Ho, T. C. F. (2019). Digital technology, digital capability and organizational performance: A mediating role of digital innovation. International Journal of Innovation Science, 11(2), 177-195.

Kinyua, G., & Maina, J. (2021). Strategic capabilities and performance of cooperative financial institutions in Kenya. International Academic Journal of Human Resource and Business Administration, 3(10), 1-18.

Kohtamaki, M., Parida, V., Oghazi, P., Gebauer, H., & Baines, T. (2020). Digital servitization business models in ecosystems: A theory of the firm. Journal of Business Research, 104, 380-392.

Kraus, S., Jones, P., Kailer, N., Weinmann, A., Chaparro-Banegas, N., & Roig-Tierno, N. (2021). Digital transformation: An overview of the current state of the art of research. SAGE Open, 11(3), 1-15.

Kump, B., Engelmann, A., Kessler, A., & Schweiger, C. (2019). Toward a dynamic capabilities scale: Measuring organizational sensing, seizing, and transforming capacities. Industrial and Corporate Change, 28(5), 1149-1172.

Kyriazos, T. A. (2018). Applied psychometrics: Sample size and sample power considerations in factor analysis. Psychology, 9(8), 2207-2230.

Li, L., Su, F., Zhang, W., & Mao, J. Y. (2018). Digital transformation by SME entrepreneurs: A capability perspective. Information Systems Journal, 28(6), 1129-1157.

Li, Y., Tong, T. W., Wei, Z., & Yang, J. (2022). The performance implications of dynamic capabilities: The role of competitive intensity. Strategic Management Journal, 43(9), 1935-1962.

Lisboa, I., Skarmeas, D., & Lages, C. (2018). Firm age, size and performance: Evidence from service organizations. Service Business, 12(4), 811-839.

Masoud, R., & Basahel, S. (2023). The effects of digital transformation on firm performance: The role of customer experience and IT capability. International Journal of Data and Network Science, 7(2), 789-800.

Matarazzo, M., Penco, L., Profumo, G., & Quaglia, R. (2021). Digital transformation and customer value creation in Made in Italy SMEs: A dynamic capabilities perspective. Journal of Business Research, 123, 642-656.

McKillop, D., French, D., Quinn, B., Sobiech, A. L., & Wilson, J. O. S. (2020). Cooperative financial institutions: A review of the literature. International Review of Financial Analysis, 71, 101520.

Mhlanga, D. (2020). Industry 4.0 in finance: The impact of artificial intelligence on digital financial inclusion. International Journal of Financial Studies, 8(3), 45.

Mikalef, P., Boura, M., Lekakos, G., & Krogstie, J. (2019). Big data analytics capabilities and innovation: The mediating role of dynamic capabilities and moderating effect of the environment. British Journal of Management, 30(2), 272-298.

Nadkarni, S., & Prugl, R. (2021). Digital transformation: A review, synthesis and opportunities for future research. Management Review Quarterly, 71, 233-341.

Nambisan, S., Zahra, S. A., & Luo, Y. (2019). Global platforms and ecosystems: Implications for international business theories. Journal of International Business Studies, 50(9), 1464-1486.

Nasiri, M., Ukko, J., Saunila, M., Rantala, T., & Rantanen, H. (2020). Managing the digital supply chain: The role of smart technologies. Technovation, 98, 102121.

Njoroge, R. N., Muhoho, J., & Kinyua, G. (2021). Change management and organizational performance of SACCOs: Metropolitan National SACCO, Kenya. Strategic Journal of Business & Change Management, 8(4), 215-226.

Ogindo, E. A., & Njoka, C. (2023). Digital transformation and financial performance of deposit-taking SACCOs in Nairobi City County, Kenya. Kenyatta University Repository.

Ozili, P. K. (2021). Financial inclusion and fintech during COVID-19 crisis: Policy solutions. The Company Lawyer, 42(1), 14-17.

Pundziene, A., Nikou, S., & Bouwman, H. (2022). The nexus between dynamic capabilities and competitive firm performance: The mediating role of open innovation. European Journal of Innovation Management, 25(6), 152-177.

Republic of Kenya. (2022). Sacco Societies (Deposit-Taking Sacco Business) Regulations, revised edition. Government Printer.

Rebekah, E., & Afjal, M. (2025). Exploring the role of fintech adoption and digital transformation in enhancing bank performance: A TOE framework study using hybrid SEM-ANN. SAGE Open, 15(3), 1-18.

Rupeika-Apoga, R., Petrovska, K., & Bule, L. (2022). The effect of digital orientation and digital capability on digital transformation of SMEs. Journal of Open Innovation: Technology, Market, and Complexity, 8(2), 100.

Sacco Societies Regulatory Authority. (2024). The SACCO Supervision Annual Report 2023. SASRA.

Sarstedt, M., Ringle, C. M., & Hair, J. F. (2021). Partial least squares structural equation modeling. In C. Homburg, M. Klarmann, & A. Vomberg (Eds.), Handbook of market research (pp. 587-632). Springer.

Saunders, M., Lewis, P., & Thornhill, A. (2019). Research methods for business students (8th ed.). Pearson.

Scheuer, J., & Thaler, J. (2023). Dynamic capabilities and performance: A systematic review and agenda for future research. Management Review Quarterly, 73(4), 1567-1609.

Schilke, O., Hu, S., & Helfat, C. E. (2018). Quo vadis, dynamic capabilities? A content-analytic review of the current state of knowledge and recommendations for future research. Academy of Management Annals, 12(1), 390-439.

Shen, L., Zhang, X., & Liu, H. (2025). Digital transformation and firm performance: A configurational perspective. Journal of Business Research, 187, 115014.

Sousa-Zomer, T. T., Neely, A., & Martinez, V. (2020). Digital transforming capability and performance: A microfoundational perspective. International Journal of Operations & Production Management, 40(7/8), 1095-1128.

Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. Research in Science Education, 48(6), 1273-1296.

Taouab, O., & Issor, Z. (2019). Firm performance: Definition and measurement models. European Scientific Journal, 15(1), 93-106.

Tawse, A., & Tabesh, P. (2023). Strategy implementation: A review and an introductory framework. European Management Journal, 41(1), 1-13.

Teece, D. J. (2018). Business models and dynamic capabilities. Long Range Planning, 51(1), 40-49.

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. Strategic Management Journal, 18(7), 509-533.

Treinta, F. T., Moura, L. F., de Almeida Prado Cestari, J. M., de Lima, E. P., Deschamps, F., Gouvea da Costa, S. E., & Leite, L. R. (2020). Design and implementation factors for performance measurement in non-profit organizations: A literature review. Frontiers in Psychology, 11, 1799.

van de Wetering, R., Mikalef, P., & Pateli, A. (2021). Strategic alignment between IT flexibility and dynamic capabilities: An empirical investigation. Information & Management, 58(2), 103438.

Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. Journal of Business Research, 122, 889-901.

Vial, G. (2019). Understanding digital transformation: A review and a research agenda. Journal of Strategic Information Systems, 28(2), 118-144.

Warner, K. S. R., & Wager, M. (2019). Building dynamic capabilities for digital transformation: An ongoing process of strategic renewal. Long Range Planning, 52(3), 326-349.

Wei, Z., & Shen, H. (2025). Digital transformation, cost reduction and firm growth: Evidence from emerging markets. Technological Forecasting and Social Change, 211, 123890.

Wessel, L., Baiyere, A., Ologeanu-Taddei, R., Cha, J., & Blegind Jensen, T. (2021). Unpacking the difference between digital transformation and IT-enabled organizational transformation. Journal of the Association for Information Systems, 22(1), 102-129.

Ardolino, P., Rapaccini, M., Saccani, N., Gaiardelli, P., Crespi, G., & Ruggeri, C. (2018). The role of digital technologies for the service transformation of industrial companies. International Journal of Production Research, 56(6), 2116-2132.

Frank, A. G., Mendes, G. H. S., Ayala, N. F., & Ghezzi, A. (2019). Servitization and Industry 4.0 convergence in the digital transformation of product firms: A business model innovation perspective. Technological Forecasting and Social Change, 141, 341-351.

Kamalaldin, A., Linde, L., Sjodin, D., & Parida, V. (2020). Transforming provider-customer relationships in digital servitization: A relational view on digitalization. Industrial Marketing Management, 89, 306-325.

Ployhart, R. E. (2021). Resources for what? Understanding performance in the resource-based view and strategic human capital resource literatures. Journal of Management, 47(7), 1771-1786. https://doi.org/10.1177/01492063211003137

Sklyar, A., Kowalkowski, C., Tronvoll, B., & Sorhammar, D. (2019). Organizing for digital servitization: A service ecosystem perspective. Journal of Business Research, 104, 450-460.

World Council of Credit Unions. (2023). 2023 statistical report. WOCCU.