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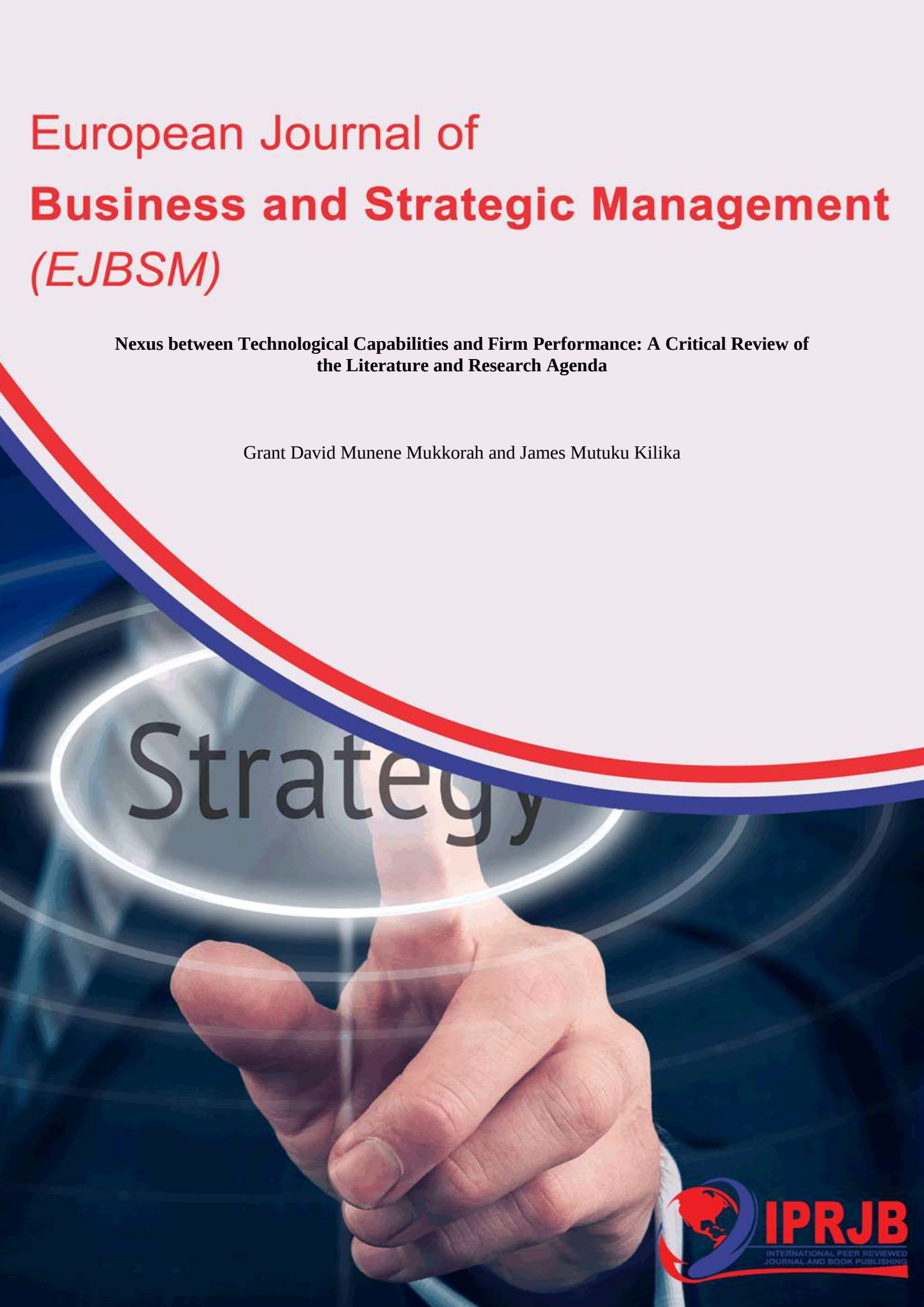
Grant David Munene Mukkorah and James Mutuku Kilika



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Nexus between Technological Capabilities and Firm Performance: A Critical Review of the Literature and Research Agenda

[1*]Grant David Munene Mukkorah
PhD Candidate, School of Business, Kenyatta University, Kenya

[2]James Mutuku Kilika
Lecturer, School of Business, Kenyatta University, Kenya

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Abstract

Purpose: The technological capability of an organization plays a strategic role in enhancing the performance of organizations as it addresses strategic decisions that influence the deployment of economic resources in the value creation process to deliver goods and services. The purpose for the study was to conceptualize and review the already existing theoretical and empirical literature and methodological gaps and propose a conceptual model depicting the relationship between technological capability and firm performance for implementation.

Methodology: Explore techniques employed to operationalize this concept and to make it relevant to beneficiaries and research participants who include; scholars, policy makers, organizational managers and the general public. The study reviews the pertinent theories, constructs and their operational indicators and compared against the existing empirical work and emergent knowledge gaps identified.

Findings: The construct was found to have a place in strategic management as a strategy that can enhance a firm's performance and competitive advantage. The study further highlighted the moderating role of the environment in governing the relationship between technological capabilities, firm competences and firm performance. The study further presented the conceptual understanding of all the constructs through identification of the operational indicators as well as the theoretical postulates anchoring each construct.

Unique Contribution to Theory, Practice and Policy: The theories underpinning the study include the resource based view model and dynamic capabilities theory. Finally, the study proposes a multidisciplinary based theoretical model suitable for advancing knowledge in this area together with the accompanying implications for future research.

Keywords: *Technological Capability, Environmental Dynamism, Firm Performance, Firm Competencies*

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INTRODUCTION

The prime objective in the field of strategic management is enabling firms to develop and exploit strategies that allow them to achieve and sustain competitive advantage. A review of Resource Based View perspective shows that firms are not homogenous with respect to their resources and capability endowments. Also, resource endowments are not as flexible at least not in the short run, firms are to some extent stuck with what they have and may have to live with what they lack. The cause of this inflexibility has been attributed to three reasons. First, firms lack the organizational capacity to develop new competences quickly (Dierickx & Cool, 1989). Secondly, some assets are simply not readily tradeable, for example, tacit know-how (Teece, 1997) and reputation (Dierickx & Cool, 1989). Furthermore, even when firms can acquire an asset, it is not always guaranteed that firms stand to gain much from the acquisition. As Barney (1991) points out, unless a firm is lucky, possesses superior information, or both, the price it pays in a competitive factor market will fully capitalize the rents from the asset.

The strategic management literature has stressed on the role played by technological capabilities in the pursuit of superior firm performance. Technological capabilities are a critical part of the organizational capabilities that give an organization the capacity to search, recognize, organize, apply and commercialize innovative products and services (Cheng & Chen, 2012). Scholars argue that capabilities are assets that cannot be observed and are traded only as part of the whole unit. They can be of value by themselves if they are organization-specific and imperfectly imitable (Barney, 1991). Studies have indicated that the effect of technological capabilities on organizational performance and operations is contingent upon environmental dynamism (Dess & Beard, 1984).

Researchers have also argued that effective and efficient use of technological capabilities is a crucial factor that distinguishes successful organizations from their less successful counterparts (Nedzinskas, Pundziene, & Bouziute-Rafanavici, 2013). Through employing technological capabilities organizations are able to adopt recent technologies giving them the capacity to implement new techniques of production therefore dealing with issues arising from outdated production systems (Cheng & Chen, 2013). Anecdotal evidence shows that since investments in technology are easily replicated by competitors, investments cannot ensure sustained advantages, it is rather how firms leverage the investment to develop unique capabilities that determine a firm's overall effectiveness (Eisenhardt, 2000).

Literature suggests that the effects of technological capability are not only curvilinear but also differential across exploitation and exploration. Technological capability fosters exploitation at an accelerating rate, whereas it has an inverted U-shaped relationship with exploration. That is, a moderate level of technological capability is optimal for explorative innovation, but a high level of technological capability actually impedes it. Furthermore, the conclusion was that to sustain their exploration, firms with strong technological capabilities must develop these capabilities which in turn will enable them to reconfigure their resources and acclimatize to the dynamic environment in which they operate in (Teece, Pisano, & Shuen, 1997).

Cohen and Levinthal (1990) argues that technological capability stimulates learning within the organization allowing them to exploit technology that generates product innovations. Mahmood and Soon (1999) find that technological capability not only fosters new product creativity but also facilitates product development speed. A firm's experience in developing and exploiting technology enables it to adopt and assimilate technological capability easily over time. It reflects the firm's abilities to employ various technical resources (Albright, 2004).

The accumulation of technological knowledge increases the firm's ability to evaluate and use new technologies and skills in product innovation (Zollo & Winter, 2002). As a result, the firm can quickly identify new technological trends, experiment with emerging designs, and engage in product innovations beyond the current technological boundaries (Jiao, Alon, & Cui, 2011).

Literature has shown that the impact of technological capability on exploration may plateau and later decline after it reaches a high level. First, a firm with strong capabilities in an existing technology domain may be complacent with what it already has achieved, which may cause it to overlook new knowledge that is beyond its current technology trajectory (Cohen and Levinthal, 1990). Second, assimilating new knowledge into an existing knowledge base is difficult for a firm that already has gained substantial experience in a particular technological field. In order for a firm to effectively assimilate new knowledge and quickly respond to the changing environment it must be flexible and able to unlearn and engage a different mindset (Levinthal and March, 1993). The costs associated with learning new knowledge and restructuring existing know-how encourage technology-entrenched firms to rationally lower their explorative behaviors (March, 2006). Third, applying totally new knowledge to commercial ends is even more challenging for firms with strong existing technology bases. Because of the substantial investment in existing technologies and the high risk associated with the choice of a new dominant design, the returns from exploration are far less certain and more distant in time compared to the returns from exploitation. Given the complex nature of most markets and highly competitive organizations, the subject of technological capability in the context of knowledge based intensive sector requires attention so as to explain the linkages among the attendant variables.

Statement of the Problem

Even though calls are emerging for firms to consider adoption of technology as a viable strategic option for enhancing firm performance, it is observed that this faces a number of issues that strategic management needs to address. The state of theoretical literature is scattered. The conceptualization of relevant constructs that underpin the phenomenon and application in real life is missing, hence the need for scholars to develop models that offer direction for practice and empirical work (Jabbouri & Zahari, 2014).

The aim of this paper is to review gaps in the knowledge and to propose a theoretical conceptual and empirical framework suitable to guide future research. The review of literature reveals that no empirical study has explored the technological capability, environmental dynamism so as to explain the complex phenomenon built by the interaction of the said constructs. This study therefore seeks to explore the constructs and bridge the theoretical and empirical gap created. The debate on the relationship between technological capability and firm performance is inconclusive given that some empirical and conceptual studies have yielded inconsistent results of which some have established negative relationships on capabilities in changing and unpredictable environments (Garg, Walters, & Priem,, 2003)

Despite the presence of extensive literature on dynamic capability, there is limited attention paid to technological capability and how corporate managers and scholars can integrate technological capability into their operational, business and corporate strategy with an aim of enhancing their performance and achieving sustainable competitive advantage (Tuan & Yoshi, 2010).

The existing theoretical and empirical literature on technological capability is so fragmented and disjointed from business strategy that the benefits and opportunities that lie in technological capability are obscured (Lee & Chu, 2013).

Lastly, there has been limited research specifically addressing the relationship if any on firm competencies, environmental dynamism and technological capability. As Poppo and Zenger 1995; Priem and Butler, 2001; Ombaka, 2014 notes, research is yet to crystalize and clearly conceptualize how these constructs relate in influencing the firm's performance. The extant literature provides very scanty details on how firm performance can be pursued from the technological capability perspective and is limited in evaluation of the technological capability and environmental dynamism (Lee & Chu, 2013). In view of the above, the study seeks to grow and enrich the current state of knowledge on the concept of technological capability by exploring the aspects of technological capability, firm competence and environmental dynamism and their practical, theoretical and empirical implications on firm performance.

The study is guided by the following objectives; first is to explore the theoretical and empirical literature on the constructs of technological capability and firm performance in an attempt to identify their theoretical and practical characteristics. Secondly, the study identifies the emerging theoretical and empirical gaps that form the basis for future research and finally proposes a theoretical model for responding to the identified gaps. The paper contributes theoretically to the body of knowledge by providing a link between technological capability and firm performance. This link plays a key role in advancing the theoretical understanding of the construct of operations strategy and the phenomenon it brings about in the functioning of organizations. An understanding of such magnitude is considered essential for effective application in the management of organizations. Towards this, the paper proposes a theoretical model that is considered relevant for use in guiding future research in this sector.

Conceptualization of Key Constructs

In order to respond to the study objectives, the paper presents a summary of the conceptual literature on the constructs of technological capability, firm competency, environmental dynamism and firm's performance. This is then followed by the relevant empirical review that discusses the main concepts upon which the constructs are anchored.

Technological Capabilities

Strategy scholars have re-framed the discussion on technological capability, and re-defined technological capability as the firm's ability to mobilize and deploy IT-based resources by integration with other firm resources and capabilities (Dierickx I. a., 1989). Bharadwaj et al. (1999), point that technological capability is a multidimensional concept encompassing both the technical and organizational dimensions. Bharadwaj et al. (1999) measured technological capability by use of six dimensions, these are, technology business partnerships, external technology linkages, business technology strategic thinking, technology business process integration, technology management, and technology infrastructure.

Grant (2007) measured Information technology capabilities through the following indicators: the tangible resource comprising the physical IT infrastructure components, the human IT resources comprising the technical and managerial IT skills, and the intangible IT-enabled resources such as knowledge assets, customer orientation, and synergy. While Tanui (2015) operationalized Firm technological capabilities by measuring the organizations ability to sense, seize, shape and reconfiguration of resources. Information technology capability is an

organization's ability to generate business value using its IT assets and know-how. IT capability of a firm comprises IT infrastructure, human IT resources such as technical and managerial IT skills, and IT-enabled intangibles including knowledge assets, customer orientation, and synergy. Companies can improve their business performance by leveraging their IT capability to increase revenues, reduce costs, or both (Bharadwaj, 2000.)

Guerra (2016) posits that technological capability should be studied as a moderating variable and not as independent variable, however Reichert and Zawislack (2013), Zhou and Wu (2010) and Ju et al. (2013) found that most studies had ignored the direct relationship between technological capability and firm performance which they found to be positive. This study has viewed technological capability as an independent variable. It was also evident from the literature review that most of the studies were not conducted in the African context therefore generalization of their findings would be of no significant value as highlighted by Reichert and Zawislack (2014) that size of the firms and the economies that the firm operates in is key when analyzing the influence of technological capability on firm performance.

Firm Competencies

According to Simon (2000) Competence refers to a firm's capacity to deploy resources, usually in combination using organizational processes to produce a desired effect. Competence allows resources to be utilized and creates the potential for output. Resources are a source of capability for the firm but competence to use the resources to acquire economic rent is the main source of competitive advantage for the firm. The core competencies of a firm should be easily replicated by competitors operating in that environment. In order for a firm to achieve and maintain competitive advantage, organizations should periodically scan their environment to inform which competencies need to be developed and exploited to ensure sustained competitive advantage. Strategic change creates the need for superior competencies and for information gathering, interpreting and synthesis capabilities in order to take advantage of opportunities created or avert threats (Galbrailt, 1974). In addition, Prahalad (1990) contends that competence is the ability to match firm specific capability and market needs. Unpredictable environments changes may render existing competences within the firm obsolete or create new opportunities. If new opportunities arise as a result of changes in the environment, then this would call for reconfiguration of existing competencies and development of new competences to enable the firm to effectively adapt to the new environment and achieve new competitive advantages. A firm's capacity to predict when and how the existing environment is bound to change will significantly influence management's decision on which existing competencies need to be kept and which need to developed in order to effectively respond to the changing environment.

The competitive dynamics of an industry are driven by the competence building and leveraging actions of the firms making up that industry. Competence development and exploitation of new opportunities are initiated by changes in managers' perceptions of set organizational goals and objectives. Firms' evolving choices of competence building and leveraging actions may lead to stable, converging, or diverging competence groupings of firms in an industry.

Firms may also form competence alliances that link one firm's competences or resources to those of other firms in order to draw on a broader range of competences, to acquire desired competences more quickly, or to extend the reach of current competences into new competitive domains (Sanchez, Heene, & Thomas 1996).

Rogers (2008) posits that many firms define the required competencies based on the goals that are identified within the context of the strategic plan. A competency map is developed over time for each part of the business and in sophisticated applications, managers can come up with methods for tracking essential skill gaps in order to ensure that the firm is staffed appropriately to achieve its mission. Cullen (2008) contends that firm competencies as traditionally applied are far too narrow to ensure that the firm is positioned to meet its strategic plan goals let alone to meet and beat the competition. The author alluded that a broader definition of firm competencies focuses on the first word- "firm". Under this definition, the firm becomes the focus. It is the firm as a whole that must perform not just an individual employee. Under this approach the firm must step outside itself and evaluate conceptually, what things as a firm, it does on an ongoing systemic basis that enables it to achieve its mission. In this context we can define firm competencies as the combination of required skills, necessary information, appropriate performance measures and the right corporate culture that the company requires to achieve its mission (Cullen, 2008).

Organizational competencies come from the many discrete and varied activities a company performs in different functionalities (Murray, 2003). Each activity contributes to a firm's ability to build its competitive advantage and be able to operate effectively in the environment. Development of organizational competencies is crucial if the performance targets are to be met, the top management team must be keen to sense an emerging competency and be able to nurture it, the study found out that competencies played a key role in mediating the relationship between Dynamic capabilities and firm performance.

Environmental Dynamism

Dess and Beard (1984) defined environmental dynamism as the "speed of change and the degree of instability in the environment". All companies operate in a macro-environment shaped by dictates emanating from general conditions which are demographics, societal values and lifestyles, legislation and regulations, technology and industry and competitive environment in which the company operates on (Strickland and Gamble, 2010). Pearce and Robson (2008), determined that the immediate external environment was comprised of competitors, suppliers, increasing scarce resources, governments, and customers whose preferences often shift inexplicably.

Different scholars used varied indicators to assess the influence of environmental dynamism on firm performance, Clerk and Collins (2015) narrowed their environmental dynamism indicators to political and ecological aspects while mwazumbo (2016) focused on changeability and predictability and Rai (2017) considered product and service features designed by the customers, product and service features supplied by the suppliers, product technologies in the industry and government policies.

While in a highly dynamic environment with fast diminishing opportunities and increasing threats from existing and new competitors, such a volatile environment reduces the competitive position and potential value of current capabilities which in turn forces firms to carry out frequent and complex changes, thus technological capabilities can take a more important role. D'Aveni et al. (2010) propose that in the hyper-competitive environment, resources are difficult to obtain, hence, efficiently sensing, making timely necessary adjustments and implementing dynamically with environmental change is the only way for firms to get series of short-term advantages. However, in less volatile environments where resources are readily available, firms can continue to exploit existing strategies and deploy resources as they see fit to match

environmental dynamics so that relatively weak technological capabilities can obtain long-term competitive advantages (Wu, 2010).

Firm Performance

In the business environment, the success of the firm is determined through its performance and is pinned on the firm's ability to achieve its goals and objectives. The cardinal responsibility of an organization is to fulfil the financial obligations to the shareholder or investors by giving them a return on their investment. Corporations exist principally to create value and value is created for both the shareholders as the principal stakeholders and the other stakeholders who are affected by the organization's act of executing its strategies and achieving its objectives (Haksever et al, 2016).

Variability in firm performance is a recurrent theme of great interest to both scholars and practitioners (Venkatraman and Ramanujam, 1986). The primary focus of strategic management as a body of knowledge is how organizations generate and sustain competitive advantage (SCA) (Ambrosini & Bowman, 2009). What defines firm's performance varies and depends on what the goal is and the context in which it operates. With the rise of information technology and the consequent globalization of markets, companies seek competitiveness through acquisition of strategic resources, technological and organizational capabilities (Tigre, 1998). Firm performance, which is a recurrent theme in management research, continues to be a contentious subject in terms of definition and measurement among researchers despite being one of the most frequently used dependent variable (Barney, 1991).

Civelek, Cemberci, Artar and Uca (2015) posit that performance is a multidimensional concept that is used to determine the success of a business in terms of the level of achieving the objectives of a business. The short term goals of a firm involve enhancing efficiency, maximizing on inventories and reducing the rate of turnover while the long term objectives include increasing the market share and the organizations profitability. When the dimensions of performance are put forth in relation to operations. Factors of efficiency and effectiveness come to mind. Effectiveness is the level to which an organization attains its goals while efficiency is the extent to which the organization is able to produce the expected outcome with minimum resources. Kocoglu (2010) has viewed performance through measures such as return on investment, market share, a profit margin of sales, increase sales, growth rate of (ROI), growth in market share and competitive position. Given the rapid rate of globalization, the need for organizations to sustain their competitive advantage and ensure sustainable growth in the market has been on the rise. In the African context for instance, the manufacturing industry has faced numerous challenges from rising costs of production to declining innovation forcing some to shut down (Kinuthia and Deya, 2019).

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Conceptual Framework

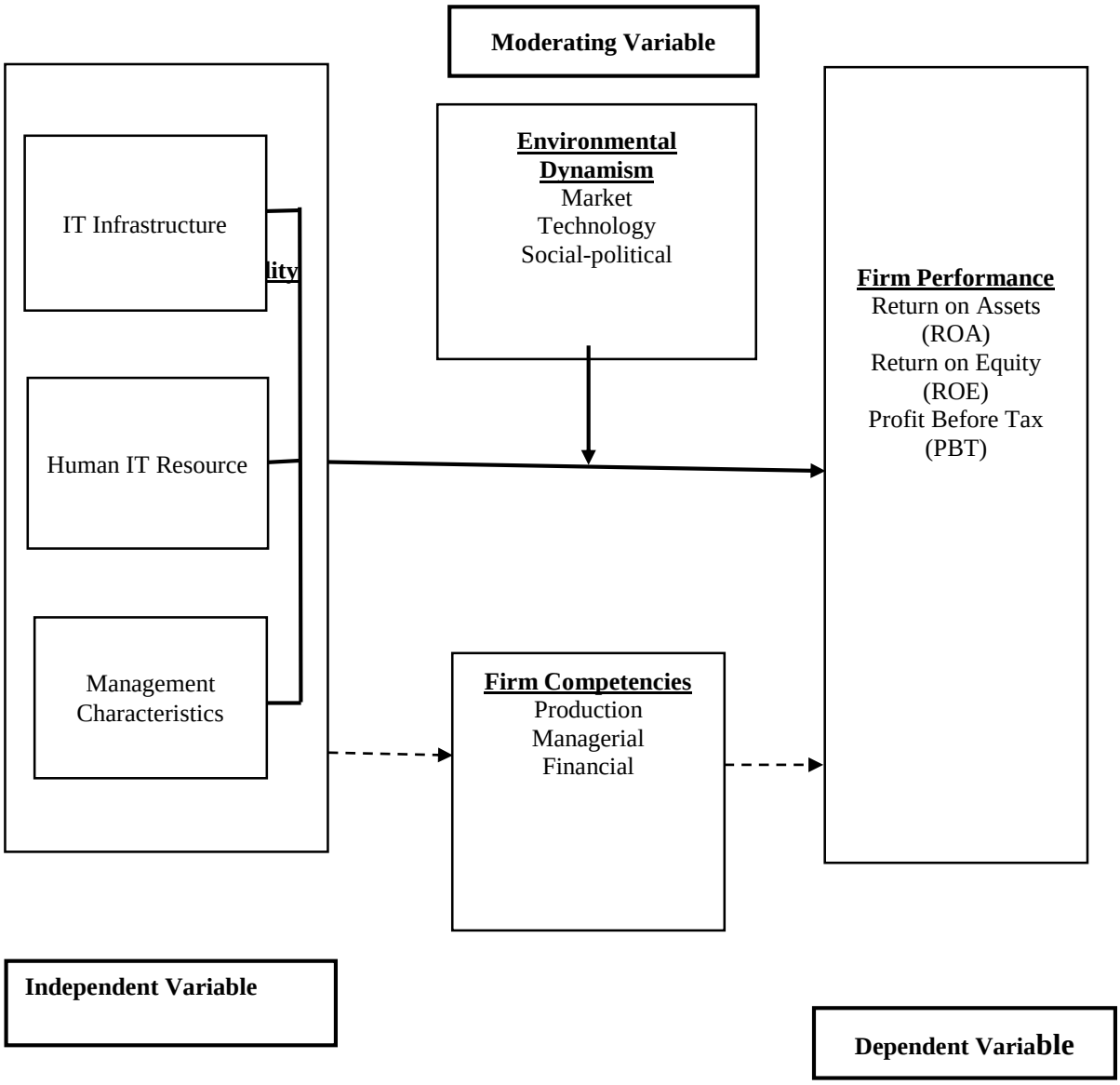

Figure 1: Conceptual Framework

Review of Extant Theories

Dynamic Capabilities Theory

Teece et al. (1997) states that dynamic capabilities involve firm's capacity to develop, assimilate and reconfigure internal and external competencies to effectively respond to highly unpredictable environments. The shortcomings arising from the resource-based view of the firm led to the development of the dynamic capabilities concept. Previous studies raised the pertinent question regarding resource-based view's disregard of factors influencing resources. Existing literature shows that limited studies have been done on how firms develop resources, how they are integrated within the firm and how firms exploit them to achieve goals and objectives. Dynamic capabilities have based their focus on how firms develop and renew their resources while resource-based view of the firm emphasizes on the ability of a firm to choose

appropriate resources required to respond to the rapidly changing environment. Wade and Hulland (2004), argue that resources consist of various aspects characterized by dynamic capabilities making it more appropriate to firms operating in highly volatile environments.

Globally, Protogerou, Caloghirou and Lioukas (2012) empirically explored the influence of dynamic capabilities on performance of manufacturing firms in Greece in which dynamic capabilities were found to influence their performance. Kareem & Alameer (2019) carried out a study that investigated the effect of dynamic capabilities on organizational effectiveness in selected Iraq university. Dynamic capabilities were found to positively influence organizational effectiveness of the universities. Locally, Kinuthia & Deya (2019) concluded that dynamic capabilities had a positive effect on competitiveness of firms in the telecommunication industry.

Resource Based Theory

The Resource-Based View (RBV) of the firm that has gained wide attention in strategic management is founded on the belief that firms within an industry control heterogeneous strategic resources. RBV developed in the 1980s by Wernerfelt (1984), Rumelt (1984) and Barney (1986), has over time become one of the principle present time approach that anchors how competitive advantage is measured which in turn informs the net effect it has on firm performance. According to RBV certain assets with certain characteristics will lead to sustainable advantage and therefore high strategic returns in terms of market share or profits. Barney (2014), argues that failure to effectively operationalize resource-based view strategies firms cannot achieve competitive advantage. Peteraf and Barney (2003) posit that, although firms may employ the same resources, they show varied outcomes and contrasting performances since resources have different inherent levels of efficiency. Resources that intrinsically possess rarity, non-substitutability and inimitability attributes gives a firm competitive advantage which in turn enables it to deliver value to the customers.

The RBV provides guidelines that help to determine what constitutes a valuable asset, capability or competence. It addresses the challenge of determining which resources represent strengths or weaknesses, that is, resources which generate core competences are sources of SCA (Pearce & Robinson, 2005).

Barney (2014) postulates that while resource based view contributes to firm performance it fails to show the relationship between technology and firm performance. The existing literature on alternative supply of firm resources and resource dependence fails to depict the influence that resource dependence has on the role played by technology in the firm.

The Call for a Theoretical Model

The reviewed conceptual, theoretical and empirical literatures in this study have brought out several constructs that will play different roles in a phenomenon involving technological capability and firm performance. Specifically, the review has brought out the following constructs:

technological capability, environmental dynamism and firm's performance. In regard to the basic question that the paper sought to answer, studies need to model the phenomenon that arises as a result of relationships developing from these constructs. The concern that arises therefore is that of constructing a theoretical model to demonstrate the phenomenon linking technological capability with firm performance.

From both ontological and epistemological standpoints, a theoretical framework is necessary if the current state of knowledge both in strategic and operations management is to advance into new frontiers. According to Nachmias and Nachmias (2004), a theoretical framework is a crucial component of any research study, providing the foundational structure that underpins the investigation of the research problem. It serves to introduce and describe the theory that explains the existence of the research problem, ultimately guiding the paper's approach and analysis. It permits the researcher to evaluate assumptions more critically, forces the researcher to address questions of why and how, connects the researcher to existing knowledge and permits the researcher to intellectually transit from simply describing a phenomenon that have been observed to generalizing about various aspects of that phenomenon and also helps to identify the limits to those generalizations. In addition, according to Bell (2014) it helps the researcher to explain the meaning, nature, and challenges associated with a phenomenon, often experienced but unexplained in the world in which we inhabit, causing us to employ the new information which will enable us to adapt and respond to situations more effectively. While two sets of debates as to the exact point of the role of theory in empirical research exist, there has not been an argument to nullify the contribution of theory in conceptualization and hypothesizing. Therefore, the paper contributes to the field of strategic management by suggesting a theoretical model for guiding empirical work.

Contextual Aspect

This study will be limited to study of listed commercial banks in Kenya. In the Kenyan business landscape, the banking sector is very competitive. The sector plays a key role in driving the Kenyan economy contributing to over 8% of the total Gross Domestic Product (KBA, 2023). The acquisition, retention and management of information are key activities within the banking sector. Compared to other sectors within the economy, the effect of process reengineering and innovation using technology is higher in the banking industry (West, 2005). The Nairobi Stock Exchange Handbook 2021 has listed the following 11 banks in the stock market; ABSA Bank Kenya, Stanbic Holdings Limited, I&M Holdings Limited, Diamond Trust Bank Kenya Limited, Standard Chartered Bank, Equity Group Holdings, The Cooperative Bank of Kenya Limited, BK Group, HF Group Limited, KCB Group Limited and NCBA Group which will form the target population. The listed commercial banks in Kenya will form the unit of analysis and unit of observation will be the top managers in those listed commercial banks. Some of the listed commercial banks in Kenya are performing better than others in terms of competition. Thus, it presents a problem that needs to be studied to enable the managers of the listed commercial banks that are not performing well in terms of market share improve on their competitive advantage aspect.

METHODOLOGY

This study recommends positivism philosophy as the most suitable philosophy. Mack (2010) posits that positivism allows the collection of quantitative data using questionnaires for the purpose of testing hypothesis. Mack further argues that positivists lay emphasis on the use of scientific methods, statistical analysis and generalization of research findings in a research study. Positivism paradigm provides a scientific, systematic approach to research and uses quantitative methodology in hypothesis formulation and collection of numerical data for hypotheses tests. To realize meaningful results, the research should heavily focus on objective data collection and analysis. This therefore suggests use of mixed method research designs. Saunders, Lewis and Thornhill (2016) combining different designs in one study enables triangulation in addition to increasing the validity of the findings to achieve optimal results.

The study will use a five point likert scale semi-structured questionnaire data collection method which will be administered via drop and pick unlike other studies which contradicts by adopting a survey method that uses the seven point likert scale (Human, Hirschfelder, & Ne, 2018 : Psomas, Kafetzopoulos and Gotzamani, 2017). Human, Hirschfelder and Ne (2018) argue that a five point likert scale captures key sentiments from the respondents and is easier for them to use and understand compared to the seven point likert scale. Stratified sampling method will be used for sampling. The stratified sampling method measures the overall population parameters with greater precision and ensures an extraction of a representative sample from a relatively homogenous population (Kothari, 2004). The use of Structural equation modelling (SEM) is applied by past lieratures from the previous studies. (Human, Hirschfelder, & Ne, 2018: Reimers, Chao, and Gorman, 2016: Baek and Morimoto, 2013: Lacey, 2012). This study recommends the use of multiple regression method. Moreover, this study will use descriptive statistics and inferential statistics with the help of Statistical Package for Social Sciences (SPSS) version 29 to achieve the objectives of the study.

Conclusion and Direction for Future Research

The study also sought to explore the nature of the construct of technological capability and highlight various aspects of the phenomenon that affect firm performance. The construct was found to have a place in strategic management as a strategy that can enhance a firm's performance and competitive advantage. The study further highlighted the moderating role of the environment in governing the relationship between technological capabilities, firm competences and firm performance. The study further presented the conceptual understanding of all the constructs through identification of the operational indicators as well as the theoretical postulates anchoring each construct. The conclusions of the paper however face two limitations. First, the theoretical foundation of the constructs used in the paper is limited since the study adopted just a few theories sourced from a wide range of theories that were found appropriate in explaining firm strategic behavior in organizational studies. Secondly, the conclusions propose theories and a methodology that is yet to be empirically tested and validated using data from a field survey. In view of these limitations, future research needs to consider the methodology advanced by this theoretical work with a view of undertaking an empirical investigation to validate the claims made using original data from the organization.

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