

Nexus Among ICT Support for Core Competencies, Competitive Advantage and Firm Performance: A Managerial Phenomenology Approach



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ABSTRACT: This study analysed the nexus among ICT support for core competencies, competitive advantage and firm performance using data obtained from managers of firms in Harare, Zimbabwe. The qualitative phenomenological approach focused on the manufacturing and service sub-sectors that informed the analysis. The study used purposive sampling to select a sample of 10 participants, five business managers and five ICT experts. In-depth interviews with chosen ICT experts from business organisations in Harare, Zimbabwe, were conducted to gather qualitative data. The study's findings were from using within-case and cross-case qualitative data analysis. Key results from the study indicate that ICT support for management talent is perceived to impact business performance and competitive advantage positively. ICT support for core competencies gives businesses a competitive advantage that positively impacts operational performance. When ICT investments combine with ICT management skills, a company's value maximises. For ICT-enabled core competencies to influence firm performance, firms need complementary managerial and strategic capabilities. This study is distinctive because it addresses the dynamic organisational capabilities and resource-based perspective as the base theories. The methodology goes against the innovation adoption theories of comparable earlier studies on ICT acceptability. Thus, this study contributes to the growing body of ICT literature by demonstrating that ICT-enabled core competencies are insufficient to establish and maintain a competitive advantage and singularly influence firm performance. It made it even more essential for a firm to consider how to meet better customer needs and capture value by having a well-thought-out ICT-embedded business model, business strategy, and innovation alignment.

KEYWORDS: Competitive advantage, Information Communication Technology, Management capabilities, ICT core competencies, operating performance, manufacturing companies.

I. INTRODUCTION

Businesses utilise resources for the benefit of society. Globally, we expect information communication technology (ICT) spending to reach 4.9 trillion US dollars in 2020 and grow to 5.8 trillion US dollars by 2023 [1]. This expenditure trend indicates the importance of ICT-driven applications in business activities [2;3] (Parmanand, 2022; FutureScape, 2018). To remain competitive, companies invest heavily in information technology to coordinate corporate strategy, enable innovative and functional operations, and develop an enterprise network [4]. (Chen & Tsou, 2007). Modern ICT has improved business performance in several Southern African countries, according to [5]. Kabanda (2014). Since then, businesses in many nations, including Zimbabwe, have embraced ICTs as a critical driver of economic development and solid growth in all sectors. Zimbabwe has 9.3 million internet users and a comprehensive digital payment infrastructure that handles 96% of transactions [6]. (Potraz, 2022). OECD (2019) [7] said that ICT business applications and the global economy increased fast over the past decade. Extant literature echoes the same view supporting that ICT has become a key component of most business firms' resources {8;9;10} (Parida et al., 2016; UNESCO, 2016; Mugobi & Mlozi, 2021).

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Businesses are competitive due to globalisation, digitalisation, more significant maintenance costs, demographic shifts, online competition, deregulation, and climate change [11;12;13] (Hughes & White, 2006; Gaur, 2006; Chaturvedi, 2009). Competitiveness in business necessitates modernising human resource knowledge and skills through the alignment of digital data-analytic systems [14;15;16] (Singh & Gaur, 2013; Gaur et al., 2014; Bozionelos & Singh, 2017). Managers must participate in organisational innovation processes because firms compete with other industry organisations for scarce resources [17]. (Lorange, 2002). Thus, although some organisations cut capital expenditures on other projects for economic reasons, they invest more in ICT resources they regard as strategically crucial to customer service. Thus, service organisations include clients more in value creation and delivery [18]. (Chen & Myagmarsuren, 2011). Sambamurthy et al. (2003) [19] present a methodology to analyse how ICT infrastructure capabilities affect a company's customer management. They argued that using appropriate ICT resources will increase customer connection with firms, enabling proactive data management.

Few information systems (IS) research has explicitly distinguished between the two mechanisms of ICT-enabled core competencies. First, it indirectly creates competitive advantage and firm performance through the enabling effect of ICT resources and capabilities. Second, it directly examined their impact on competitive advantage separate from several dimensions of the firm's performance in developing countries like Zimbabwe. The effect of ICT resources and ICT capabilities deserves further study. This study addressed the following research questions:

- RQ1: What is the firm's operating performance interaction with ICT-enabled management competencies?
- RQ2: What is the relationship among ICT-enabled management competencies, competitive advantage and operating performance?
- RQ3: What influence do ICT-enabled managerial competencies have on manufacturing firms in Zimbabwe?

In addressing the above-stated research question, this study analysed the effect of information, communication and technology (ICT) enabled management competency on operating performance and the relations among ICT-enabled management competency, competitive advantage and performance outcomes. A discussion of ICT in Zimbabwe contextualises this study.

A. STATE OF ICT IN ZIMBABWE

Information management technologies abound in most sectors of the global economy. Zimbabwe's ICT penetration exceeds the Sub-Saharan average, notwithstanding its economic decline [20;21] (Kabanda & Dzindikwa, 2022; Kabanda, 2014a). The mobile market is increasing tremendously, with 108% mobile penetration and 48% internet penetration (India-Zimbabwe Business Guide, 2016). As of 2018, 56% of Zimbabweans do business online [6]. (POTRAZ, 2022). Zimbabwe's Facebook use is 97.34%. Twitter comes second with 1.78%, Pinterest third with 0.56%, Tumblr fourth with 0.2%, and the remaining social networks, 0.12%, use mobile Internet [6]. (POTRAZ, 2022). Accordingly, the Zimbabwean ICT context may influence digital business adoption. Thus, ICT investments and digital business penetration can be determined by "the level of belief in the technical ability of an individual to use an information technology such as digital business" [21](Kabanda, 2014a). Zimbabwe's ICT infrastructure development efforts are evident in this discussion [22;23;6] (Zimbabwe Telecoms Mobile and Broadband, 2013; India-Zimbabwe Business Guide, 2016; POTRAZ, 2022).

Supportive of the issues, Zimbabwean firms have a unique potential to unlock the value of ICT use for productivity enhancement. According to a recent World Bank Report and business sectors, Zimbabwe has one of the world's most significant informal employment, accounting for more than 95% [24]. (Ilieva et al., 2022). However, the five per cent (5%) national employment in the formal sector accounts for greater productivity. This disparity could be the nature of capital investment in the comparative groups. By relative global standards, we assume that the size of Zimbabwean formal businesses is equivalent, if not more minor, to that of small and medium enterprises (SMEs) in advanced technology-based economies. As such, mainstream traditional companies have growth potential through leveraging ICT to bridge the digital divide and account for greater productivity. SMEs are crucial to emerging nations' economic success through ICT capital investment that could improve productivity. Zimbabwe's previous plan for sustainable socio-economic transformation (Zim Asset 2013-2018) policy paper identified SMEs as a "key driver for expected target growth" in the economy. The same policy paper lists ICTs as an economic growth engine. Despite their importance in Zimbabwe, we claim that firms have been slow to adopt ICTs in targeting productivity beyond compliance issues.

The ultimate driver of economic growth and increases in living standards is productivity. The five per cent (5%) productivity of informal businesses is barely a fraction of formal companies, indicating weakness in the use of resources by the national economy. Due to their integration and market access capabilities, business digitisation and innovation could be catalytic in transferring resources to the relatively efficient formal sector from the informal sector. This transfer could enable a firm to

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leverage ICT as essential to a long-term sustainable competitive advantage and market-based performance. Despite digital innovation, manufacturing enterprises may have low creative ability and performance due to a lack of ICT management skills [25] (Vakirayi, 2020). Though E-banking and mobile banking have become increasingly popular with banks, businesses utilise e-banking in various ways. In Zimbabwe, we assume the primary use has been for mere transaction and compliance motives instead of strategic resource application. Modern ICT technologies are focal in these digital strategic applications, including informal and formal businesses, though usage remains challenging.

The digital business model may be a good solution for understanding managerial ICT challenges. Due to lacking ICT capital backing, manufacturing firms can use digital platforms for advertising, promoting, building, and sharing resources, information, expertise, and trust. In an environment where businesses and customers strive to recover from the recent and everlasting economic shock enhanced by the emergence of the COVID-19 pandemic, a digital company may help organisations align with customer needs and build trust [26; 27] (Dlodlo & Mafini, 2014; Alghamdi et al., 2020). Many worldwide markets are directly accessible by Zimbabwean firms thanks to the multi-currency economy and the enhanced national strategy on the ICT infrastructure investment [5] (Kabanda, 2014). Corporations outside Zimbabwe already target these markets with the right policies, tactics, skills, and resources [34] (Gupta et al., 2020).

B. ZIMBABWE MANUFACTURING ORIENTATION CASE

The National Development Strategy of Zimbabwe phase 1 (NDS-1, 2019) calls for a digital economy by 2030. The digital economy drives global innovation, competitiveness, and growth. Manufacturing sector businesses are the backbone of sustainable economic development due to their potential for resource engagement, beneficiation and value-adding capabilities [27] (Alghamdi, 2019). Thus, digital business platforms are becoming more available in Zimbabwe, although more insights are emerging about their application in the modernisation of manufacturing enterprise firms. Digital businesses are changing consumers' social and commercial habits worldwide [59;26;34](DeLone, 1988; Dlodlo & Mafini, 2014; Gupta et al., 2020). For instance, North American and European micro-enterprises have merged their company plans with numerous digital business platforms (OECD, 2019). However, Zimbabwean firms could be failing to leverage digital business technological applications. This study proposes closing this knowledge on Zimbabwe's lack of digital business data, particularly of the management ICT capabilities on the business performance.

Information management capabilities enable flexible production, lean and agile logistical services, employment, new ideas, concepts, technological innovation, collaboration in a free market economy, and a foundation for the growth and success of corporations [60;5;25;-] (Teece, 2010; Kabanda, 2014; Vakirayi, 2020; RBZ, 2021). Due to the heavy ICT capital goods and raw materials import dependence in Zimbabwe, most firms face liquidity challenges and cash shortages, experienced workers, international knowledge transfer, government backing, and enabling laws [21](Kabanda, 2014a). Zimbabwe's slow digital adoption pace could be due to a lack of competition, knowledge, infrastructure, and resources. This macro-policy level challenge gives foreign companies targeting the same markets a competitive advantage (RBZ, 2021; Muzurura, 2022).

Despite their importance in Zimbabwe, manufacturing firms have slowly adopted ICTs to enhance the localisation of their operations and global competitiveness. Such effort is commendable as management ICT capabilities become a source of productivity along the NDS-1 agenda. The unfortunate country's status is its low ranking on the global innovation index, and has not seen considerable economic growth since the millennium [24] (Ilieva et al., 2022). Despite increased goals for digital transformation, manufacturing businesses lag behind other nonfinancial sector participants in adopting and using ICT technologies, particularly e-business digital technology. The management ICT capabilities and market restrictions have several explanations. These include the inability to access financial and human resources, apply relevant and specific external technical capabilities, and appreciate the benefits of ICTs [20](Dzindikwa & Kabanda, 2022).

[25] Vakirayi (2020) argues that businesses in developing nations are under-researched and marginalised, necessitating the need for new authors to fill the void in information management capabilities knowledge. There needs to be more literature on the Management of ICT capabilities in companies and the dissemination of innovation frameworks that leverage information management capabilities for competitiveness. Thus, information management capabilities provide an extant opportunity to improve manufacturing efficiencies, supply chain management, and access to the global market [28](Skafi et al., 2020). Nevertheless, we concur with Skafi et al.'s (2020) [28] observation that the ICT infrastructure investment lags behind major corporations in digital transition and technology adoption in developing countries like Zimbabwe.

This paper's significant focus is formal manufacturing firms operating in Harare, Zimbabwe. Hence, examining variables relating to the management ICT capabilities, competitive advantage, and firm performance is crucial. Therefore, three questions answered in this study are: (i) Does a company's ICT-enabled management competencies affect operational performance? (ii) Do

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ICT-enabled management competencies affect competitive advantage? And (iii) Do ICT-enabled management competencies interact with a competitive advantage and affect operational performance? Thus, this study's scope is anchored in Zimbabwean manufacturing operational performance, utilising a combined resource-based view of the firm (RBV) and dynamic managerial capabilities (DMC) theoretical framework.

II. LITERATURE REVIEW

Strategic Management's resource-based lens is significant in understanding management competencies. Scholars of Strategic Management, like [29] Chandler (1962), define strategy as determining a company's core long-term objectives and adopting courses of action and resource allocation required to attain these objectives. This strategy thinking emphasises utilising an organisation's resources and competencies to achieve an unrivalled core competency. Furthermore, the resource-based school believes that increasing a company's internal competence, or its capacity to have adequate internal machinery to offer products and services to clients, will give it a significant competitive edge [30;31;32](Wernerfelt, 1984; Hmael, 1994; Hamel & Prahalad, 1996). The resource-based school also believes that a company's resources and capabilities must be superior to its competitors to have a competitive advantage [33;35] (Penrose, 1959; Barney, 2001).

A. UNIFIED RESOURCES AND DYNAMIC CAPABILITIES THEORETICAL BASE

The resource-based view (RBV) contends that firms possess resources, of which a subset enables them to achieve a competitive advantage, and a subgroup leads to superior long-term performance. Valuable and scarce resources can lead to the development of a competitive advantage. To maintain a competitive advantage over extended periods if the company can prevent imitation, transfer, or substitution of its resources. In general, empirical studies employing the theory have supported the resource-based perspective. [36]Wade and Hulland (2004) argue that RBV, over time, depends on the competitive advantage phase leading to the sustainability phase. The competitive advantage phase's twin components relate to the productive use of valuable, rare, and appropriate resources, leading to short-term competitive advantage. RBV was motivated by strategic management and microeconomics [33;30;35;37](Penrose, 1959; Wernerfelt, 1984; Barney, 2001; Jacobsen, 2013). The theory examines competitive advantage, organisational performance, and rents at the business level. Resources, skills, and assets determine independence.

RBV explains how companies gain and retain a competitive edge [38;37] (Ray et al., 2005; Jacobsen, 2013). This viewpoint is why one firm's operations may outperform its competitors. According to the RBV, a company's competitive advantage comes from its unique combination of rare, valuable, and imitable resources [39;30;34](Rumelt, 1984; Wernerfelt, 1984; Gupta et al., 2020). [33]Penrose (1959) states that resource utilisation determines an organisation's success. [35] Barney (2001) defined a company's resources as assets, capabilities, processes, qualities, experience, and know-how for a competitive setting. Therefore, extant literature links RBV with other theories such as dynamic managerial capabilities (DMC), knowledge-based approach (KBT), absorptive capacity (ABC), and competitive strategy (CS), respectively [40;41;42] (Porter & Millar, 1985; Cohen & Levinthal, 1990; Teece, 2014). According to [43] Teece et al. (1997), dynamic capabilities are the ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments.

The concept of dynamic managerial capabilities (DMC) arose due to a critical flaw in the resource-based view of the firm [43;44](Teece et al., 1997; Barney & Mackey, 2016). DMC's origins are also in Strategic Management, and its level of analysis goes beyond the firm to integrate the capability into firm resources. The RBV is chastised for ignoring resource-related factors, instead assuming that they "exist" considerations such as how resources are developed, integrated within the firm, and released have received little attention in the literature. Dynamic capabilities seek to overcome these gaps using a process-based approach.[43] Teece et al. (1997) contend that a firm's ability to integrate, build, and reconfigure internal and external Framework competencies to address rapidly changing environments." Thus, by acting as a buffer between stretched resources and the changing business environment, dynamic resources aid a company in modifying its resource mix and preserving its competitive advantage, which is susceptible to erosion. So, while the RBV focuses on capabilities or appropriate resource selection, DC focuses on resource development and renewal. Therefore, the DC perspective's central dependent construct is a sustainable competitive advantage with influencing factors: capabilities, absorptive capacity, environmental turbulence, and agility.

On the other hand, knowledge complements the DMC and RBV theories, as explained by the knowledge-based business theory (KBT). Knowledge-based resources are difficult to copy and socially complex. Therefore, its proponents say that diverse knowledge bases and organisational capacities produce a sustainable competitive advantage and superior business performance. The ability of an organisation to develop, expand, or modify its resource base (Helfat et al. 2007). This information comprises organisational culture, identity, rituals, records, systems, and personnel. This approach to Strategic Management

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develops [33] Penrose's (1959) resource-based view of the organisation (RBV) [30;35;31;45] (Wernerfelt, 1984; Barney, 2001; Conner, 1991). The knowledge-based view of the company argues that the resource-based approach does not go far enough in recognising knowledge's importance in competitive firms. Knowledge is generic in the RBV. It does not identify knowledge-based capabilities. Information systems can synthesise, improve, and speed up large-scale intra- and inter-firm knowledge management, supporting the knowledge-based vision of the organisation [46] (Alavi & Leidner 2001). Extant literature applies KBT at the firm level with independent constructs of heterogeneous knowledge bases and capabilities, while competitive advantage and firm performance constitute the explained factors. Thus, decision-making is a managerial characteristic that depends on knowledge-based capabilities as proffered by the Human capital perspective [47] (Ababneh & Shrafat, 2014).

B. CAPABILITIES AND COMPETENCIES

According to [48] Zollo and Winter (2002), [49] Selznick's (1957) pioneering work on distinguishing competence is responsible for the increased interest in studying organisational capabilities. [41] Cohen and Levinthal's (1990) study of absorptive capacity and [43] Teece et al.'s (1997) study of dynamic capabilities built on this foundation. According to [55] Amit and Schoemaker (1993), capabilities are the firm's ability to deploy resources, often in combination, through organisational procedures to achieve the desired output. Capabilities develop over time through complicated linkages between the firm's resources. They are referred to as intermediate commodities because they boost a company's resource productivity while providing strategic flexibility and protection for its end product or service.

Despite their similarities, capacities and competencies have distinct meanings [50;51] (Pavlou & El Sawy, 2006; Pavlou & El Sawy, 2010). Competencies extend beyond capabilities. Competencies include firm-specific assets, knowledge, and skills, whereas abilities are integral in the organisation's structure, technology, procedures, and human interactions [52] (Lado & Wilson, 1994). Second, competencies surpass capabilities [53] (Javidan, 1998). The ability of a function is distinct from the cross-function integration and coordination of a competency. Distinctly, capabilities and competencies impact a company's strategy. Competencies are directly related to formulating, selecting, and implementing a company's strategy, whereas capabilities are not [54;52] (Cockburn et al., 2000; Lado & Wilson, 1994).

Capabilities are different organisational resources in some ways. However, a company's resources are the stockpiles of readily available factors of production that it owns or controls [55] (Amit & Schoemaker, 1993). Combining physical, human, and technology resources to develop capabilities is a frequent strategy in functional areas [56] (Grant, 1991). According to Makadok (2005), a capability is a non-transferable organisational resource that enhances the productivity of the organisation's other resources. Scholars differentiate between ordinary and dynamic capabilities. Dynamic capabilities are a company's behavioural attitude toward constantly integrating, reconfiguring, renewing, and recreating its resources and capabilities and, most importantly, updating and reconstructing its core capabilities to gain and maintain a competitive advantage [43] (Teece et al., 1997). This viewpoint concurs with that of [56] Barney and Hesterly (2020), who contend that shifting quickly and adapting to market changes can be a source of competitive advantage.

ICT managerial capability, which refers to a company's ability to build high-quality ICT applications quickly and cost-effectively, is an example of dynamic capability. This crucial capability will impact technology deployment [58] (Ravichandran & Lertwongsatien, 2005). The management of the ICT function includes activities like IS planning and design, delivery of IS applications, Management of ICT projects, and planning for ICT standards and controls [59;61;62] (DeLone, 1988; Magal et al., 1988; Zahedi, 1987). Further, [63] Melville et al. (2004) contend that ICT managerial competencies include the capacity to identify acceptable projects, marshal adequate resources, and lead and encourage development teams to perform tasks according to specification and within schedule and budgetary limitations. According to [64] Boynton, Zmud, and Jacobs (1994), the effectiveness of ICT management practices significantly affected how successful ICT was for businesses as a whole. Effective ICT management ensures that ICT policies are applied consistently across the organisation and minimises system duplication and redundancy. [65] Powell and Dent-Micallef (1997) investigate ICT managers' business understanding and line managers' ICT expertise as indicators of ICT management capability.

According to [66] Dehning and Richardson (2002), ICT management capabilities can create a flexible and complex ICT infrastructure. Building such an infrastructure requires aligning technology with an organisation's objectives and priorities. ICT-based competitive advantage can only result from managerial ICT proficiency [67] (Mata et al., 1995). According to [68] Chatterjee et al. (2001), the appointment of chief information officers (CIOs) demonstrates the significance of ICT management capabilities. In comparison, ICT capability is the capacity of a computer to store, process, and communicate data [69] (Bakos & Treacy, 1986). [70] Bharadwaj (2000) found that organisations with solid ICT capabilities perform better. [71] Peppard and Ward (2004) said ICT alone would not create a competitive advantage. ICT capabilities might be implicit and difficult to imitate. [72]

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Mithas et al. (2011) say ICT managerial expertise is crucial to developing other companies' customer, process, and performance management. ICT managerial competency moderates the association between ICT investments and firm performance.

C. CONCEPTUAL FRAMEWORK AND DEVELOPMENT OF PROPOSITION STATEMENTS

In today's market dynamics and complexities, current management competencies and dynamic managerial capabilities for competitive advantage are essential for operational business performance [73;74] (Ambrosini & Altintas, 2019; Bozic & Dimovski, 2019). Both concepts of RBV and DMC are studied separately, and their two notions are explored individually [75;76] (Bounfour, 2003; Moustaghfir, 2008). We adopt [75] Bounfour's (2003) approach, which advocates using a "combinatory function" of intangibles to get an edge and enhance innovation, as an appropriate theory in this study. These capabilities, which influence the firm's chances of success in uncertain future markets, are developed through internal and external learning [77] (Kogut & Zander, 1992).

Our theoretical and conceptual integration approach benefits from understanding human capital. Figure 1 depicts the developed conceptual model for this study.

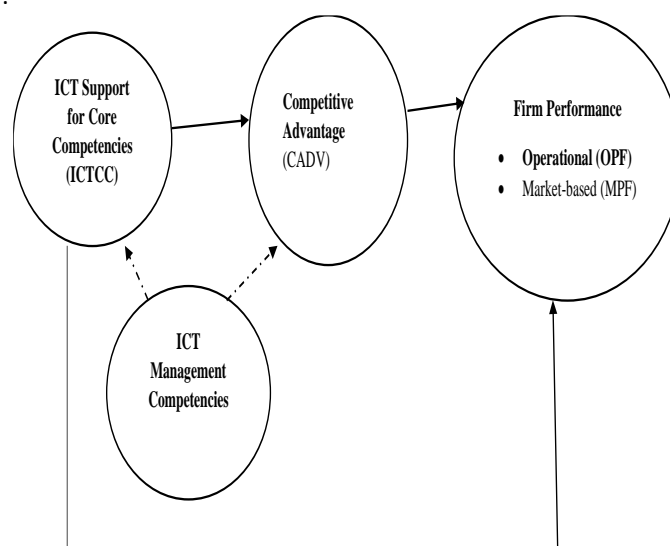


FIGURE 1: CONCEPTUAL MODEL

The following sections discuss the study propositions developed by reviewing the extant literature.

1) ICT-enabled management competencies and operating Firm Performance

According to [78] Olaniyan and Okemakinde (2008), the human capital theory emphasises management competencies and their trickle-down influence on worker productivity and production by constantly growing the cognitive pool of economically valuable human potential. Talented workers earn more outstanding value for the firm [79] (Becker, 2009). [80] Analoui and Samour (2012) contend that low-cost empowerment benefits employees and the community.[81] Stewart (1997) refers to these accruing benefits as intellectual capital due to the knowledge investment of a corporation. Because skilled employees boost production, training and development are analogous to physical capital. Thus, investing in human skills produces a qualitative and quantitative workforce [81] (Stewart, 1997). Human, customer, and structural capital—knowledge about the company—are crucial capabilities for performance enhancement.

According to research, businesses optimise human resource potential to achieve objectives [82;83] (Budhwar et al., 2018; Nuruzzaman et al., 2018). To remain competitive, organisations must prioritise processes, systems, and, most crucially, talent acquisition and retention [84] (Al Ali et al., 2017). ICT could broaden top managers' perspectives on strategic management. It balances finance, marketing, manufacturing, production, organisational development, and new product creation [85] (Kaplan & Norton, 2000). Management ICT competencies encompass all expenditures and a comprehension of how computers, networks, programs, and people collaborate to accomplish objectives[86] (Tiwana et al., 2003). Engineering tools assist businesses in penetrating new markets by enhancing their operational and dynamic capabilities [87] (Saini & Johnson, 2005). [88] Jeffers (2003) defines ICT resources as a company's hardware, software, and other technologies. Business solution applications and enterprise ICT systems are examples. ICT assets include funds and personnel (such as programming, systems integration, and database creation).

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ICT is a resource for modern enterprises, yet the failure of many ICT-big corporations makes one question whether ICT ensures success. [89] Swalwell (2012) considers computers to be useless due to their prevalence. A weak correlation between ICT expenditures and financial performance is the root cause of the productivity dilemma related to non-productive ICT usage in businesses [90] (Liang et al., 2010). Researchers refute the impact of ICT on productivity. The justification for higher ICT expenditures is positive business outcomes [51] (Pavlou et al., 2005). We contend that these disparities could be due to the differences in the SMEs' operating performance. Consequently, the success of firms will require diverse human resources to develop ICT-enabled management competencies (ICTC) to boost the complementarities of resources and integrate industry-specific competencies [91;92;93] (Tosi et al., 1986; Greenberg, 2011; Champoux, 2011).

Thus, information management is essential to the growth of other business capabilities, such as customer management, process management, and performance management. These capabilities favour customer, financial, human resource, and organisational success metrics. Management might concentrate on establishing the critical conditions for enhancing ICT infrastructure and information management expertise, as they play a fundamental role in creating other capabilities for improved business performance. Our first proposition (P_1) was that:

ICT-enabled core competencies (ICTC) are related to firm performance.

2) Competitive advantage and operating Firm Performance

According to [36] Wade and Hulland (2004), information systems resources might resemble dynamic capabilities (DMC), which is advantageous for firms undergoing rapid change. Consequently, even if information systems (IS) resources do not instantly provide the organisation with a sustainable competitive advantage, they give the business a competitive advantage in the long run. If they aid in the development, addition, integration, and release of other vital resources, they may be crucial to the firm's long-term competitiveness in volatile scenarios. [38] Ray et al. (2005) contend that failing to invest in ICT resources and competencies, whether domestically or externally, may place a company at a competitive disadvantage in terms of customer service. Organisations in a particular industry must invest in ICT resources to remain competitive. Studies demonstrate that ICT improves company procedures and performance [94;95;96] (Porter, 2001; Banker & Kauffman, 2004; Bharadwaj et al., 2007). Innovations can be created through direct imitation, hybridisation, and an organisation's resources and capabilities, "combinational powers". These abilities, which influence the company's success in unpredictably competitive markets, are cultivated through internal and external learning [77] (Kogut & Zander, 1992).

According to research, management ICT skills create economic rent [33;30;97;98;96] (Penrose, 1959; Wernerfelt, 1984; Feeny & Willcocks, 1998; Dehning & Stratopoulos, 2003; Bharadwaj et al., 2007). [98] Dehning and Stratopoulos (2003) demonstrate that businesses with superior management ICT abilities are likelier to maintain an ICT-facilitated competitive advantage. ICT resources and ICT competencies connect positively with ICT management business alignment and ICT investments for business operations [88;58] (Jeffers, 2003; Ravichandran & Lertwongsatien, 2005). [38] Ray et al. (2005) contend that generic technology innovations complement ICT organisational knowledge to enhance management competencies. [99] Aduloju (2014) assert that the competitive advantage that arises from managerial competence moderates ICT resource use for enterprise success. [69] Bakos and Treacy (1986) investigated ICT potential from three perspectives: a business aiming to improve efficiency and effectiveness, an industry insider trying to outmanoeuvre competitors, and an outsider considering entering an industry. [100] Rockart and Morton (1984) suggest three ways for the firm to stand out: improve value-adding functions, link with consumers and suppliers to make them harder to move, and establish new businesses through services or goods.

[69] Bakos and Treacy (1986) view opportunities arising from ICT from three perspectives: (a) an organisation is attempting to increase efficiency and effectiveness, (b) an industry insider is attempting to outmanoeuvre other participants in a competitive rivalry, and (iii) an outsider deciding whether or not to enter an industry. [100] Rockart and Morton (1984) present three strategies for gaining a competitive advantage: enhance each value-adding function, link with consumers and suppliers to increase switching costs, and build new businesses through services or goods. Similarly, [58] Ravichandran and Lertwongsatien (2005) proposed three core competencies: (i) structural or functionality-related, (ii) intellectual or integrity-related, and (iii) social relational or market-access-related. Our second proposition (P_2) was that:

ICT-enabled core competencies (ICTC) could influence the competitive advantage in Zimbabwe.

3) Competitive advantage mediating ICT-enable management competencies and Operating Firm Performance

Over the past decade, research into the effectiveness of information and communication technology (ICT) for businesses has expanded dramatically. Certain studies have shown a high correlation between ICT and corporate performance, whereas others have not. The extensive causal chain linking ICT to firm performance and the majority of the research's ignoring of critical

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intermediary organisational features that mediate this relationship could be one cause for contradictory results [88;58;101] (Jeffers, 2003; Ravichandran & Lertwongsatien, 2005; Patrakosol & Lee, 2009). Thus, our third proposition (P₃) was that:

A greater connection between ICT-core management competencies (ICTC) and the competitive advantage increases a firm operating performance.

The following sections, empirical analysis, including sample and data collection, measurement of essential variables, structural equation analysis and results, are described in the methodology section. The conclusion discusses the study's findings, limitations, and future research.

III. MATERIALS AND METHODS

This study employed a descriptive and interpretive phenomenological methodology driven by a multiple-case study research design. The qualitative phenomenological approach included transcribing interviews, coding data, selecting themes, and assessing the reliability of the "themes" that emerged. Thus, the unit of analysis was based on ICT support competence utilisation as informed by the participants' opinions and narratives relating to the studied phenomena. The selected research approach and design were considered appropriate in analysing the nexus between ICT support for core competencies, embodied specific managerialist values and perspectives, and competitive advantage and firm performance. The study used purposive sampling to select a sample of 10 participants, five business managers and five ICT experts. The ICT experts represented two types of users: technical experts and managerial application experts, and their organisations produced a wide range of products. The rationale of employing a purposive sampling technique to select participants was that this method enabled this study to rich data from knowledgeable participants. This study collected relevant data from expert ICT business users with the requisite ICT competencies through purposive sampling. The identified ICT expert participants possessed ICT expertise and vast experience in their application in the manufacturing and service sectors. The other advantage derived from using the purposive sampling technique was that it produced a homogeneous sample comprising ICT experts and executives knowledgeable in ICT applications and their influence on business performance. According to [102] Creswell and Creswell (2017) and Kothari (2016), using data collected from experts in the studied field enhances the credibility and reliability of study findings.

In-depth interviews helped to gather qualitative data from the selected ICT experts and managers drawn from business organisations in the manufacturing and service sectors of the Zimbabwean economy. Each interview lasted an average of 45 minutes, in line with recommended scholarly works [102] (Creswell & Creswell, 2017). The study focused on business organisations based in Harare of, Zimbabwe. The within-case and cross-case qualitative data were analysed using thematic data analysis procedures. The procedure involved reading through the data from each participant, transcribing recorded interviews, organising data cleaning and re-organising it into emerging themes as elaborated by various scholars [103;104; 105](Gunawan, 2015; Maxwell, 2013; Nigar, 2020). Thus, the adopted thematic data analysis procedures align with the qualitative phenomenological research approach and the multiple-case study research design that guided the conduct of this study. In addition, the study used a computer-aided qualitative data analysis software program (ATLAS) to code, organise, compare different codes and sort data pertinent to this study. The computer-based coding enabled the study to identify and define the categories or themes of ICT support for core competencies relating to each research objective.

IV. FINDINGS, DISCUSSIONS AND CONCLUSIONS

According to data gathered from interviews, Zimbabwean businesses use ICT resources and capabilities as complementary managerial resources to enhance their core competencies, resulting in product promotion to existing and new customers. These findings concur with [106] Dube (2019) that cognitive difficulties, such as lack of awareness, significantly influence the early stages of ICT adoption to support vital business processes. For instance, ICT support for structural, integrity, and market-access-related competencies. Firms that use ICT-based digital technologies can articulate the advantages of supporting innovative digital resources. While this finding was consistent with prior results from related studies, participants thought there was room to enhance their technical competencies. They hope to receive more technical support and services from key partners along the ICT supply chain to maintain their innovative business practices. Therefore, knowledge of how to use ICT tools is the most crucial factor that dramatically determines the advantages of digital technology for business success [107] (Afifah et al., 2018). This study concluded that knowledge has a significant impact on the success of e-business. Understanding the advantages of ICT core competencies could positively impact business organisations' operations. In particular, data demonstrated that structural competencies, integrity competencies, market-related competencies and competitive advantage positively impact firm performance. The following paragraphs expand on these ICT application domains.

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1) Functionality-related competencies

When asked about the relationship between ICT-based capabilities and firm performance, the following are the findings from the five key informant interviewees. Most respondents strongly agreed that ICT-based capabilities boost company performance. Prior research results back up their collective viewpoint [27;107](AlGhamdi et al., 2020; Asri, 2021). [108] Johanshahi and Zhang (2013) assert that the slow adoption of electronic commerce in organisations is due to high implementation costs, organisational reluctance to change, and a lack of technical skills and ICT awareness among employees of all skill levels. In the United States, [109] Zhu et al. (2006) conducted a quantitative research survey using the TOE framework developed (in Denmark, France, Germany, Japan, Singapore, and the United States) and developing (Brazil, China, Mexico, and Taiwan) countries. The researchers studied e-business adoption in industrialised and developing countries to see if there was any economic impact. The high cost of technology and its mismatch with business activities are critical hurdles to electronic commerce adoption in Botswana, according to [110] Olatokun and Kebonye (2010). On the other hand, participants in this study believed that technology was driving Zimbabwean businesses into engaging in e-commerce for its various benefits. An interviewee commented that;

"... technology makes transactions easier, faster, and more efficient to complete. As such, these business benefits could result in cost savings for the company" (EB Interviewee).

The participants' views in the above excerpt confirm earlier findings by [111] Makanyeza et al. (2016), which showed similar findings. Their study used an integrated model to examine the impact of ICT utilisation on the performance of the banking sector. Other related studies found similar results, observing that using ICT applications increases transactional efficiencies [112;113](Ashraf et al., 2016; Stonehouse & Konina, 2020) and facilitate the development of new products and services (Chae et al., 2014). Echoing similar findings,[5] Kabanda (2014) commended that business organisations that maximise ICT utilisation tend to improve customer service and help them to reduce competitive costs.

2) Integrity-related competencies (INT)

According to the qualitative analysis, many firms in the Zimbabwean market emphasise maintaining relationships at both ends of the value chain, from suppliers of ICT technologies to research institutions [5](Kabanda, 2014). [20] Dzindikwa and Kabanda (2022) concur that Zimbabwe's service sector will continue to suffer competitive problems due to a lack of modern technology infrastructure to support internet use. It is an infrastructure issue. Responses on obstacles encountered in implementing ICT-assisted resources to improve operational performance were:

EC interviewee:

"... the key obstacles facing firms in Zimbabwe include; high costs of ICT, shortage of skilled ICT personnel, lower remuneration for ICT staff and over-reliance on semi-manual processes".

YB interviewee:

"... the cost of ICT infrastructure security is high given that almost 70% of equipment and anti-virus are sourced outside the country requiring foreign currency. The government should remove customs duties on ICT products."

EB interviewee:

"... the additional challenge is that most skilled professionals with competence in using ICT-based technologies have emigrated and migrated. It is costly to train an ICT person to lose them to external organisations offering reasonable remuneration."

YA interviewee:

"... a lack of large infrastructure expenditures, a secure and dependable internet, and worldwide awareness is not being exploited to increase ICT-enabled company adoption."

Inter-related competencies are essential in organisations as they enable process flexibility, integrate supply chains, re-engineer business processes, improve logistics, brand association, and efficient financial allocation. However, responses from EB, YA, and YB only relate to a lack of significant infrastructure expenditure, training and security costs, perhaps indicating a lack of appreciation of the importance of integrity regarding performance. For instance, [5] Kabanda (2014) reports that African countries are primarily end-users of technology; therefore, there are a late majority and laggards in ICT adoption.

The finding for training business practitioners to embrace electronic business practices concur with [20] Dzindikwa and Kabanda's (2022) observations. As a result, expertise, according to the study, determines corporate direction, adoption, and use of ICT in operations. As a result, business adoption is difficult for companies that lack information and communication technology skills.

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3) Market-Access-Related Competencies (ACC)

Data from the survey revealed that expensive access charges and broadband connectivity are barriers to electronic business adoption. For example, online buyers are hesitant to make online purchases due to a lack of trust in the payment system. An EA respondent emphasised the importance of maintaining customer relationships online through improved customer relationship management using ICT EB, EC, and YA. Thus, using ICT as a strategic resource is critical for co-development innovations. The following string of excerpts shows the participants' perceptions of how ICT-based technologies are employed to support business platforms relating to integration and market access.

YB interviewee:

"... while our organisation may want to augment its business applications and complementary human capital, the challenge that most organisations face in Zimbabwe is procuring the necessary foreign currency on the auction market."

YA interviewee:

"... ICT-based technologies are not on the priority list of monetary authorities, and our application has been outstanding for two months."

EB interviewee:

"... the infrastructure in Zimbabwe that supports internet commerce is antiquated, making it difficult for top management to commit financial resources to support ICT-based business innovations."

In concurrence with [20] Dzindikwa and Kabanda (2022), in a Zimbabwean study, most critical informants (EB, YA., YB) from large companies agreed that ICT competencies enabled their organisations to access markets using e-commerce. The ICT-assisted competencies have brought down communication expenses, boosted faster financial intermediation with suppliers, enhanced the company's brand equity, have led to exceptional firm performance [114;106;111] (Dzindikwa, 2021; Dube, 2019; Makanyeza et al., 2016). However, those from small to medium companies lamented that the cost of ICT resources had precluded them from reaping the full benefits of ICT, a fact confirmed by [114] Dzindikwa (2021). [5] Kabanda (2014) suggests that the government subsidise ICT to improve small business performance.

4) Competitive advantages

Most key informants suggested a strong link between competitive advantage and ICT by improving marketing access and differentiation, neutralising competitive threats, and extending the product life cycle. The responses highlight the importance of integrity-related skills in using ICT-based resources for competitiveness. After observing their competitors' adoption decisions and regulatory compliance, interviewees (EA, EC, YA) feel supplier and competitive pressure to use ICT tools. One interviewee, in particular, has expressed explicit team collaboration and technical support from other industry adopters:

EC interviewee:

"..... in the VUCA world we are living, one cannot put ICT aside from key performance indicators of a firm. ICT is integral in achieving competitive advantages by improving processing efficiencies and revamping the value chain linkages. Thus, achieving unparalleled outsourcing abilities and managing product growth from introduction to maturity...."

YA interviewee:

"... I can collaborate with companies that use similar digital technology to promote our products. This way, we can pool resources and create a larger adoption platform for various participants and products."

Two non-ICT technical experts' interviewees (EB, EC) say ICT support for core competencies suits their business. In contrast, most ICT experts believe the system's suitability is only fair as a starting point for firm performance. Although one non-ICT expert manager (YB) raises concerns about using ICT as a strategic tool, the issue is more about operational integration than supporting the development of long-term competitive advantages.

Companies with poor performance may adopt resource-based strategies frequently and automatically. Thus, company decision-makers must align competitive advantage, exceptional performance, and competitive advantage sources are distinct ideas [115;44;116] (Sigalas, 2015; Barney & Hesterly, 2020; Shafiee, 2021). Superior EMO, NCT, and ROC constitute a competitive advantage (CADV). Both MPF and OPF beat industry norms.

The general opinion of the participants believe that senior management support and technological readiness favourably influence ICT deployment in Zimbabwean enterprises. Participants stated that developing countries like Zimbabwe, with high infrastructure and ICT costs and low levels of capacity utilisation, have a role in making online businesses better adapted as complimentary business resources.

According to the interviewees' responses, Zimbabwean enterprises would struggle to compete without the cutting-edge technical infrastructure to make the Internet more accessible. Infrastructure could be part of the business sector's failure to

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integrate ICT to support firms' core competencies effectively. The opined views of the respondents that developing countries' top management's limited ICT knowledge contributes to the lack of trust and 'security related to ICT use needs to be addressed through fiscal policy intervention to enhance ease of access to ICT imports. For instance, hackers are concerned for all internet firms and threaten business information systems' security and integrity. According to this study, there are inadequate regulations to control online business expansion.

According to the interviewees, high entry costs and a lack of internet connections make ICT adoption difficult for supply chain management activities and stakeholders in creating business value. The interviewees cited trust and security considerations as impediments to the adoption of ICT; for instance, cautious online consumer behaviour and views concerning the payment system could impede innovative use. The interviewees reported that outdated infrastructure is a barrier to electronic commerce implementation. This study contends that developing countries such as Zimbabwe with limitations in employing ICT for business because of a lack of infrastructure, intermittent internet connections, high bandwidth costs, and a lack of knowledge about how to extend the use of ICT beyond their current applications.

In comparison, the development of ICT capabilities relies heavily on enterprises' ICT resources in developing ICT-supporting core competencies. Under varying levels of environmental dynamism, ICT resources and capabilities can complement one another in strengthening ICT support for competitive strategies and core competencies. The firm's leverage of ICT resources and capabilities is about the benefits it delivers to customers through developing a business model. Like [60] Teece (2010), we conclude that a business model determines the logic, idea and other evidence that support value creation for the customer and a viable structure for revenue and costs for the enterprise delivering that value. These discoveries have various theoretical and practical ramifications.

V. RECOMMENDATIONS

Based on the key findings of this study, it recommended that;

- Firms in both the manufacturing and service sectors should utilise their ICT resource in activities that augment the performance of their firms.
- Human resources as a company capacity should evolve capabilities to enable innovative ICT core competencies to gain a competitive advantage and boost firm performance.
- Businesses need to nurture their ICT managers to effectively employ ICT resources on strategic business operations such as functionality-related, integrity-related and market-access-related activities, which are essential for the firm's success.
- Companies should develop ICT strategies that promote organisational development while maintaining a flexible structure to facilitate integrative and context-specific information sharing and knowledge transfer systems.
- Business organisations should go beyond merely possessing ICT resources and develop the synergic effect that results from ICT and human capital combinative abilities.
- To develop a sustainable competitive advantage, firms should improve their distinctiveness through human capital development in key ICT core competencies.
- Businesses should maximise the utilisation of ICT applications and platforms to streamline their business processes and operating costs.

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