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Title: The impact of digital transformation on strategic agility through the medium of dynamic capabilities. A case of micro, small and medium enterprises in Mashonaland Central Province, Zimbabwe.

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By

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DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfillment of the requirements for the degree of Master of Business Administration at the Graduate School of Management, University of Zimbabwe. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorization and consent to carry out this research.

Signature……………………………………….   Date…………………………

Supervisor………………………………………   Date………………………

DEDICATION

I hereby dedicate this work to my lovely wife Nyarai Korera who encouraged me throughout the period of undertaking this study and also to our daughters Tawananyasha and Charlotte who ensured a period of less fatherly care during the period of my study.

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ABSTRACT

The importance of digital transformation as an enabler of strategic agility has garnered both advocates and detractors in academia and business around the world; some studies argue that digital transformation is the cornerstone of strategic agility while others refute this stance. Based on this incongruity, the purpose of this research was to examine the impact of digital transformation on strategic agility through the medium of dynamic capabilities. The relationship between strategic agility and the elements of scale of digital transformation, scope of digital transformation and speed of digital transformation as well as the elements of dynamic capabilities that is sensing, seizing and transforming was assessed. Primary data from management level individuals across micro, small and medium enterprises in Zimbabwean businesses was collected, prepared and analysed to draw conclusions on the observed relationship between the variables.

The study found that all three components of digital transformation have a significant positive relationship with strategic agility through components of dynamic capabilities (sensing, seizing and transforming), and that collectively, they are significant predictors of organisations' strategic agility. The study further established that dynamic capabilities has a moderating effect on the achievement of strategic agility under the influence of digital transformation through sensing, seizing and transforming. The relative importance of the contribution of the components of digital transformation and dynamic capabilities to strategic agility was also revealed, with speed and scale having the highest and lowest impact respectively. The research data was collected from 137 participants selected in Mashonaland Central Province across all industries in SME using survey questionnaires and was analyzed by SPSS using regression and coefficient tests to determine the impact of digital transformation on strategic agility through the medium of dynamic capabilities. The results revealed a positive significant impact of all elements to strategic agility. It was concluded that organisations should approach digital transformation iteratively, leveraging this difference in terms of the relative contribution of its components to achieve control over the desired impact on their strategic agility in the most cost-effective manner possible.

KEY WORDS

Digital Transformation, Strategic Agility, Dynamic capabilities

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LIST OF ABBREVIATIONS

DBS Digital Business Strategy

DC Dynamic Capabilities

DT Digital Transformation

SA Strategic Agility

SCL Scale

SCP Scope

SPD Speed

WEF World Economic Forum

VUCA   Volatile, Uncertainty, Complex and Ambiguity

<center>**Chapter 1**</center>

1.1 Introduction

A fundamental change in the way economic life is experienced and managed around the world is underway. This paradigm shift is being driven by the emergence of a general-purpose technology platform upon which new business value chains are being built by different businesses around the world. Digital transformation, the conduit to accessing this new age infrastructure has significant implications for organizations' corporate strategic evolution in response to environmental stimuli, with strategic agility playing an increasingly central role in business survival in the VUCA environment. The importance of digital transformation as an enabler of strategic agility has garnered both advocates and detractors in business and academia all over the world. Some studies argue that digital transformation is the cornerstone of strategic agility while others refute this assertion. Based on this incongruity, the purpose of this research is to examine the impact of digital transformation on strategic agility.

Therefore, the chapter provides a general background of the research, including the research problem, the research objective, research questions, conceptual framework of the research and the research's hypothesis. The section will further show the significance of the study, the scope of the research and contribution of the study. The dissertation outline of the study will also be presented and finally, the chapter summary.

1.2 Background of the study

Changes in technology are driving transformation in the way that organisations conduct their businesses around the world (Fichman, Dos Santos and Zheng, 2014). The complexity of business environments has altered the economic setting that enterprises are exposed to, and this has affected the evolution of organisations' corporate strategy in response to environmental stimuli as a matter of survival under this environment (Pagani, 2013). Some academics argue that the observed evolution of strategy is linked directly to digital technology's ascent from an information technology department discussion to an item on the agenda of an organisation's strategic decision-makers (Bharadwaj, el Sawy, Pavlou and Venkatraman, 2013).

Over the past 20 years, digital technology has outgrown its initial base of information technology to become a source of competitive advantage in the global business community

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around the world in which businesses operate (Matt, Hess and Benlian, 2015; WEF, 2017). Initially, due to the scarcity of digital technology, first movers were rewarded with perceived benefits that afforded them abundant measures of flexibility and set them apart from their competitors who operate in the similar environment (Tallon and Pinsonneault, 2011; Pagan, 2013). In recent years, however, with the increased availability and subsequent lower cost of technology, the field of strategy has increasingly embraced earlier trains of thought which distinguished between, firstly, the flexibility introduced by digital technology, and secondly, adaptability as a core competence central to strategic agility (SA) (Teece, Peteraf and Leih, 2016).

Researchers have proposed different components of digital transformation (DT) and its effective areas in organisations in which they operate, some more granular than others (Sebastian, Ross, Beath, Mocker, Moloney and Fonstad, 2017; Matt et al., 2015). Sebastian et al. (2017) and Matt et al. (2015) generally address the effect of DT on value proposition, value capture and organisational structure, among others issues addressed. Thus therefore, it is inferred from these researchers that there is a general understanding within the digital community that DT has been mapped to effects on organisations and their businesses or enterprises.

Fitzgerald, Kruschwitz, Bonnet and Welch (2014) posed a contrarian view to the effect that the actual bankable benefits of DT have not been successfully quantified since its inception. They added that the urgency to implement DT, particularly in organisations with a legacy of success, does not reflect the significance placed upon the influence of DT on SA by the digital community around the world. Solis and Littleton (2017) added that the understanding of the adequacy of DT in organisations is stratified: higher-level employees who engage in matters of strategy find present states of DT adequate, while lower-level employees engaged in operational tasks find the levels of DT inadequate.

Discussions in literature, particularly from proponents of digital technology, postulates that digital technology has allowed what was previously overlooked as data noise to be appreciated as potential value-bearing information (Sharma, Mithas, and Kankanhalli, 2014). The relationship between DT and improved decision-making in digitally transformed organisations remains inconclusive as stipulated by some studies (Lycett, 2014). This suggests that there is still a need to clarify whether the role of DT only improves the sensing

component of strategy, or if it extends to the response function as well (Teece et al., 2016; Overby, Bharadwaj & Sambamurthy, 2006).

Over the years information technology and digital technology were perceived as components of the information technology functions within organisations. In the past two decades, what was known as digital technology has challenged that status and graduated towards strategic significance (Bharadwaj et al., 2013). The zone of overlap between DT and strategy has introduced the concept of digital business strategy (DBS), which proposes the formulation and execution of strategy through leveraging digital resources. Importantly, this advocates for the inseparability of strategy and digital technology in the digital age (Bharadwaj et al., 2013). Kane, Palmer, Phillips, Kiron and Buckley (2015) maintain the contrarian view that strategy remains to be considered independently of digital technology, with technology only being introduced when necessary to serve strategic ends. The fact that DT is occurring despite the opposing views warrants critical investigation into the matter from a neutral base.

In summary, the subject background in thischapter points to SA as a core competence necessary for organisations to remain competitive and sustainable in a VUCA environment. Some literature attributes the achievement of agility to DT, while other literature refutes this premise, and further counters with arguments that the impact of DT has not been quantifiable at a strategic level. The state of affairs in business and academia concerning the relationship between the two constructs justifies a critical assessment of the actual influence of DT on SA.

1.3 Research problem

In an effort to remain competitive in the digital age, enterprises are turning to DT to increase their ability to adapt and align their organisations with rapidly changing economic environments, otherwise known as SA. Uncertainty remains, however, as to the true influence of DT on this sought-after SA. This research, therefore, seeks to investigate the impact of DT on SA on micro, small and medium enterprises in Zimbabwe.

1.4 Research aim and objectives

1.4.1 Research aim

The aim of the study was to establish the impact of digital transformation dimensions on strategic agility through the medium of dynamic capabilities on micro, small and medium enterprises in Mashonaland Central Province, Zimbabwe.

1.4.2 Research objectives

The main objective of the research was to establish the impact of digital transformation dimensions on strategic agility through the medium of dynamic capabilities on micro, small and medium enterprises in Mashonaland Central Province, Zimbabwe.

1.4.3 Specific objectives

- To establish the impact of scale of digital transformation on strategic agility through dynamic capabilities.
- To determine the influence of scope of digital transformation on strategic agility through dynamic capabilities.
- To examine the impact of speed of digital transformation on strategic agility through dynamic capabilities.
- To assess the impact of dynamic capabilities on strategic agility.

1.5 Research questions

The main research question was, do digital transformation dimensions have a positive impact on strategic agility through dynamic capabilities within the SMEs in Mashonaland Central Province?

1.5.1 Specific questions

- Does scale of digital transformation have a significant positive impact on strategic agility through dynamic capabilities?
- Does scope of digital transformation have a positive influence on strategic agility through dynamic capabilities?
- Does speed of digital transformation have a significant positive on strategic agility through dynamic capabilities?
- Does dynamic capabilities have a significant positive impact on strategic agility?

1.6 Hypotheses

The ability to navigate the business environment otherwise known as VUCA environment of the new digital economy in a strategically agile manner is of increasing importance to the sustainability of business (Teece et al., 2016). While the global business community has progressively turned to DT in efforts to cultivate SA in their organisations, there is a lack of consensus on whether DT does have a significant relationship with SA (Park et al., 2017;

Fitzgerald et al., 2014). To that extent, this research examines the degree of significance of the relationship between DT and SA in a bid to contribute to the consolidation of the evidently scattered body of research pertaining to the two constructs (Bouwman et al., 2018). This is achieved through the assessment of the nature of relationship of three endogenous components of DT (scope, scale and speed) and SA. Furthermore, the extent to which the components cumulatively relate to SA will be assessed, both for the significance of their contribution to the relationship and for the direction of the contribution realized.

1.6.1 Specific hypothesis

H1: Scale of digital transformation has a significant positive impact on Strategic Agility through dynamic capabilities

H2: Scope of digital transformation has significant positive influence on Strategic Agility through dynamic capabilities

H3: Speed of digital transformation has a significant and positive impact on strategic agility through dynamic capabilities.

H4: Dynamic capabilities have a significant positive impact on strategic agility

1.7 Scope of the study

The scope of the study will be limited to legitimately registered micro, small and medium (as per Small and Medium Enterprises Act Chapter 24:12) enterprises that operate in Zimbabwe. Due to the commonality of the constructs to all companies, the study will not be limited to specific industries.

1.8 Significance of the research

1.8.1 Theoretical contribution

The literature lays considerable stress on rapid economic change and academia's emphasis has shifted from stability to agility as a core competence for survival and competitiveness in the business environment (Teece et al., 2016). While some researchers (Tallon & Pinsonneault, 2011; Pagan, 2013; Bharadwaj et al., 2013) opine that there is a link between leveraging technology and flexibility (a tactical, short-term characteristic), others (Kane et al., 2015; Weber & Tarba, 2014) have adopted the stance that agility (a characteristic of long-term adaptability) is primarily a function of strategy and is not driven by DT. This research will therefore contribute to academic knowledge by critically assessing the actual relationship

between elements of DT and SA and outlining which of them actually are significant predictors of SA.

1.8.2 Business contribution

A key priority for business executives is to navigate rapidly changing globalized markets (Tallon & Pinsonneault, 2011) while maintaining their respective organisations' competitive advantage into future. With digital technology advancing just as rapidly as the perceived changes in the state of the economy, businesses expect that the difficulties that they face in aligning their organisations with the kinetic economy will be resolved through DT (Kane et al., 2015). Through testing the correlation of the elements of DT and SA and then establishing the significance of the relationships between them, business leaders will be made aware of whether or not DT actually influences SA at all, and if so, to what extent. Once the significance of the relationships is established, business leaders will have an improved appreciation of the points of leverage towards improving SA, including the areas on which to focus their DT for the most impact on agility given the cost of procuring digital technology on the market.

1.9   Dissertation outline

Chapter 1 is an introduction to the background of the study. It comprises a definition of the research problem as well as a demonstration of the purpose of the study. Chapter 2 provides the literature base of the research. Chapter 3 expands on the proposed research methodology and research design. Chapter 4 comprises the results and subsequent analysis respectively, while chapter 5 highlights closing arguments and the conclusion of the research. The last sections present the list of references and contain the appendices comprising the data collection tool and other supporting data referred to in various chapters of the study.

1.10   Chapter summary

This chapter highlighted the increased importance of strategic agility and the digital transformation in an environment that is increasingly digitally disrupted. The success, competitive advantage and the sustainability of companies lies in business managers understanding how the digital transformation functions as the link between the business strategy and digital transformation.The chapter provided a background to and described the research problem, and highlighted the need and aims for the research. It further highlighted the scope of this study and closes with a summary of the layout for the rest of this chapter. This study will proceed with an analysis of the literature on the strategic agility and digital transformation in Chapter 2.

<center>**Chapter 2**</center>

LITERATURE REVIEW

2.1 Introduction

This chapter of the research presents the literature review that was conducted to provide an insight into the various aspects considered in investigating the relationship between digital transformation (DT) and strategic agility (SA). Firstly, the core concept of strategy is delineated to gain clarity on the foundation of the subject matter as well as its relevance and bearing on business. This is supported by distinguishing between strategic and non-strategic decisions in order to elucidate the types of decisions concerned with the long-term impact of the strategy.

Secondly, a review of the concept of SA considers various vantage points on the subject, expanding the definition to its internal and external implications on organisations or businesses. This is supplemented by the examination of SA as an academic theory and as a preface to the introduction and discussion of the theory of Dynamic Capabilities.

Thirdly, a review of DT provides insight from literature on the subject, including various definitions and discussions on its documented interaction with businesses. This leads to a discussion of the zone of overlap of DT and strategy.

Finally, the literature review will close with a critical debate of the various elements surrounding the constructs of DT and SA. Wherein, the arguments presented highlight the incongruence between academic and business positions on the various markers of the relationship between SA and DT. It is in this fertile soil that the relevance of this research is rooted.

2.2 Strategy

The formal study of discipline of strategy can be traced back to the publications of Game Theory experts (Shivakumar, 2014) such as Von Neumann and Morgenstern (1953). In their view they opined that strategy is considered as a generic method or policy which guides the organisation in dealing with the dynamic circumstances it faced. Viewing strategy as a metaphor for policy implies that game theorists' perspective of the influence of strategy included all stakeholders in the environment in which the business operates. Arguably, an inferable attribute of strategy is thatwhen executed, it must have implications for all participants in the area of business in which an organisation has chosen to operate.

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Strategy can be well understood in the context embodied in Drucker's statement that it is "making what is desirable first possible and then actual" (Shivakumar, 2014). This entails that the importance of strategy lies in the ability to distil a long-term vision for a business from an abundance of noise and innumerable possibilities. Decoding this vision into a series of working plans and goals then allow the organisation to be guided towards the realisation of the intended vision for the attainment of organisational goals.

While much of strategy is viewed as an interpretation of a business organisation's operating environment, a contending view is that strategy is more related to its internal mechanics. Porter (1996) argued that the strategy of a business is a characteristic of how well its functional activities come together to enable it to deliver distinct value to its targeted customers and to achieve its intended goals. Given this argument, the coherence and efficacy of the stated selection of activities performed by the organisation in question then denote its strategic choice. However, because a firm's activities compete for finite resources, it can be inferred that this perspective on strategy recognizes the significance of trade-offs and incompatibilities between internal activities.

What can be gathered as a sum product of the perspectives discussed on the delineation of strategy is the insight that strategy comprises three successive elements. Firstly, element implied by strategy is the ability to diagnose the external environment and associated trends. Second, implied element is the establishment of a desired state or vision, coupled with its translation into an internally interpretable guiding policy that serves the critical function of aligning the organisation with the external environment. And thirdly implied element that rounds off the strategy is that an articulate set of decisions and actions drives the organisation from the perceived present state to the envisioned state.

2.3 Strategic decisions and non-strategic decisions

Decisions are classified as strategic when they have an impact on the overall bearing of the organisation as it navigates the business environment where it operates (Shivakumar, 2014; Eisenhardt & Zbaracki, 1992). This means that decisions of this nature have a long-term impact on the organisation and, as such, far-reaching consequences for its survivability into the future desired state. Further to that strategic decisions have a significant impact across all business functions and inform how each function needs to be aligned to meet the firm's strategic objectives (Shepherd & Rudd, 2014).

In a business context, strategic decisions are typically identifiable by the extent of commitment that they invoke in the organisation. An artefact of the commitment is a decision's ease of reversibility and the cost implications of effecting such a reversal (Shivakumar, 2014). This is particularly true in the case of a firm's commitment to resources specific to the firm in question. That is, when a firm makes a strategic decision that commits it to particular strategic resources, the value of such resources to that particular firm far supersedes the value that any other firm could derive from it. In that result, large penalties are associated with the reversal of commitments made in strategic decisions (Ghemawat & de Sol, 1998).

Yet another marker that identifies strategic decisions is their impact on an organisation's scope. It includes their shaping of its chosen markets, services and products (Shivakumar, 2014). In essence, these decisions will directly influence where the organisation choses to do business, its target market and partners, and how it will go about delivering value to its stakeholders. To that end, a strategic decision must reflect aggregate inputs from a variety of functions that will be involved in its operationalisation. In addition, strategic decisions translate their impact on the outward scope of the business into an inwardly reflected guidance structure that informs the administration of activities required to deliver on the intended strategic objectives (Shirley, 1982).

While a multitude of decisions that are important for the sustainability of an organisation are regularly made by senior executives in an organization, these decisions frequently do not qualify as strategic. An example of one such decision that has become synonymous with the modern economic setting is the drive to invest in digital technology and DT. Despite the fact that pursuant firms in some cases have realized positive effects on their bottom lines, the decisions leading to such investments cannot be classified as strategic. Regardless of whether the decisions satisfy the condition of non-reversibility, and constitute significantly high costs (signifying commitment); they do not change the scope of the firm. Such decisions are termed tactical decisions and not strategic decisions.

The discussion on the anatomy of strategic decisions thus far has pointed to the fact that strategic decisions significantly influence both the commitment and the scope of an organisation. Tactical decisions, on the other hand, may command a high degree of commitment, but they do not change a firm's scope (Shivakumar, 2014). They are decisions taken within the confines of the superseding strategic decisions. Although various tactical

decision outcomes may be arrived at, the problems that warrant tactical decisions are always derivatives of strategic decisions and thus traceable to strategic objectives (Shivakumar, 2014).

Building on the notion of tactical decisions, decisions that do not alter an organisation's scope or commitment level are classified as operational decisions (Shivakumar, 2014). These types of decisions are primarily concerned with the firm's day-to-day activities. At this level of decision making, problems, problem-solving methods and solutions are clearly identifiable making operational decisions functions of efficient delivery.

2.4 Strategic agility

Gradually, a wider range of definitions of agility were offered by some authors, who corrected some errors in reactive definition of agility. Ganguly et al. (2009) defined agility as a concept consisting of two components: responsiveness and knowledge management, and Matyakalan and his colleagues interpret agility as the ability of an organization to detect changes through the opportunities and threats existing in the business environment, and to give rapid response through the recombination of resources, processes and strategies; and in this definition, the strategic aspect has been added to operational aspect of the concept of agility.(Ganguly et al., 2009). Thus, in literature a new kind of agility developed, and today a new paradigm called strategic agility is emerging. Strategic agility requires simultaneously being agile and strategic. Being strategic means predicting changes and leveraging our own merits in order to overcome the change and agility means being responsive and agile. As a result, the agility, from strategic aspect, means being proactive in anticipating change and, from strategic aspect, responding to the change.

Strategic agility is a concept that in some ways differs from the classic strategy approach; so that Doz and Sunni (2008) have argued that the life of strategic planning, in the conventional sense that a company formulates its vision and strategy for the next five to ten years and follow it, has been ended. Today, we must be on alert at every moment in order to be able to quickly restore and shift our strategy. They define strategic agility as the ability to modify or restore and recreate the dynamic and strategy of a company at the time of changing business environment. This ability is obtained by continuous predicting in addition to the modifying and adjusting the trends and clientele needs without giving up and abandoning the vision of the company. And it is known as a tool for organizations' survival and in markets defined by growth and systematic interdependence and rapid change. (Doz & Kosonena, 2008)

(Stratovation Consulting Inc. 2006) defines Strategic agility as the ability of a company to modify and adjust its path without losing sight of its long-term vision that is important for the today new economy. In addition, this institution defines strategic agility as a process in progress for an organization to proactively anticipate change and fast exploitation for significant competitive advantage.

The early seminal work of Nobel Economist Stigler (1939) characterised agility in terms of flexibility and adaptability. The former is a short-term function concerned with the management of uncertainties associated with demand, while the latter is an overarching long-term fundamental characteristic of an organisation that takes precedence over flexibility.

Adaptability is a strategic core competence that allows for alignment with a range of environmental stimuli, while flexibility is a function of technology available to meet a particular end. Sorenson (2003) embraced a similar definition as Stigler (1939), adding the enhanced ability of agile or adaptable firms to make incremental changes to maintain performance.

Following a meta-analysis of 195 peer-reviewed academic publications, Conboy (2009) defined agility as "the continual readiness… to rapidly or inherently create change, proactively or reactively embrace change, and learn from change, through its collective components and relationships with its environment" (p. 338). This definition highlighted that in addition to the internal moving parts that make an organisation agile, there is an external environment consideration that is equally important.

Harraf, Wanasika, Tate and Talbot (2015) defined agility as a measure of responsiveness to external stimuli. Adding to the foundation of Stigler (1939), they fragment agility into base components of flexibility and adaptability. They highlight the fact that flexibility is the ability to anticipate responses to external stimuli, while adaptability involves the actual decisions and actioned responses to external stimuli.

In more contemporary literature, Teece et al. (2016) defined agility as the "capacity of an organization to efficiently and effectively redeploy or redirect its resources to value creating and value protecting (and capturing) higher-yield activities as internal and external circumstances warrant" (p. 17). From this it can be inferred that agile capacity is an inexhaustible resource. The caveat to the attainment of this resource, however, is the cost implications stemming from its being as unique to a firm as the core competencies that confer

competitive advantage to the firm concerned. This means that it will sometimes be redundant as it is maintained in anticipation of the need to tap into it in response to commanding stimuli. For purposes of this study, Teece et al.'s (2016) definition of strategic agility will be adopted. It most adequately captures the essence of what is under investigation, namely, whether there is a relationship between an organisations' DT and its capacity to redeploy its resources in response to environmental changes (SA).

2.4.1 Theory of strategic agility

Despite being a subject of discourse (Gligor, Holcomb, Theodore & Stank, 2013) in business and management literature, SA has advanced to the fore as an alternative to earlier theories of strategy (such as industry forces, strategic planning, the resourcebased view and sustainable advantage) which have been increasingly disqualified for being too linear (Weber & Tarba, 2014). Earlier notions of planned strategy, such as those alluded to above, were suitable in the tamer environments of the past; the complexities of contemporary business environments require agile strategic ability due to the ever-increasing pace of economic change and the vigour of turbulence in the economic environment (Neugebauer, Figge & Hahn, 2016).

Harraf et al. (2015) suggest that several pillars are necessary for the attainment of SA. The first pillar is a culture of innovation, characterised by an organisation that perpetually seeks out opportunities and ways of improving the delivery of value to its clients. To that end, an organisation that embraces a culture of innovation tacitly heeds signals of changes in its operating environment as triggers informing the need for internal alterations geared towards strategic alignment. This opportunity-seeking attribute of an organisation that supports a culture of innovation is in parallel with Miles and Snow's prospector strategy as it presents innovation as a means of coping with rapidly changing business environments (Miles, Snow, Meyer & Coleman, 1978).

The second pillar of interest that is paramount for the attainment of SA is a tolerance for ambiguity (Harraf et al., 2015). Similar to innovation, this pillar is an artefact of an organisation's culture. In the modern economy, where digitization has accelerated the rate of global changes in business, the ability to make decisions in a state of ambiguity is a key attribute of agile companies. The importance of this is underscored by the fact that in today's markets, competitors tend to have access to the same sources of abundant and sometimes unstructured information. Strategic advantage, therefore, lies with firms that can distil valuable data from ambiguous information.

One of the central ideas in the discussion of SA is change management (Harraf et al., 2015). This is the third pillar of SA relevant to this research. Williams, Worley and Lawler (2013) emphasizes that the dynamism and complexity of the contemporary business environment demands that organisations be adept at managing the change that occurs not only within their organisations but outside their radii of control. This points to change remaining a continuous phenomenon. The ability to align the strategic bearing of the organisation with the trend of change is therefore a key tenet of SA.

Harraf et al. (2015) proposed another pillar of interest that of market analysis and response, comprising the measurement of the external environment and subsequent reaction based on that response. This attribute of SA was in line with the notion of "gathering and integrating knowledge" (Ivory & Brooks, 2018, p. 351) from the environment and "sensing the environment" (Overby et al., 2006, p. 121). These perspectives converge towards the theory of dynamic capabilities which will be discussed in detail. As an added perspective, this pillar is extended to include SA's dependence on relationships between companies operating in a common industry. While competition may have been perceived previously as an "either / or facet" of business, the evolution of the way in which organisations interact in markets, balancing cooperation and competitiveness, supports SA and therefore the sustained success of interacting entities (Peng, Pike, Yang & Roos, 2012).

2.4.2 Dynamic Capabilities as a theoretic lens for strategic agility

Traditionally, business was dominated by conventional "resource-based strategy" in which success was tilted towards organisations that were first movers towards the rapid accumulation of advantaging resources (Teece & Pisano, 1994). As it focuses on the internal organisation of firms, maintenance of the competitive advantage gained from possession of the resources, once acquired or developed, is cemented by ring-fencing them with aggressive moats comprised of layers of intellectual property legalities to protect them from the incumbents' competitors (Eisenhardt & Martin, 2000).

The modern ubiquity of technology has brought with its regimes of fast-changing business environments which deflate the resource-based view (Eisenhardt & Martin, 2000). While various works in strategic theory have provided effective direction regarding the defence of the competitive advantage that an organisation may possess, they were not sufficiently geared towards an understanding of how to repetitively gain and maintain competitive advantage in the new age of short-lived durations of business environment cycles (Teece, Pisano & Shuen,

1997). In essence, traditional theories of modern strategy were not equipped to address the key element of an ever-changing economic environment and its implications on the core capabilities of an organisation.

Winners, Teece & Pisano (1994), are organisations that can respond to changes in the business environment rapidly and effectively, reconfiguring their competences and value-delivery mechanisms for competitive advantage – they are strategically agile. Organisations that demonstrate the aforementioned attributes are said to possess DC (dynamic capabilities). The term "dynamic" intentionally emphasizes the fluid nature of the interface between the environment, characterised by fast-paced changes in technology and global competition, and the modern firm; "capabilities" brings focus to the function of strategic management in re-configuring or even re-tooling the firm into congruence with the environment (Teece & Pisano, 1994).

DC is thought of as a composite of three core elements: sensing opportunities and threats in the environment, seizing opportunities and value capture through mobilization of resources, and transforming or shifting of the organisation into alignment with environment (Teece et al., 2016; Pavlou & El Sawy, 2011). These components are considered to be artefacts which represent the state of agility of organisations in this research. Further, DC is understood to be independent of the methods of strategy formulation observed by firms; however, the strategies that emerge are expected to reflect the inclusion of DC.

2.4.3 Operationalizing strategic agility through sensing, seizing and transforming

In markets characterised by fast change and turbulence, the ability to sense the environment is imperative to forming strategic opinions about a firm's direction. As this sensing ability precedes any responsive action that can be taken towards a strategic business need. It plays a crucial role in alerting the organisation to threats and opportunities in the environment before they become material, and especially before they are realized by the concerned organisation's competitors (Helfat & Peteraf, 2015).

Sensing relates to the abductive assimilation of all available data, which is followed by the formulation of hypotheses about the strategic implications of emerging data patterns for the interests of the business (Teece et al., 2016). This is of interest to this study as the engagement of digital technology has become central to the timely facilitation of abductive

processes in modern business. Following from this is the inference that firms that can rapidly sense and identify structures within their operating environment are equipped with a key quality of strategic agility.

While sensing is an important foundation for the effectuation of agility through DC, seizing opportunity plays an equally important role. This attribute is concerned with the implementation of the logistical plan that follows the strategic opinion formed on the basis of sensed inputs (Teece et al., 2016). While several approaches exist through which seizing can be carried out, one method has stood the test of time from the Ford Motor company factories of the 1920s to the present-day-manufacturing facilities of Apple technology, is flexibility. The building of adequate flexibility into an organisation's functions and position in the business ecosystem allows for agile manoeuvrability. With reference to this research, the challenge that develops with the increased dynamism and velocity of markets is the increased complexity of systems, which understandably interferes with the ability to identify opportunities for building effective "slack" into an organisation (Eisenhardt & Martin, 2000; Teece et al., 2016). While building flexibility into organisations in the traditional resource sense is expensive, what is important to this research is the insulation that can be provided or enabled in the same fundamental way by digital technology.

The third component of the effectuation of agility through DC, transforming, is concerned with an organisation's ability to learn adaptively and execute strategic objectives incrementally and iteratively (Teece et al., 2016; Daniel & Wilson, 2003). This is consistent with the lean start-up methodology which advocates for learning quickly and adjusting efforts appropriately to enable the achievement of the end goal (Blank, 2013). Put together, seizing and transforming make up the response function of DC through the mobilization of resources and adaptation in response to environmental stimuli. Previously, irreversibility posed significant costs to businesses that sought to make changes to elements of their value delivery to clients (Teece et al., 2016). The era of digital technology has, however, enabled rapid feedback and learning to occur in tandem with execution thereby providing a cost-effective means of effecting transformation.

DC has come to represent the evolution of strategic theory beyond the mature resource-based view. Due its relative nascence, much like DT, DC literature is inundated with theoretical and conceptual debates (Breznik & Lahovnik, 2014). While there are strong advocates for DC, there is an equally active opposition. Williamson (1999) described DC as ambiguous and

lacking causal rigour, while Simonin (1999) alluded to DC being indistinct as a concept and lacking clarity.

Later still, Priem and Butler (2001) condemned DC for being tautological. Winter (2003) contends that DC, as a proposed set of higher-order capabilities, does not detract from the fact that effecting change is a function of ad hoc problem solving, a concept that isnot new to the field of strategy. Zahra, Sapienza and Davidsson (2006) criticized DC for being littered with inconsistencies in the application of the concept in the real world. They added that what is posited as DC is never pre-conceived and designed into effect but rather observed as a consequence of actions that may have been taken without awareness of the concept. Furthermore, Arend and Bromiley (2009) argued that DC in its present state lacks coherence as a model and theory of strategy. This argument effectively renders DC campaigns irrelevant in the realm of academic and strategic practice.

Despite the contention around the perceived merits and flaws of DC theory, the position taken by Teece and Pisano (1994) and Teece et al. (1997, 2016), summarised from the arguments above as strategic sensing and responding, affirmed the suitability of DC as a theoretical lens for this research. This conclusion is supported by the fact that this position appropriately captures the essence of the investigation of the relationship between DT and SA, namely an organisation's ability to alter its technological, strategic and operational stance in response to the perceived changes in the business environment within which it operates. Fundamentally, both constructs (DT and SA) of the research triangulate to various parts of DC, in turn strengthening its selection as the appropriate theoretical lens for the study.

2.5 Digital Transformation

In defining DT, Dehning, Richardson and Zmud (2003) state that DT must:

fundamentally alter traditional ways of doing business by redefining business capabilities and/or (internal or external) business processes and relationships; it potentially involves strategic acquisitions to acquire new capabilities or to enter a new market space; it exemplifies the use of information technology (IT) to dramatically change how tasks are carried out… [it] is the move recognized as being important in enabling firm to operate in different markets, [and to] serve different customers… [it allows organisations to] gain considerable competitive advantage by doing things differently. (p. 654).

Rooted in the discipline of information systems, this definition touches on several elements that imply areas of common interest between DT and SA. Similar to the assertions of Bharadwaj et al. (2013), it highlights the evolution of IT from a function within the organisation to an important consideration in the strategic competitive advantage attainable by firms in the digital economy.

Sebastian et al. (2017) describe DT as the engagement of "powerful, readily accessible technologies… intent on delivering unique, integrated business capabilities in ways that are responsive to constantly changing market conditions" (p. 198). Complementary to the definition by Dehning et al. (2003), this definition draws focus to the role of digital technology in cultivating adaptive capabilities that allow organisations to be agile in their responses to changes in their operating environments.

According to Liu, Chen and Chou (2011), DT is a process that occurs under the ambit of organisational transformation: the primary objective is change in key business domains such as structure and strategy within a designated period of time. The result of the organisational transformation that they envision is the birthing of new values and norms that drive a new approach to the organisation's delivery of value to its clients. DT is therefore regarded as one of the organisational transformation domains that serve to integrate technology into the envisaged structure and operational processes emanating from the transformation process. While this view supports the previously cited authors' stance that DT is a means to an end, Liu et al. (2011) emphasize organisational transformation as the end in question as opposed to the acquiring of capabilities that serve to enhance the organisation's ability to navigate the business environment.

Berman (2012) defines DT as the pursuit of a co-dependent pair of complementary activities. The first element is the reshaping of an organisation's value propositions; the second element is the transformation of operating models. While both components are important for the successful achievement of DT in an organisation, the industry and environment in which the firm conducts its business are key determinants of which the two elements will be the primary and secondary objectives in the transformation process. To illustrate the core differences between the two by way of example, companies that operate in industries such as financial services would benefit more from reshaping their value proposition by extending their existing offerings (which are already serviced through mobile and online devices) using digital technology. On the other hand, for companies operating in industries where customer

connectedness does not form part of the value proposition, such as the mining and minerals sector, DT geared at the transformation of operating models is more beneficial as the primary objective.

This research will observe the definition of DT by Dehning et al. (2003), on the strength of its holistic approach. The author additionally notes that the definitions by Sebastian et al. (2017), Liu et al. (2011) and Berman (2012) are also relevant to the discussions in the research.

2.6 Digital transformation and strategy

In its earlier forms, technology IT remained a functional element subordinated to business strategy (Bharadwaj et al., 2013). Increasingly, digital technology has influenced the reshaping of traditional strategies (Sebastian et al., 2017; Mithas, Tafti & Mitchel, 2013; Bharadwaj et al., 2013). The adoption of digital technology enacts a process of transformation away from the traditional strategy, transcending all functional strategies of an organisation (Matt et al., 2015). This culminates in what Bharadwaj et al. (2013) define as a digital business strategy: "an organisational strategy formulated and executed levering digital resources to create differential value" (p. 472).

Leading from the discussion on the derivation of the DBS, Bharadwaj et al. (2013) identify three themes of a desired state of DBS achievable through digitally inclined transformation. These are scope of DT, scale of DT and speed of DT. In this context, scope relates to the business elements and products upon which DT will be effected; scale relates to how much of the elements or functions identified will be digitally transformed; and speed speaks to the pace of the enactment of DT and the associated impact on the organisation's ability to deliver timely value.

2.6.1 Scope of digital transformation

Advances in information technology have prompted businesses to explore a wider variety of digital technology in pursuit of their promise of competitive advantage (Matt et al., 2015; WEF, 2017). If one realizes that "competitive strategy under digital conditions raises the question of how business scope is impacted by digital technologies" (Bharadwaj et al., 2013, p. 473), then the importance of understanding how the scope of the DT embarked upon will serve the strategic aspirations of the organisation (prior to committing resources to the endeavour) becomes clear.

Sebastian et al. (2017) identified three key elements that are indicative of a broad scope of DT in an organisation. The first element is a strategic value proposition informed by multi-sided interaction-enabling technologies (eg. social, cloud, internet of things, mobile, and analytics). This element aligns the spread of DT across the organisation, creating superior customer engagement capability for the firm. By integrating the data from the multi-sided customer engagement channels with the existing value proposition base, the organisation can begin to develop learning capabilities that mature into an ability to anticipate customer needs effectively based on observed patterns of engagement.

The second key element is a robust operational backbone that fosters efficient and effective operational response to environmental stimuli (Sebastian et al., 2017; Krotov, Junglas & Steel, 2015). This operational backbone relates to the scalability of core operational competencies which extend to include "business capabilities that ensure the efficiency, scalability, reliability, quality and predictability of core operations" (Sebastian et al., 2017, p.201).

Digitization of operational platforms across an organisation is the third key element (Sebastian et al., 2017). It serves to introduce speed and flexibility to the operational backbone which, in conventional business, may be built for reliability and stability at the expense of speed. DT that is correctly calibrated across the scope of a firm could provide fertile ground for proliferation of further relevant DT in parts of the organisation where it may not have been previously identified as necessary (Sebastian et al., 2017). This implies that digitised platforms create a foundation for organic innovation geared at improving the capabilities of a firm.

Matt et al. (2015), on the other hand, proposed an alternative composition of four dimensions that demonstrate DT scope. They argue that the first dimension, technology, reflects an organisation's awareness of new technology and how it could be of use in various areas of the business. The authors do not assign as much importance to the adoption of an identified technology as to understanding the balance between potential benefit to competitive advantage and the possible risks, which include limited availability of requisite skills for a particular technology.

The second dimension proposed by the authors relates to the changes that occur in the value chain as a result of the transformation of systems as a result of new technologies. Arguably, this dimension can be extended to include the way in which technology-driven changes affect

resulting modes of value capture and value delivery. Careless transformation across a given scope in an organisation could result in unwanted changes to the firm's value chain, ultimately affecting clients' perception of a firm's value offering (Matt et al., 2015).

The next dimension is concerned with the structural changes that may be necessary to match the new digital activities within the organisation (Matt et al., 2015). As the structural elements of an organisation are fashioned around its value-creation processes (Cummings & Worley, 2014), DT across varying ranges of scope in the organisation may pose implications of misalignment within the corporate structure. It would therefore be prudent to approach the organisation as a system of interacting and compensating functions when considering the scope across which DT will be effected.

The final dimension proposed by the authors is the financial aspect. This is proposed as the engine that enables the enactment of the combination of the first three dimensions (Matt et al., 2015). Once DT has been effected, it serves as an indicator of the effectiveness of the first three dimensions. Prior to the execution of DT, this dimension serves as the most vital decision gate that determines the DT scope that the firm can afford to pursue. It is also the dimension that links the DT components of scale and speed to the component of scope.

2.6.2 Scale of digital transformation

While the scope of DT gives a sense of its diversity and spread across the functional and structural surface area of an organisation, the scale may be understood descriptively as the depth or size of the transformation engagement (Dewan, Michael & Min, 1998). The general notion of scale gained momentum with the inception of the Industrial Revolution, where increased scale was associated with the perception of lower unit costs and higher profitability (Bharadwaj et al., 2013). In the digital age, however, a higher scale of DT is not clearly linked to proportional benefits and may even be detrimental to an organisation's ability to account for the suitability of the scope of its DT (Dewan et al., 1998).

Tallon and Pinsonneault (2011) and Weill, Subramani and Broadbent (2002) state that over-indulgence in a large scale of DT may yield counter-intuitive outcomes such as strategic stagnation. They argue that once an organisation expends financial and human capital on DT, they may be overcome by a need to maximise the value they get out of their investment instead of changing the state of digital affairs based on strategic needs. This implies that despite the path that DT is charting in the digital economy, there is a human element at play

that may cloud judgement on whether action or inaction with regard to engaging in DT is in the best interest of strategy. In contrast, Park, El Sawy and Fiss (2017) argue that scale of DT, as exemplified by large enterprise resourceplanning systems, has a marked impact on SA. They attribute this impact to the ability of such transformation to change the way in which entire businesses operate. The two opposing views present respective merits that have become native to modern business. It is plausible to conceptualize that there may be contingencies that moderate the validity of the opposing sides based on the agile needs of the strategy.

Bharadwaj et al. (2013) advance a contemporary view of the concept of scale. They propose an alternative paradigm in which DT scale, in the digital age, is achievablethrough elements such as dynamic scaling capabilities, network effects, information abundance and inter-organisational alliances.

In comparison to the link drawn by the previous authors between scale and size (or magnitude), the reconceptualization of scale as a dynamic capability equates it with an organisation's ability to dynamically inflate or deflate the scale of its digital resources as required to meet its agility needs without expending new capital to do so at each instance (Bharadwaj et al., 2013). This phenomenon describes a way in which the increase in value derived from the use of digitally transformed elements in an organisation is derived from an increase in frequency of use (Bharadwaj et al., 2013). Instead of pursuing the accumulation of DT in the form of multiple discreet components, focus would be drawn instead towards fewer DT components that can function at varying rates of productivity. Logically, this would reduce the need to build excessively costly redundancies into the transformation of systems.

In relation to the abundance of information, DT is charged with improving the ability of data assimilation. This implies emphasis on computational intelligence to filter through noise within data and discern what is worth investigating further, as opposed to concentration on the physical capacity to possess data (Bharadwaj et al., 2013). The ability to harness and make sense of quality data in the modern world is crucial as it defines the parameters of the reality that an organisation can or cannot perceive (Setia, Venkatesh & Joglekar, 2013). Higher information quality is therefore vital as an enabler of scale as it informs the effective combination of resources and processes in order to attain the varying scale requirements of a firm.

The achievement of scale through partnerships draws the final separation of scale from the customary physical or tangible form. Scale through partnerships highlights that in the digital age, organisations benefit from desisting from the DT of non-strategic aspects of their business and supplementing those needs through shared platforms and networks (Bharadwaj et al., 2013). The inference drawn from this is that DT resources could be more effectively focused on core competencies and areas of the business where the highest impact or return would be achieved. In areas of business peripheral to the competitive advantage of the respective participating firms, sharing of platforms and resources affords them added returns in revenue and client service ability at a fraction of the cost.

2.6.3 Speed of digital transformation

The speed of DT is perhaps the best understood due to the evidence of its role as a driver of competitive advantage in industries, organisations and the lives of citizens of the digital economy (Fichman et al., 2014). Not only is the survival of organisations tested against their ability to navigate complex and uncertain economic settings, it is also tested against their ability to remain aware of the implications of the rate at which DT occurs and what that means for their strategic position (Pagani, 2013).

Drawing from Bharadwaj et al. (2013), speed of DT in the digital economy can be observed as being composed of several components, one of which is the speed of introduction of products to the market. Effective DT can therefore be considered in terms of its ability to "accelerate the speed of product launches" (Bharadwaj et al., 2013, p. 476) in line with the strategic mandate of a company. In a global business environment that is increasingly dominated by technology, it is reasonable to expect that firms lagging behind their digitally transformed peers will become increasingly disadvantaged as those that are digitally enabled will set and control the standard for the speed of strategic product launches. In so doing, they will remain competitively advantaged and agile in their responses towards environmental changes.

The second component of the speed of DT is the competitively advantaged and agile in their responses towards environmental changes. The general consensus is that DT has sped up the decision-making capability of invested organisations (Bharadwaj et al., 2013). This has been primarily due to the enhanced assimilation and channeling speed of information across hierarchical layers and operational process flows. The importance of speed of DT in relation to the strategy of a firm is relative to the extent to which it enables the firm to deliver value or

service to its clients (Setia et al., 2013). In particular, the enhancement of the firm's response capabilities to the needs of its clients forms a crucial part of its SA sense and response function. An added benefit to the enhancement of that capability is the insurance of the quality of the information delivered to the various decision-making nodes of the organisation.

Another pertinent component of the speed of DT is the speed of alliance formation. Network or alliance formation has gained traction as an enabler of strategy (Viswanathan, 2005). By conceptualizing and structuring strategic networks, companies are able to gain access to capabilities that complement their core competencies (Bharadwaj et al., 2013). In this space, therefore, DT plays the role of affording organisations administrative command over their networks. With the capability of network dynamism enabled through DT, organisations can rapidly align and realign the configuration of their networks to support the SA needs imposed by the environment.

Park et al. (2017) have an outward-in view of the speed of DT. They approach DT speed and its proposed enabling role in SA as a function of the rate of change and the unpredictability of the environment in which an organisation does business. As a result, it can be conceived that the speed of DT that an organisation commits to is commensurate with the rate of change that these two proposed dimensions (rate of change and unpredictability) of the environment cause within the organisation. This signifies a pull effect that the environment induces over the DT aspirations of an organisation, and the speed thereof. Consideration of this view of the speed of DT provides an appreciation of the fact that while there is a forward sequence of effects related to the speed of DT, as observed from a vantage point internal to the organisation (inside looking out), there is a reverse sequence at play that is effective from a vantage point in the environment (outside-looking-in). Whereas the inside-looking-out viewpoint allows the organisation to tally its capabilities during the DT process, the outside-lookingin perspective allows the organisation to calibrate its SA position relative to other sector and industry players (Park et al., 2017).

2.7 Debating digital transformation and strategic agility

Through the literature reviewed, it is apparent that the advent of a fast-changing business environment has necessitated the possession of agile faculties by organisations as a matter of sustainability. One way to attain any given desired agility is through digitally transforming organisations in a bid to increase their ability to sense and respond to threats and opportunities in their operating environments. Discussions on the union between technology

and strategy (see for example Park et al. (2017) and Fitzgerald et al. (2014)) have shown light on the fact that while there is a growing trend of organisations turning to technology as a means of improving their DC, there is an equally healthy measure of concern as to whether the observed investment appetite for DT is commensurate with the desired outcome on SA. Given the nascent quality of DT and the rapid rate of change that the associated technology undergoes the body of knowledge available on the subject of DT and its association with business is inconsistent and scattered at best (Bouwman, Nikou, Monlina-Castilo & de Reuver, 2018). These sentiments are shared by the researcher due to the fact that the inclination toward DT has been observed in Zimbabwe as well.

Fitzgerald et al. (2014) added that complacency rooted in a history of success was a common inhibitor to the derivation of the intended value in 40% of the companies they surveyed. This implies that culture and legacy may be impediments to the successful delivery of superior DC in companies as intended. While matters of organisational culture constitute important strategic considerations, they were beyond the scope of this study. It is worth noting, however, that the author contemplated the possibility that if an organisation's culture does not follow through on its support of DT, the investment in its execution is unlikely to yield much strategic benefit.

Another consideration that could potentially influence the success and effectiveness of DT is the role and shared vision of leadership in driving the DT agenda (Fitzgerald et al., 2014; Long, 2011). Some research has highlighted that there were opposing views as to what comprises a state of successful DT in organisations: lower levels of staff express opinions that their firms have insufficient digital maturity, while the perception that the same firms are digitally mature increases with seniority (Solis & Littleton, 2017; Zain, Rose, Abdullah & Masrom, 2005). Although organisations' strategic trajectories are set by the highest levels of management, the daily execution of strategy rests with the lower tiers of management. A disjointed view on the adequacy of DT in an organisation could starve decision makers of vital inputs on the closing of transformation gaps that could improve their firms' SA.

Other management-related challenges that arise include innovation fatigue due the perception of constant change in favour of the latest fad (Fitzgerald et al., 2014), and the politics that centre authority on departments or individuals within organisations (Park et al., 2017; Panda & Rath, 2016). While these are not tangible, they are important elements to manage in order for DT to yield the desired impact on SA. Panda and Rath (2016) found that neglecting the

managerial aspect of DT in favour of pursuing the technology aspect in isolation actually impeded SA as it did not improve organisational capabilities.

The DT process has enabled the assimilation of data previously relegated to the background of operational activity. Sharma et al. (2014) argue, however, that the abundance of data has not translated to an improved decision-making ability. Lycett (2013) agrees with Sharma et al. (2014) that DT has introduced a technology-driven sense-making ability, but the decision-making processes native to the collective, procedural and psychological frame of organisations remain unaltered. This suggests that despite the momentum of DT, "there is no one-to-one correspondence between an insight and a specific course of action to exploit that insight" (Sharma et al., 2014, p.436). This creates a platform for further discussions and research into conceptualizing a framework of the chronology of decision check-points that should follow DT-enabled environmental sensing and the subsequent decision-making structure.

In consideration of the agility of strategy on a global level, Setia et al. (2013) found that DT was a critical enabler of "glocalisation" for multinational companies. They describe glocalisation as the ability to adapt the value offerings of a business to the local preferences of nations and environments to which operations extend. With increased capabilities of sensing market indicators, firms are able to capitalise on opportunities to adapt their products or services rapidly to address end user needs. This constitutes SA related to market capitalization. On the other hand, Lu and Ramamurthy (2011) found that while DT had a positive impact on other elements of SA, it did not assist companies to be agile in capitalizing on market opportunities. These opposing views suggest that there are more latent aspects to be uncovered with regard to the relationship between DT and its effects in terms of SA on the ability of companies to capitalise on product or service markets.

2.8 Literature synthesis and conceptual framework

2.8.1 Contradictions in the research area

Researchers have proposed different components of digital transformation (DT) and its effective areas in companies, some more granular than others (Sebastian, Ross, Beath, Mocker, Moloney & Fonstad, 2017; Matt et al., 2015). Sebastian et al. (2017) and Matt et al. (2015) generally address the effect of DT on value proposition, value capture and organisational structure, among others. It is inferred from these researchers that there is a

general understanding within the digital community that DT has been mapped to effects on organisations and their businesses.

Fitzgerald, Kruschwitz, Bonnet and Welch (2014) posed a contrarian view to the effect that the actual bankable benefits of DT have not been successfully quantified. They added that the urgency to implement DT, particularly in organisations with a legacy of success, does not reflect the significance placed upon the influence of DT on SA by thedigital community. Solis and Littleton (2017) added that the understanding of the adequacy of DT in organisations is stratified: higher-level employees who engage in matters of strategy find present states of DT adequate, while lower-level employees engaged in operational tasks find the levels of DT inadequate.

Discussions in literature, particularly from proponents of digital technology, emphasize that digital technology has allowed what was previously overlooked as data noise to be appreciated as potential value-bearing information for different organisations (Sharma, Mithas, & Kankanhalli, 2014). The relationship between DT and improved decision-making in digitally transformed organisations remains inconclusive (Lycett, 2014). This suggests that there is still a need to clarify whether the role of DT only improves the sensing component of strategy, or if it extends to the response function as well (Teece et al., 2016; Overby, Bharadwaj & Sambamurthy, 2006).

The state of affairs in business and academia concerning the relationship between the two constructs justifies a critical assessment of the actual influence of digital transformation on strategic agility.

2.8.2 Research Hypothesis

The ability to navigate the business environment of the new digital economy in a strategically agile manner is of increasing importance to the sustainability of business in such an environment (Teece et al., 2016). While the global business community has progressively turned to DT in efforts to cultivate SA in their organisations, there is a lack of consensus on whether DT does, have a significant relationship with SA (Park et al., 2017; Fitzgerald et al., 2014). To this extent, this research examines the degree of significance of the relationship between DT and SA in a bid to contribute to the consolidation of the evidently scattered body of research pertaining to the two constructs under study (Bouwman et al., 2018). This is achieved through the assessment of the nature of the relationship of three endogenous

components of DT (scope, scale and speed) and SA. In addition, the extent to which the respective components cumulatively relate to SA will be assessed, both for the significance of their contribution to the relationship and for the direction of the contribution realised.

H1: There is a significant positive relationship between digital transformation dimensions and dynamic capabilities.

The quest for competitive advantage has led to the exploration of digitally inclined means of developing and operationalizing core competencies that support the strategic objectives of organisations operating in the modern world economy (Matt et al., 2015). An understanding of the extent to which DT enacted across a firm has implications for its capabilities is of paramount importance as resources that are typically limited are directed towards DT in lieu of other competing organisational functions and needs (Bharadwaj et al., 2013). Further understanding of the influence of DT on DC is warranted by the fact that varying scopes of transformation have implications for several dimensions of the business such as its value proposition, operational backbone and operational platforms around the world.

**H2: There is a significant positive relationship between dynamic capability and strategic agility.**

DC is thought of as a composite of three core elements: sensing opportunities and threats in the environment, seizing opportunities and value capture through mobilization of resources, and transforming or shifting of the organisation into alignment with environment (Teece et al., 2016; Pavlou & El Sawy, 2011). The actual influence of dynamic capabilities on strategic agility is yet to be established. Hence the value of dynamic capabilities on strategic agility is of paramount importance to be established under this study.

H3: Dynamic capabilities positively mediates the relationship between digital transformation and strategic agility.

Traditionally, business was dominated by conventional "resource-based strategy" in which success was tilted towards organisations that were first movers towards the rapid accumulation of advantaging resources (Teece & Pisano, 1994). As it focuses on the internal organisation of firms, maintenance of the competitive advantage gained from possession of the resources, once acquired or developed, is cemented by ring-fencing them with aggressive moats comprised of layers of intellectual property legalities to protect them from the incumbents' competitors (Eisenhardt & Martin, 2000). The quest to establish the actual

contribution of dynamic capabilities on strategic agility is of paramount importance in this study.

2.8.3 Conceptual framework for the research study
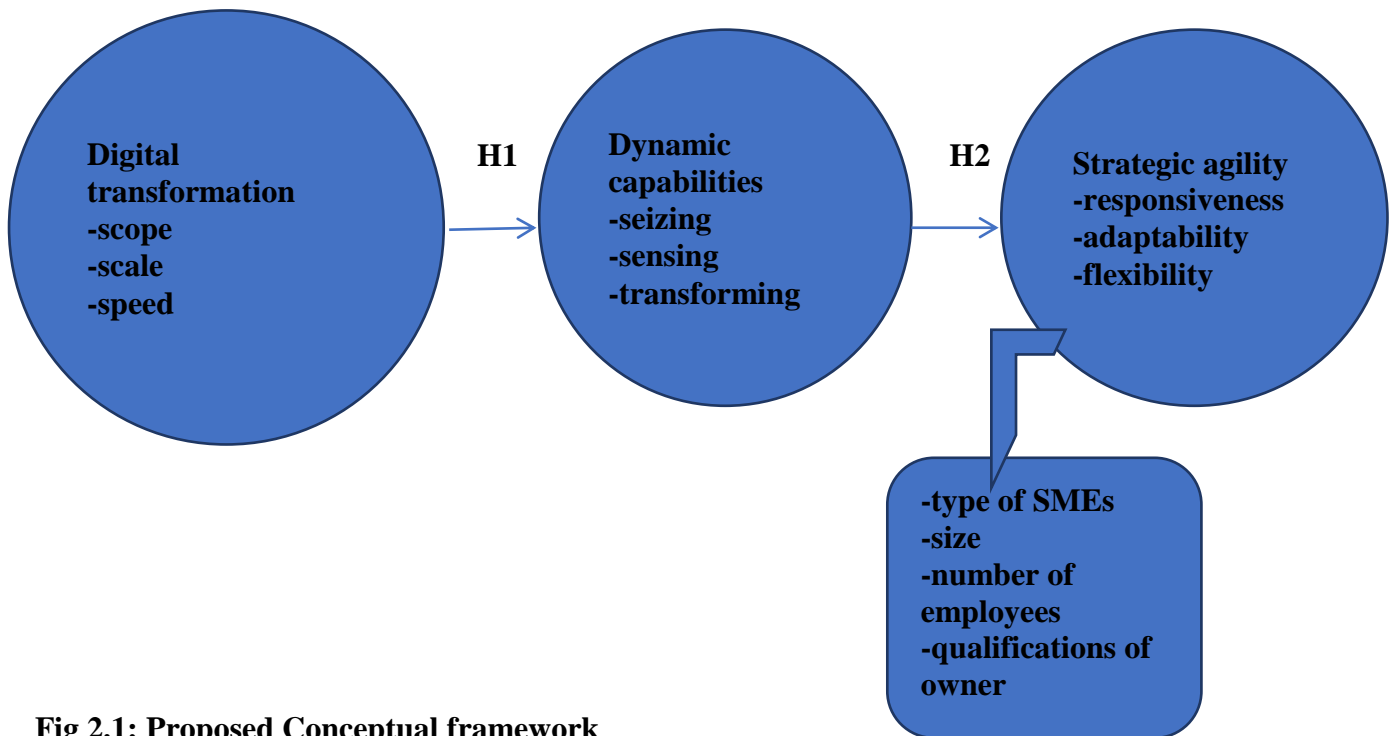
Fig 2.1: Proposed Conceptual framework

2.9 Chapter Summary

The literature provided background insight into the various aspects of DT and SA. Through critical examination of the concepts and arguments put forward in the literature, the theoretical model in Figure 2.1 was constructed to serve as a diagrammatic representation of the elements in the relationship between DT and SA that the research seeks to understand. The next chapter presents the methodology followed in conducting this research. It provides a detailed account of the proceedings of the study, from the researcher's philosophy going into the study through to the testing of the hypotheses outlined in chapter 2. It also makes mention of the limitations of the methodology that were noted by the researcher

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Chapter 3

RESEARCH METHODOLOGY AND DESIGN

</div>

3.1 Introduction

The previous chapter reviewed the literature on the relationship between digital transformation (DT) and strategic agility (SA). Furthermore, the previous chapter highlighted the variables and models of DT. The purpose of the current chapter is to provide an explanation of the research methodology that was applied in the study for gathering the data for meeting the objectives of the research. Rajasekar et al. (2013) defined research methodology as a routine context to which the study is conducted. The chapter therefore presented the research design that was adopted in the study. The research further, presented the sampling procedures that were adopted in the research. This is in line with the sentiments of Blaikie (2010) who professed that a research has to articulate the sampling procedures, and the research design adopted.

3.2 Research aim

The aim of the study was to establish the impact of digital transformation dimensions onstrategic agility through the medium of dynamic capabilities on micro, small and medium enterprises in Mashonaland Central Province, Zimbabwe.

3.2.1 Major research objective

The main objective of the research was to establish the impact of digital transformation dimensions on strategic agility through the medium of dynamic capabilities on micro, small and medium enterprises in Mashonaland Central Province, Zimbabwe.

3.2.2 Major research question

The main research question was, do digital transformation dimensions have a positive impact on strategic agility through dynamic capabilities within the SMEs in Mashonaland Central Province?

3.2.3 Research hypotheses

The following hypotheses were formulated from the literature:

H1: There is a significant positive relationship between digital transformation dimensions and dynamic capabilities.

H2: There is a significant positive relationship between dynamic capability and strategic agility.

H3: Dynamic capabilities positively mediate the relationship between digital transformation and strategic agility.

3.3 Research Design

3.3.1 Research philosophy

The purpose of the study was to develop a critical understanding of the nature of the relationship between DT and SA. Based on that premise, the research philosophy or "system of beliefs and assumptions about the development and nature of knowledge" (Saunders and Lewis, 2018, p. 106) that guided the execution of the study was positivism. While several research philosophies exist, including realism and interpretivism, positivism was selected as it draws focus to measurable phenomena with the expectation that the data collected will be objective and supportive of the establishment of relationships internal to the data (Saunders and Lewis, 2018). Positivism therefore allowed for the relationship between DT and SA to be evaluated in the natural business environment with empirical assessment of hypotheses and assumptions derived from theory. As is characteristic of this approach, a structured survey questionnaire was used to collect data on the ordinates of the constructs from the environment under consideration.

3.3.2 Research approach

The study sought to increase the level of understanding on how DT actually relates to SA in the business environment. Both constructs have been divisive academic discussion topics for a considerable period of time. Points of near confluence have been tested in the fields of information systems and information technology, with a multitude of research methodologies and models explored. The availability of this background, in addition to the simple research model consisting of one dependent variable (strategic agility) and one independent variable (digital transformation), informed the selection of a deductive approach to the study. The existing theoretical framework of dynamic capabilities (Teece et al., 2016) introduced in chapter 2 was used as a lens through which the study was channelled (Saunders and Lewis, 2018). This allowed for the triangulation of quantifiable elements between the theory and the data. Furthermore, the time constraint for the completion of the research was in alignment with the adoption of a pre-existing theoretical base, as opposed to the development of a new theory, as is characteristic of an inductive study.

3.3.4 Research strategy

Fox et al. (2009) assert that a research strategy is the research plan indicating how the study intends to provide answers to the research questions. In addition, Babbie (2010) states that a research strategy includes the description of how the data is collected, measured and analysed. Creswell (2014) postulated that a research strategy makes an accurate assessment of information intended to measure the constructs within a study accurately within a variable under study. Research strategies that might be used include case studies, phenomenology, document analysis, surveys, experiments, action research and or ethnography. The current research used a survey research approach, in support of sentiments by Yin (2009) who professed that a survey approach can be adapted to develop a comprehensive and exhaustive knowledge about a given case. The micro, small and medium enterprises operating in Zimbabwe was used for data collection point for measuring the relationship between DT and SA. Furthermore, Saunders (2012) postulates that a survey research approach encompasses the standardized collection of data in a given population. Easterby-Smith et al. (2012) indicated that a survey research design is appropriately suited to the deductive research approach. Easterby-Smith et al (2012) further postulate that a research strategy is adequately augmented within the research strategy where a questionnaire can be used as a research instrument.

3.4 Data collection method

In tandem with the envisaged explanatory nature of the study, a survey research strategy in the form of self-administered questionnaire was applied. This strategy wasdeemed to be the most suitable option for the study as the standardized nature of the data collection tool typically used in a survey enabled similar data collection conditions(Brannen 2005). This was expected to improve the objectivity of the findings of the study. Furthermore, it allowed greater potential for reaching more prospective respondents (by electronic communication means) in order to achieve a statistically significant sample size.

3.5 Research instrument

3.5.1 Questionnaire development

The questionnaire comprised three main parts. The first section contained the landing page that provided participants with a brief introduction to the cause they were participating in. This included brief descriptions of the basic meanings of the terms used to describe the constructs in the study to ensure clarity of terminology in the context within which the

questions in the tool were asked. Further, stated explicitly in this section were the consent conditions preceding the respondents' participation in completing the questionnaire.

The second section of the data collection tool featured demographic and qualifying questions to obtain basic profiling information from the respondent such as their designation, duration of post-qualification experience, tenure at the current organisation and hierarchical position in the organisation. This information was a key input to the classification of the respondents' suitability relative to the profile of desired individuals.

The third section then presented the questions that were formulated to "tease out" insights on the study variables from participating respondents of the research. These questions were in line with, and spoke to, the hypotheses of the study. The composition of this section was as follows:

Scope of DT (Variable 1): question one was directed at the scope of DT. It was composed of four sub-questions adapted from the work of Bharadwaj et al. (2013) and Tallon and Pinsonneault (2011).

Scale of DT (Variable 2): the second and third questions were collectively geared towards the variable of the scale of DT. The sub-questions of the respective questions were adapted from the works of Bharadwaj (2013), Chen et al. (2014) and Lu and Ramamurthy (2011).

Speed of DT (Variable 3): the fourth and fifth questions were also adapted from the research conducted by Bharadwaj (2013); Chen et al. (2014) and Lu and Ramamurthy (2011). They were focused on the variable of the speed of DT.

Further to the targeted questions above, two other questions (questions six and seven) were included in the data collection tool. These served the purposes of gauging SA (Variable 4) and establishing the collective effect of the three variables investigated through questions one through five on SA. These questions were adapted from the work of Bharadwaj et al. (2013) and Lu and Ramamurthy (2011).

A seven-point Likert scale (where 1 represents "strongly agree" and 7 represents "strongly disagree") was used in the measuring tool in order to elicit the opinion and beliefs of the participants on the constructs (Chen et al., 2014; Lu and Ramamurthy, 2011; Saunders and Lewis, 2018; Lavrakas, 2008). This scale was observed throughout the questions in the third

section of the questionnaire in order to maintain consistency and reduce the possibility of introducing undue human error in the selection of responses by participants.

Table3. 2: Overview of questionnaire constructs

Variable	Reference
Scope of DT	Bharadwaj et al. (2013), Tallon and Pinsonneault (2011).
Scale of DT	Bharadwaj (2013), Chen et al. (2014), Lu and Ramamurthy (2011)
Speed of DT	Bharadwaj (2013); Chen et al. (2014) and Lu and Ramamurthy (2011)
Strategic Agility	Bharadwaj et al. (2013) and Lu and Ramamurthy (2011).

Source: Designed for the research 2020

3.5.2 Measurement instrument

Based on the fact that the core of the research was modelled around an entirely deductive approach drawing on the foundation of work from various authors discussed, the measurement instrument that was used to collect data was correspondingly adapted from the host of studies cited. Blocks of questions pursuant to collecting data on the constructs were adapted from the different sources and compiled into a single combined self-administered questionnaire. True to the nature of deductive research, questions from rigorously validated data collection instruments were used in order to enhance the probability that the measurement instrument for the study collected the data that was actually intended (Saunders and Lewis 2018; Creswell 2014). Furthermore, this approach was practicably sound given that the development of a data collection tool from first principles would have required immense effort and time and would have stretched the study beyond its scope. This choice of measurement instrument was further supported by the fact that it was appropriate for the requisite participant profile as it offered flexibility for the completion time and location of the questionnaire (Allen 2017).

3.5.3 Questionnaire piloting

To test the performance of the questionnaire in a real-world application, a pilot survey was conducted. This involved sending the survey to 15 individuals who met the profile of the target population under the study. Over and above completing the questionnaire, these individuals were subsequently requested to critique the questionnaire and give feedback on

aspects such as ease of understanding, flow of questioning, and their overall impression of the composition of the questionnaire that has been done already.

Amongst the selected respondents, 11 responses were obtained with accompanying feedback on their perception of the questionnaire. All the individuals who participated indicated that the line of questioning was targeted at select higher strata of an organisation's chain of command, which confirmed the effectiveness of the population targeting that had been intended as the pilot test participants were of that level of designation. Although a few minor changes were recommended by participants, the feedback also confirmed that the wording of the questionnaire was adequately comprehensible to the relevant target population under the study.

The completion time of the questionnaire was initially estimated at 30 minutes considering the number of questions. The piloting of the questionnaire revealed that it was in fact completed in an average of 12 minutes with all 34 questions answered. This supported the ease of understanding and adequacy of population targeting that had been undertaken.

3.6 Population and sampling techniques

3.6.1 Population

The population deemed relevant to the study comprised junior, middle, senior and executive level managers of all disciplines in Zimbabwe and limited to SMEs in Mashonaland Central Province business organisations. This characteristic population was required to have engaged in the adoption and/or use of respective forms of digital technology in pursuit of delivering value to their respective customers. They were also required to have been involved in their organisations' strategic matters in dispensing their duties. These conditions ensured that the target population essentially comprised individuals participating in advancing their organisations from conventional strategies to ones formulated and executed by leveraging the use of digital technology (Park et al., 2017).

Focus was drawn to these levels of management as it was anticipated that this would make the population under consideration more homogeneous, resulting in the key benefit of consistency in the quality of data collected from participants under the study. Further, it was expected that this homogeneity would play an equally important role in streamlining the channels for distributing the data collection tool to potential participants. Channels of communication exploitable in the selected population included access to email, smart phones,

social and professional-social media. Moreover, it was anticipated that this target population was highly likely to consult and interact with seniors and other likeminded professionals on matters of DT and SA, thereby potentially distributing the data collection tool to a wider range of similarly informed individuals in their network settings.

It was decided that including participants that were not involved in the deliberation of inputs to or execution of, strategy would dilute the integrity of the study's findings and thus its validity (Lu and Ramamurthy, 2011). The exclusion of lower levels of employees thus negated the introduction of moderating factors such as inexperience in dealing with matters around the constructs of the study in their organisations, and the ability to recognize causal relationships in the business environment that their business was/are party to.

Although the target population was sought in companies of various sizes engaged in correspondingly different levels of digital technology, it was anticipated that the factor of size would be counterbalanced by the fact that the technology employed would be of a standard observed to be necessary to meet the strategic needs of the organisations in question. As such, the functions of the target population were then reduced to their functional interaction with the employment of digital technology to meet their organisations' strategic agendas. Starting from this point, the target population was intentionally sought out across companies of all sizes according to the Zimbabwean Small and Medium Enterprises Amendment Act of 2011 (2012) as shown in Table 1.

Table 1: Summary of business size definitions (Small and Medium Enterprises Amendment Act of 2011).

Enterprise size	Number of full-time paid employees	Total turnover per annum ZWL (000)
Micro	5	30
Small	30	500
Medium	75	1000

3.6.2 Sampling method and samples size

A complete list of the target population was not available as acquiring such a list was impractical in spite of the focus on particular strata of professionals in the Zimbabwean business community. This implies that there was no target sampling frame at the onset of the study. The absence of a sampling frame precluded the use of probability sampling techniques (Saunders and Lewis, 2018). Subsequently, a non-probability sampling technique was utilized.

Because the study was to be based on individual perceptions and opinions about the state of the relationship between DT and SA in the Zimbabwean context, it was crucial to achieve the widest possible representation of relevant individuals. Judgement, implicit in purposive sampling, was therefore exercised in selecting participants who fit the profile required (Saunders and Lewis 2018). It was duly noted that the use of the researcher's judgement and the undefined sampling frame at the onset of the study precluded the use of statistical inference to generalize the findings to a larger population.

A list of individuals who met the required characteristics was composed, featuring the contact numbers and emails of the individuals identified. These individuals were members of the researcher's direct network. In its entirety, the list included individuals from industries including judicial service commission, home affairs, mining, health care, telecommunications, retail, consulting services, civil and construction, professional service, finance, ministry of agriculture and education. The wide representation of industries in the list was intended to increase the likelihood that all sectors of business within the geographical scope of the study would be represented, thus allowing for more holistic findings on the perceived state of the relationship between the constructs to be drawn from the study. The compiled list was then used to communicate the questionnaire to the potential participants.

In assessing the choice of the sampling method, it was envisaged that a large enough purposive sample of participants of the requisite profile would not be available to the researcher. Consequently, snowball sampling was utilized as a secondary nonprobability sampling method in addition to the purposive sampling alluded to (Saunders and Lewis, 2018). Through this approach, the target participants accessible to the researcher were leveraged to gain access to the respondents' network of peers thereby increasing the reach of the questionnaire to potential participants. The downfall of this approach was that it created the opportunity for the introduction of bias from the accumulation of participants (through the chain of peer recommendation) who subscribe to a particular point of view on the subject of

DT and its influence on SA (Sunders and Lewis 2018; Zikmund et al., 2009). An advantage was, however, gained from the base of purposive sampling, while augmenting its shortfall (access to participants) with the advantage (low cost and faster acquisition of respondents) of snowball sampling.

In similar studies, theory was tested deductively with sample targets of about 214 to 300 participants (Chen, Wang, Nevo, Jin, Wang & Chow 2014; Panda & Rath 2015). Such studies involved upwards of five variables, thus satisfying the observations of Ho (2006) which suggested that at least 10 responses should be acquired for every variable measured to achieve a statistically significant sample. This is particularly true when combined with the added condition of the typically acceptable response rate of approximately 25% (Deutskens, De Ruyter, Wetzels, & Oosterveld 2004). Kline (2011), on the other hand, recommended the same figure of 10 responses per variable as the lower limit, and not the ideal scenario of data adequacy. Instead, he recommended a more rigorous upper limit of 20 responses per variable in order to satisfy the condition of maximum likelihood that statistical significance would be satisfied across various statistical tests. Given that data on four variables was to be collected in the assessment of the constructs in this study, the target sample that would allow for the achievement of a statistically significant sample size was estimated to be at least 80 responses. At an estimated response rate of 25%, 320 participants that met the requisite respondent profile had to be presented with the survey.

3.7 Questionnaire administration

The first step in the process of evaluating the design and flow of the research questionnaire was a preliminary appraisal done by the researcher's supervisor. Following that initial approval of the basic structure of the questionnaire, it was submitted to the research ethics with the accompanying application documents. The objective of this step was to assess the questionnaire and proposed approach for potential violation of the institution's research ethics codes. With ethics approval granted, a more detailed assessment of the questionnaire was conducted by the researcher and the supervisor.

3.8 Data gathering, processing and piloting

3.8.1 Data gathering process

The vehicle used for the distribution of the self-administered questionnaire was the email. The use of this survey tool eliminated the geographical and logistical limitations that would

have otherwise hindered the distribution of the questionnaire had the distribution of physical copies of the questionnaire been pursued (Saunders & Lewis 2018; Zikmund et al., 2009). In an effort to ensure the best possible response and completion rates, the following process was observed in the data collection process (Saunders & Lewis 2018):

A cover letter was prepared introducing the research and author. It included a strict commitment to confidentiality and the anonymity of respondents, with assurance that only aggregated response data would be collected. The cover letter served as an introduction to the data collection tool. A statement was included in the letter specifying that participation in the survey was voluntary, and that continuing with the survey served as consent towards participating in the study. A list of purposively selected individuals who met the criteria of the target population was developed. Details of these individuals, which included phone numbers and email addresses, were recorded. These individuals were contacted and informed of the intentions of the study and their contribution, if they chose to participate. This was done ahead of sending the actual data collection questionnaire through the email. Firstly, the cover letter was sent to individuals as the initial step. It then alerted the participants that a second communication would be sent to them containing a research questionnaire with a request for completion of the survey. A follow-up email was sent to the initial recipients of the questionnaire in intervals of one week thanking those that had already completed the survey and reminding and encouraging those who had not completed the survey questionnaire to do so. Furthermore, in satisfaction of the secondary sampling method chosen for the study, the recipients of the email were requested to share the questionnaire with other individuals in their network who met the target population criteria detailed in the communication sent to them. In an attempt to increase the number of responses acquired, the scope of the channels used to reach the potential target population was increased to include WhatsApp and LinkedIn. This amendment to the strategy was adopted following the observation that responses from the population of interest had stagnated.

In total, this data collection approach resulted in the achievement of 107 responses from the intended total of 320 target population individuals who the questionnaire was meant to reach, either sent directly by the researcher or referred by a participant who had completed the survey. This was accomplished during data collection duration of two months. The completion rate of the data collection exercise could not be estimated accurately due to the multi-channel approach to data collection. Given that Deutskens et al. (2004) indicated a completion rate of 25% as the typical response figure, it was found that the accumulated

response total was adequate for continuation with the study. The data collected was thus deemed sufficient for the condition of statistical significance to have been satisfied.

3.8.2 Data analysis approach

As data was collected using a Likert scale, it was statistically classifiable as numeric and quantitative. Given the fact that the digits assigned to each of the response classes of the Likert scale did not represent real numbers, the data was further distinguished as being of discrete interval quality (Wegner, 2016). The email questionnaire medium of data collection implied that it could be conveniently downloaded and manipulated using available software packages such as Microsoft Excel and SPSS (Statistical Package for Social Sciences). These software tools were used to conduct descriptive and higher order statistical analysis, as well as to investigate the statistical implications of the data gathered on the variables of interest on the hypotheses set out for the study.

3.8.3 Unit of analysis

The unit of analysis for the research study was the individual manager from which response data was sourced (Lewis-beck, Bryman and Futing Liao, 2004). Participants were essentially junior, middle, senior and executive level managers, which implied that the unit of analysis was pegged at strategic deliberation and strategic execution levels within organisations. This choice of unit of analysis was appropriate because each response provided a data point which uniquely contributed to the understanding of the relationship between the constructs of the study, and in turn, the research problem under study.

3.9 Research limitations

The researcher had limited time to carry out the research, since, he is on fulltime employment at the Bindura Magistrate Court and, the University of Zimbabwe only provides six months for the dissertation module.

3.10 Measuring the reliability of the instrument

Research in the public health science domain has shown that the full extent of a variable can seldom be assessed precisely or explicitly (Bland & Altman, 1997). Instead, by assessing the various constituent elements relating to the variable through a converging series of questions, it is possible to increase the ability to infer the correct measure about the state of the variable (Cronbach, 1951; Bland & Altman, 1997). Essentially, combining implicit questions geared at assessing a variable allows for the achievement of a more reliable measure of that variable

regardless of the presence of interference introduced by different perspectives of participating individuals on the subject under investigation.

This convergent line of questioning implies that a series of questions should ideally be measuring the same factor. In a measuring instrument such as the one used in this research, this introduces the need for correlation between the components of the instrument, which Cortina (1993) suggests is required on two levels. First, there should be correlation between the dimensions or variables that are being assessed using the instrument. Second, each of the items or questions assessing each particular variable should be correlated. The sum-product of these correlations gives rise to internal consistency, meaning that in measuring the variables of interest, the measuring instrument will reliably produce consistent results regardless of differences of application (Bland & Altman, 1997; Cortina, 1993).

Although it is by no means the only measure of the reliability of a measurement instrument, Cronbach's alpha (Cronbach, 1951) is a commonly adopted measure in academic research (Bland & Altman, 1997). In addition to enabling the researcher to operationalize the brief background described above, Cronbach's alpha was selected as the primary test of the reliability of the data-collection instrument. Its suitability was due to its split-half approach to the determination of internal consistency using a single sample in line with the short time frame under which the study was conducted. It also assisted with not sterilizing the already constrained pool of potential purposively sampled respondents available to the researcher, which would have been the case if a second sample had to be collected to test for equivariance between samples and the reliability of the instrument (Cronbach, 1951).

The literature frequently states that there is a lack of consensus on what the appropriate limit of Cronbach's alpha should be (Bland and Altman, 1997; Bonett & Wright, 2015; Cortina, 1993). While some deem values in the range of the 0.60 to 0.70 to be acceptable, Cortina (1993) cautioned that context should be taken into consideration when assessing an alpha coefficient value measured for an instrument. He argued that the greater the number of items tested for reliability; the higher alpha values tend to be as there is simply a higher probability of correlation between items. Given this argument, the instrument used in this study was assessed for internal consistency using one continuous list of items (that is, without separating the items into the four separate variable dimensions under investigation), and then the test was conducted again for the four dimensions with the items grouped per dimension. This division of the dimensions of the instrument into the smallest possible discrete blocks of

items ensured that a high level of rigour was observed in assessing the instrument relative to the chosen threshold of alpha, which was set at 0.7 for this research study (Bland and Altman, 1997; Bonett and Wright, 2015; Cortina, 1993).

3.11 Ethical considerations

The main ethical consideration of the research was to make sure that the process and findings of the research do not harm anyone (Creswell, 2013). In addition, Saunders (2012) proclaims that ethical considerations in a research guide the behavior and the moral principles relating to a particular research. Furthermore, he asserts that ethical consideration enhances the upholding the principles governing the research. Ethical considerations were upheld by the researcher through making sure that issues to do with confidentiality were upheld. The researcher made sure that the respondents responded voluntarily. In addition, the researcher made sure no respondent was victimized, or intimidated and respondents were assured that the research was only used for academic purposes.

3.12 A schematic summary of the methodology observed in the study is shown below.

Theory: Positivism Philosophy

Approach	Deductive	Deduced hypothesis from theory for testing in the study.
Strategy	Survey	Target participants, designed and piloted data collection instrument, primary data collected, instrument and data validation.
Method choice	Mono method quantitative	Descriptive and inferential statistical analysis
Time horizon	Cross sectional	Collection of data over a 2 month period
Techniques	Comparisons and hypothesis tests	ANOVA, correlation analysis, multiple regression analysis.

Figure 3 Summary of the research methodology

3.13 Chapter summary

The current chapter presented the research methodology and justification why it was adopted as the research aimed to establish the relationship between digital transformation and strategic agility on the micro, small and medium enterprises in Zimbabwe, which motivated a quantitative research approach. The chapter further highlighted the issues to do with research reliability, validity among others. The following chapter looks at the data analysis, findings, and discussions.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

To statistically measure the impact of digital transformation on strategic agility through the medium of dynamic capabilities in Small to Medium Enterprises in Mashonaland Central Province, the researcher used Statistical Package for Social Sciences software (SPSS) version 25 for processing of data. The primary objective of this study was to investigate whether digital transformation through the medium of dynamic capabilities had a significant relationship with the perceived strategic agility of businesses in the Zimbabwean context. Opinions of the constructs of the study were sought from management-level individuals regardless of what industries they represented, as what was of interest was the general attitude of these high-level individuals to the status of the relationship between the constructs in the context of this country as whole. The results from the processed data are presented in sections containing the response rate, descriptive analysis, reliability, validity, normality, cross tabulations, correlations and regression tests for the impact of digital transformation on strategic agility through dynamic capabilities.

4.2 Response rate

The researcher distributed two hundred and thirty-nine (239) questionnaires to all the employees and management of SMEs in Mashonaland Central Province. After a week, the researcher managed to collect back one hundred and seven (107) questionnaires which were completely filled up and usable, yielding 45% response rate. 17% of the non-responses were found to have been corrupted in a manner that resembled an alternating pattern of 25 or 29 unanswered questions, whilst the remaining 38% did not respond to the questionnaire. The weak response rate was a result of the lock down measures and some of the SMEs were not operating as they did not have adequate documentation to facilitate their business operations. Moreover, the researcher could not contact self-distribution of the questionnaire due to travelling restrictions and the current lockdown measures in the country.

4.3 Descriptive Analysis

This section covers the demographic characteristics of the owners and employees in the SMEs sectors in Mashonaland Central Province. The demographic aspects covered by the researcher are, age range; experience within the current organisation; current position; size of the organisation and the level of digital transformation. The results presented as follows:

4.3.1 Age range

Of the 90 respondents forming the final sample, the majority were from the age category of 31 to 40 years. They accounted for 46% of the sample size. The next significantly represented age category was the 0 to 30 age group at 34% of the sample. Lesser representation was observed in the age categories of 51 to 60 and above 61. Figure 4.1 below is a representation of the various age range percentages indicated by the colour-coded key.
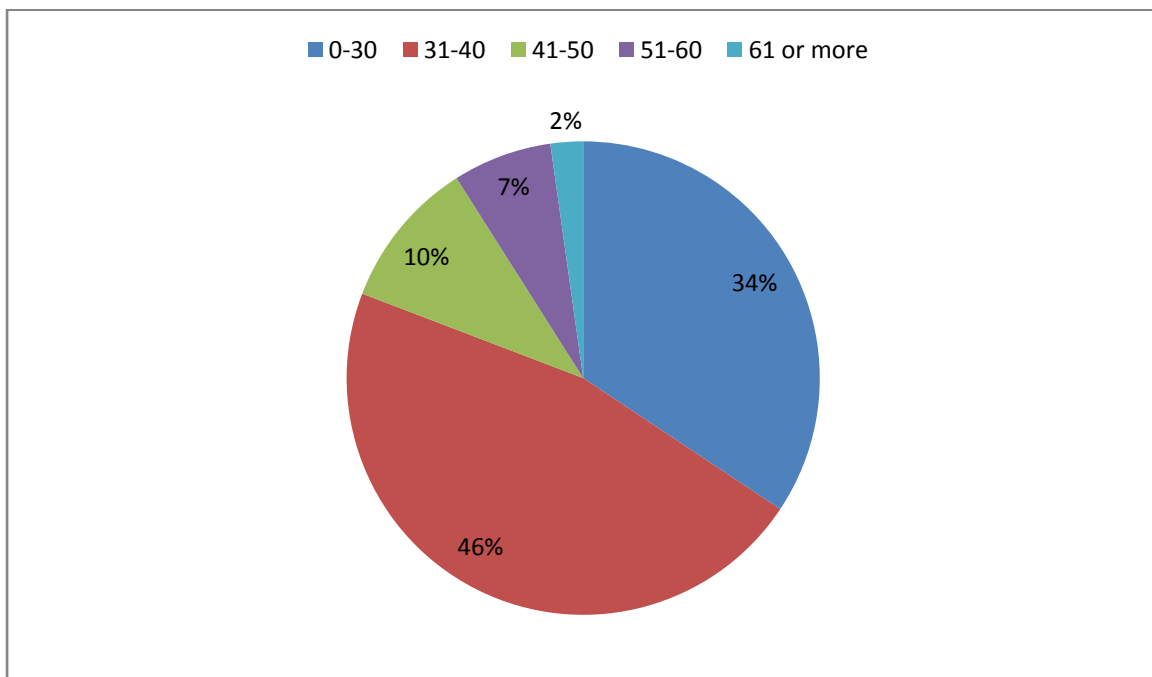
Figure 4.1: Distribution of respondents' age range in years

The results of the age distribution are a true indication that most SMEs in the province are being run and managed by the youth. The greater part of respondents are 40 years and below and these combined have constituted 80% (34% are those up to 30 years and 46% is for those aged between 31 and 40 years). The results are more useful to the current study as the youth are the ones with more knowledge on the digital transformation aspects compared to the old age when it comes to information and technology.

4.3.2 Tenure within current organisation

The profiling data indicated that 68% of the respondents had been employed with their current companies for up to five years. They were followed by 24% of the sample who reported that they had been with their companies for equal to or more than six years, but not more than 10 years. An almost equal distribution of respondents had been with their companies for 11 to 15 years and more than 16 years respectively. The distribution of the respondent's tenure is shown in Figure 4.2 with the accompanying colour-coded key.
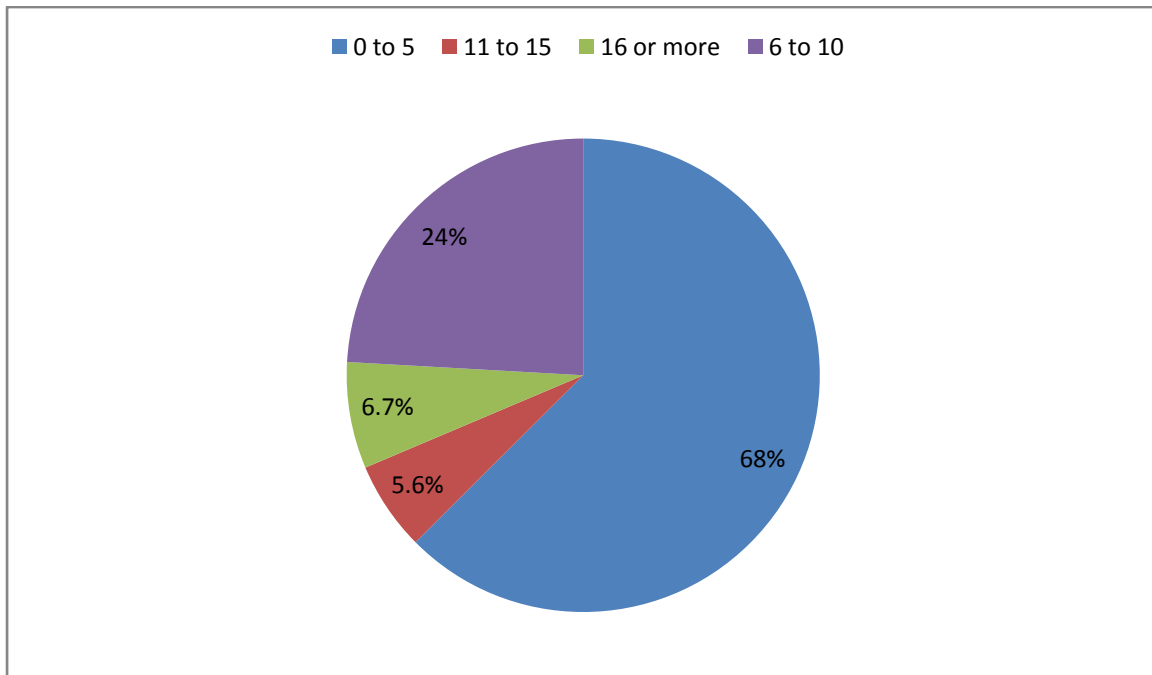
Figure 4.2: Distribution of respondents per tenure category

The results support the researcher's view that most of the SMEs in Mashonaland Central Province emerged after the 2009 era and mostly after the Government of National Unit (GNU). The more years of tenure the respondent has spent with the same employer indicates ability of the respondent to give reliable information about the digital transformation within the SMEs sector in Mashonaland Central Province.

4.3.3 Designation of the respondent

The minimum requirement for participation of respondents was that they fall under one of four levels of management depicted. The majority of the respondents were middle-level managers, accounting for almost half of the sample. Senior managers accounted for 19%, followed closely by lower-level management at 21%. The least represented management category was executive-level managers at 17% of the sample as indicated in figure 4.3 below.

Designation

- Executive Management
- Lower Management
- Middle Management
- Senior Management

19%
21%
42%
18%
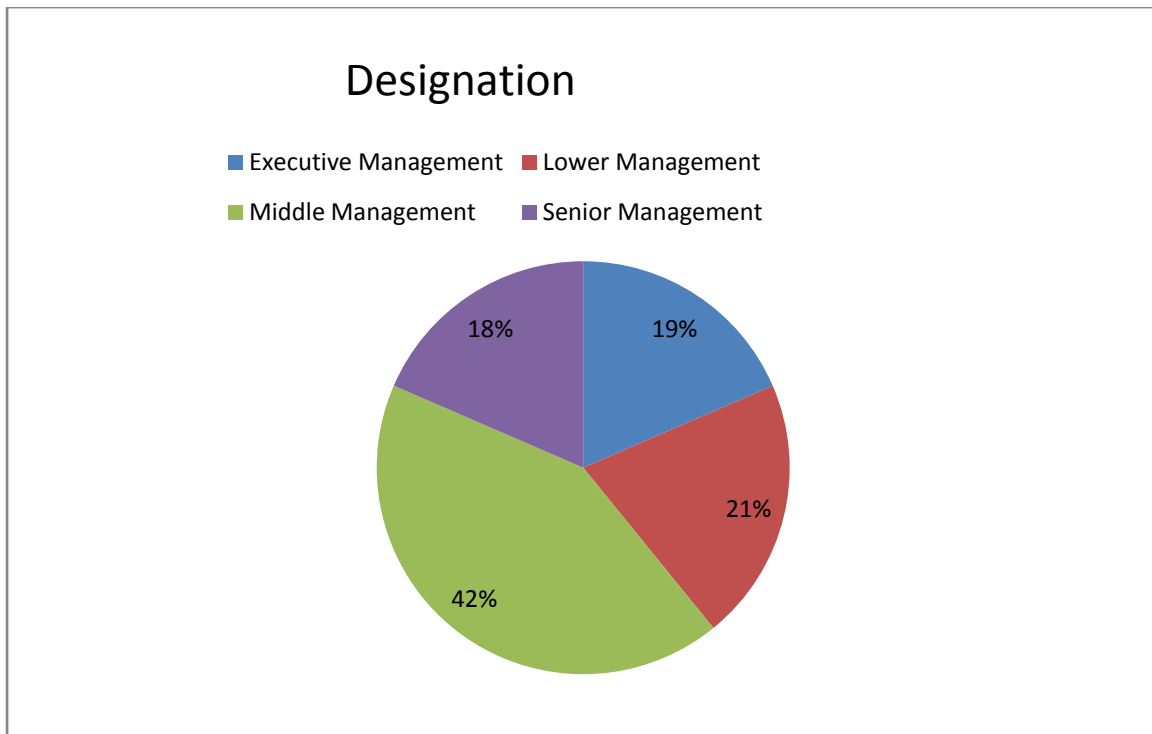
Figure 4.3: Distribution of respondents per management level category

The results are useful to the researcher as they give a fair distribution of the options from all the major management levels within the organisation. As with all the organisations most of the managerial employees are in the middle management level as indicated in this current study as well.

4.3.4 Company size

Almost twice as many respondents were from medium companies as compared to those from small companies. Medium companies are classified as having over 75 full time employees and a turnover of over ZWL1 million, while small companies have 30 to 74 full time employees and half a million ZWL in turnover. Only 9% of the respondents worked in micro-sized companies, which are classified as having 5 to 29 full time employees and achieving ZWL 30 000 in annual turnover. A graphical representation of the company size distribution is shown in Figure 4.4.
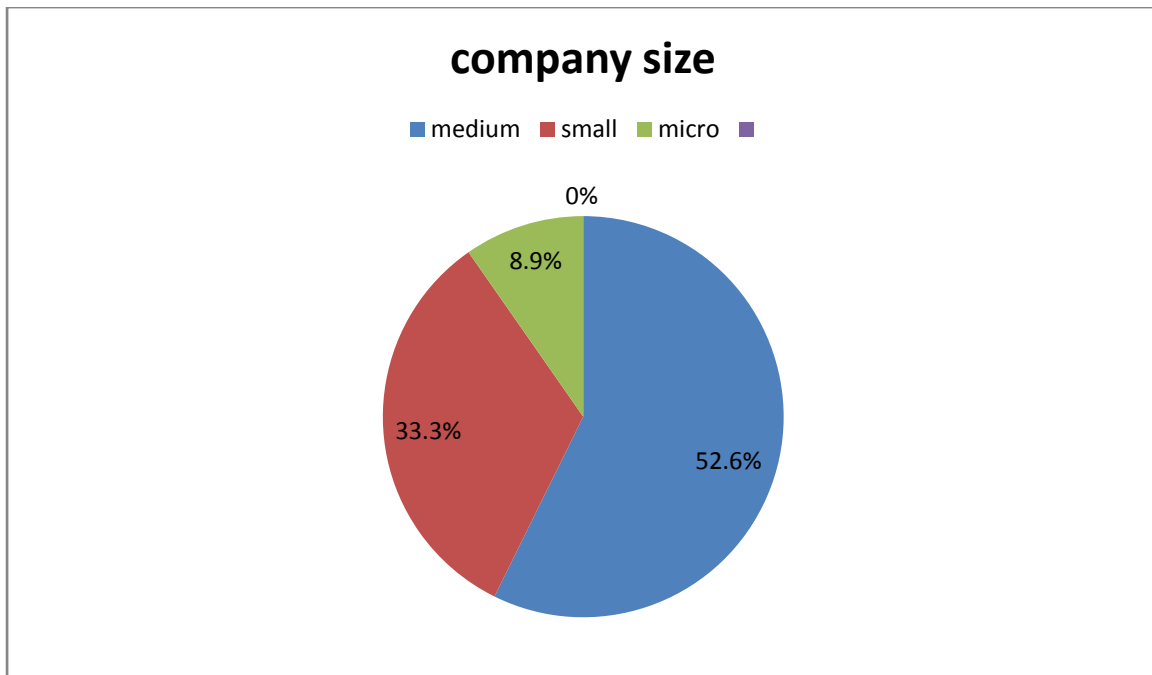
Figure 4.4: Distribution of respondents per company size level.

The information about the classification of SMEs in Mashonaland Central Province was useful in checking whether the respondents to the study are not from large organisations that are not part of this current study and this allowed all respondents to have an equal chance of participating in the study to assess the impact of digital transformation on strategic agility through the dynamic capabilities.

4.3.5 Level of digital transformation

Despite the distribution of company sizes in the data collected, the reported levels of DT are more evenly spread across the sample categories. 38% of the sample reported that their organisation had achieved a medium level of DT, while 33% reported having achieved a high level of DT. To a slightly lesser extent, 29% of the sample reported having achieved little DT in their organisation. The breakdown of the DT level reported across the samples is shown in Figure 4.5.
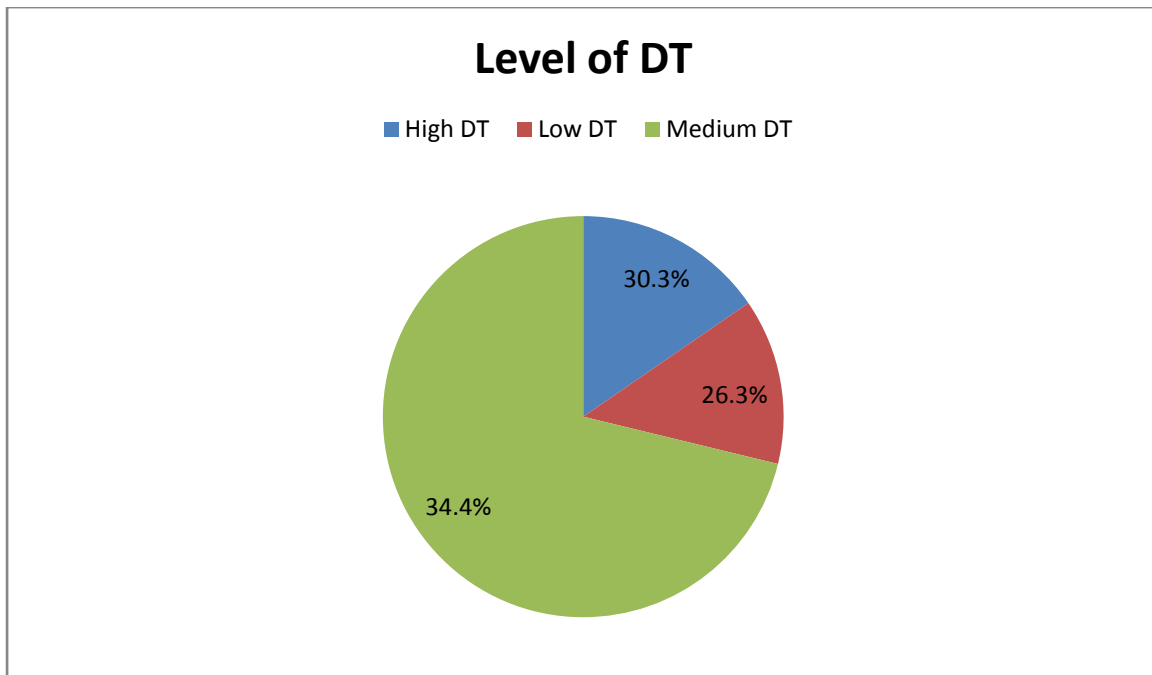
Figure 4.5: Distribution of respondents per digital transformation level

The fair distribution of the levels of digital transformation has indicated that all the SMEs in Mashonaland Central Province who participated in the current study are implementing the digital transformation aspects of scale, scope and speed.

4.4 Reliability and Validity

The validity and reliability of the research instrument to measure Digital transformation impact on Strategic Agility of SMEs in Mashonaland Central Province was evaluated by computing the coefficient of alpha (Cronbach's alpha) using SPSS, that measured the internal consistency of the instrument variables and to check if the sample was adequately reliable and if the sample data could be used to perform correlation and regression analysis. The validity of the instrument was carried out in order to ascertain that the instrument had properly captured items that measure Digital Transformation and Strategic Agility through Dynamic Capabilities in the SMEs sector of Mashonaland Central Province.

4.5 Reliability statistics

The Cronbach's coefficient of greater or equal to 0.7 is considered to be acceptable (Bland & Altman, 1997; Bonett & Wright, 2015; Cortina, 1993), and it indicates that there is a good consistency among variables within each measuring Digital Transformation and Strategic Agility variables. The results are indicated in table 4.1 below.

Table 4.1 Reliability analysis

Variables	Number of Items	Cronbach's Alpha value
Scale	9	0.914
Scope	4	0.881
Speed	10	0.924
Dynamic capabilities	9	0.873
Strategic Agility	6	0.887
Total scale of reliability	**38**	**0.938**

As indicated by results in table 4.1 above, the total scale of reliability is 0.938 which is way above the acceptable benchmark of 0.7, showing that all the items used in the questionnaire used to measure the impact of digital transformation on strategic agility through dynamic capabilities were showing great internal consistency. The Digital transformation dimensions and Strategic Agility variables were checked for reliability and to confirm if the items loaded were sufficient to the instrument to make each dimension reliable, all the variables yields a coefficient of alpha greater than 0.7, Scale (0.914), Scope (0.881), Speed (0.924), Dynamic capabilities (0.873) and Strategic Agility (0.887), and this demonstrated that all the variables under study were reliable.

4.6 Validity

The validity of the instrument that was used to measure Digital Transformation's impact on Strategic Agility through the Dynamic Capabilities of the SMEs in Mashonaland Central Province was further evaluated for validity using content validity as it is also related to face validity which refers to the extent to which a measurement instrument represents all the features required on a research instrument. Content validity of the questionnaire was evaluated through a pilot study, in which the researcher distributed fifty questionnaires to employees and management of the SMEs in the Province. On the other hand subject experts on Digital transformation and Strategic Agility were consulted as a way of establishing face and content validity. The researcher further checked convergent validity of the variables from the results of the correlation statistics as presented in table 4.4 below and divergent validity was checked from the regression statistics. Lastly the multicollinearity of the variables was checked, the results which range from 0.658 to 0.738, which are below 1 or -1, indicating the

variables are different and there is absence of perfect multi-collinearity within the instrument variables.

4.7 Normality Test

In order to validate the normality of the sample, the researcher further tested the normality to determine if the variables (scale; scope; speed; dynamic capabilities and strategic agility) follow a parametric or non-parametric distribution. Since the sample size was less than three hundred, the researcher based the normality analysis on Shapiro-Wilk (s-w) test as provided in table 4.2 below. All variables under the study were tested for normality with scale (0.956), scope (0.933), speed (0.953), dynamic capabilities (0.978) and strategic agility (0.959) all variables have a significance value of ($p<0.05$), indicating that the sample is not normally distributed hence the use of non-parametric tests for further process and analysis of the data.

Table 4.2 Tests of Normality

	Tests of Normality					
	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Scale	.119	383	.000	.956	383	.000
Scope	.151	383	.000	.933	383	.000
Speed	.114	383	.000	.953	383	.000
Dynamic Capabilities	.065	383	.001	.978	383	.000
Strategic Agility	.103	383	.000	.959	383	.000

4.8 Cross Tabulations

To test for the association between size of the organisation and Strategic Agility within the SMEs in Mashonaland Central Province, the researcher selected the cross-tabulation analysis to come up with the associations.

4.9 Cross tabulation between size and Strategic Agility

Of those respondents who are in the micro business category, 13.6% strongly disagreed that the SMEs in Mashonaland Central Province are making efforts to achieve strategic agility, whilst 25.4% disagreed, 35.6% remained neutral, 18.6% agreed and 6.8% strongly agreed that strategic agility was being achieved through the digital transformation and dynamic capabilities. Of those who are in the small size businesses, 2.4% disagreed, 38.1% remained neutral, 50% agreed and 9.5% strongly agreed that they are using the digital transformation and dynamic capabilities to enhance strategic agility. Lastly of those who are in the medium

sized businesses none of the respondents 0% disagreed, with 16.7% remaining neutral and 83.3% agreed that strategic agility is being achieved as indicated by table 4.3.

The results of the cross tabulations in table 4.3 below indicates that there is a positive association between size of business and Strategic Agility, with 42.1% of the respondents from all the size categories agreeing that strategic agility is being achieved through the use of digital transformation and dynamic capabilities, 35.5% remained neutral and 22.4% disagreeing. The Chi-square statistics indicated significance value of $(p<0.05)$, confirming that the relationships that exist between Digital transformation dimensions across the size of the SMEs in Mashonaland Province are statistically significant. The results of the symmetric measures using the Chi-square statistics are (6.183) with a significance of $(p<0.05)$, showing that the association between size and Strategic Agility of the SMEs in Mashonaland Central Province is moderate and acceptable.

Table 4.3 Cross-tabulation between Size and Strategic Agility

			Strategic Agility					Total
			Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
Size	Micro	Count	8	15	21	11	4	59
		% within Size	13.6%	25.4%	35.6%	18.6%	6.8%	100.0%
		% within Strategic Agility	100.0%	93.8%	55.3%	29.7%	50.0%	55.1%
		% of Total	7.5%	14.0%	19.6%	10.3%	3.7%	55.1%
	Small	Count	0	1	16	21	4	42
		% within Size	0.0%	2.4%	38.1%	50.0%	9.5%	100.0%
		% within Strategic Agility	0.0%	6.2%	42.1%	56.8%	50.0%	39.3%
		% of Total	0.0%	0.9%	15.0%	19.6%	3.7%	39.3%
	Medium	Count	0	0	1	5	0	6
		% within Size	0.0%	0.0%	16.7%	83.3%	0.0%	100.0%
		% within Strategic Agility	0.0%	0.0%	2.6%	13.5%	0.0%	5.6%
		% of Total	0.0%	0.0%	0.9%	4.7%	0.0%	5.6%
Total		Count	8	16	38	37	8	107
		% within Size	7.5%	15.0%	35.5%	34.6%	7.5%	100.0%
		% within Strategic Agility	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	7.5%	15.0%	35.5%	34.6%	7.5%	100.0%

Table header: **Size and Strategic Agility Crosstabulation**

4.10 Correlation Analysis

Correlation analysis for Digital transformation dimensions (Scale; scope and Speed) against Dynamic capabilities and that of Dynamic Capabilities against Strategic Agility was processed using the bivariate correlations to estimate the correlation coefficients among the variables. The normality using the Shapiro Wilk Test of Normality assumes the sample was non parametric, the researcher went on to test the correlations among the variables using Spearman's correlation coefficient so as to ascertain the linear association among the variables. A correlation coefficient takes a range from perfect negative relationship of -1.0 to perfect positive relationship of +1.0, whilst a value or relationship of zero (0) indicates no relationship between the two variables. The level of association between Digital

transformation dimensions and Dynamic Capabilities together with that of Dynamic Capabilities and Strategic Agility are presented in table 4.4 below.

Table 4.4 Correlation analysis

Correlations			Scale	Scope	Speed	Dynamic Capabilities	Strategic Agility
Spearman's rho (r)	Scale	R	**1.000**				
		Sig.	.000				
	Scope	R	.738**	**1.000**			
		Sig.	.000	.000			
	Speed	R	.658**	.750**	**1.000**		
		Sig.	.000	.000	.000		
	Dynamic Capabilities	**R**	**.512****	**.520****	**.534****	**1.000**	
		Sig.	**.000**	**.000**	**.000**	**.000**	
	Strategic Agility	**R**	**.646****	**.633****	**.635****	**.695****	**1.000**
		Sig.	**.000**	**.000**	**.000**	**.000**	0.00
**. Correlation is significant at the 0.01 level (2-tailed).							

4.11 Scale and Dynamic Capabilities

Table 4.4 indicates that there is a moderate positive relationship between scale and dynamic capabilities (r=0.512, p<0.05) supporting the first objective, that organisational scale positively influences the dynamic capabilities of the SMEs. The correlation result implies that, for every single unit of investment in the SMEs scale that the organisations use it will result in a moderate increase in the dynamic capabilities of the SMEs in the Province.

4.12 Scope and Dynamic Capabilities

There is a moderate and statistically significant positive relationship between Scope and Dynamic Capabilities of the SMEs (r=0.520, p<0.05) as indicated by table 4.4 above. These results are in line with the second objective which states SMEs scope is positively associated to the Dynamic Capabilities, hence, the relationship can be accepted at any level of significance. The correlation result implies that if the SMEs in Mashonaland Central Province their organisational scope it will result in a positive increase in the dynamic capabilities.

4.13 Speed and Dynamic Capabilities

Speed and Dynamic capabilities have a statistically significant moderate positive association (r=0.534, p<0.05) as indicated by table 4.4 of the correlation results above. The result confirms the accession that, if organisations are at speed in processes and adapting to changes is the market,they will be able to tap into the dynamic capabilities. To this end the research can confirm the third objective which states that speed has a significant positive association with dynamic capabilities of SMEs in Mashonaland Central Province.

4.14Dynamic capabilities and Strategic Agility

Dynamic capabilities and Strategic Agility have a strong positive and statistically significant correlation (r=0.695, p<0.05) supporting the fourth objective, which states that dynamic capabilities as being influence by digital transformation has a positive association with Strategic Agility of the SMEs in Mashonaland Central Province. These results are supporting the fact that dynamic capabilities if properly managed in an SME will yield a positive outcome in terms of the strategic agility of all the SMEs in Mashonaland Central Province.

To this end, the digital transformation dimensions namely (scale, scope and speed) are positively associated with dynamic capabilities which in turn influence the strategic agility of SMEs in Mashonaland central Province in Zimbabwe. The researcher can conclude that there is a greater association of the mediating variable (dynamic capability) to the digital transformation dimensions (scale; scope and speed) and Strategic Agility within the SMEs in Mashonaland Central Province.

4.15 Regression Analysis

Regression analysis is used to measure the predictive power of the independent variableswhich are digital transformation dimensions (scale; scope and speed) on the dependent variable (Strategic Agility) as they are mediated by dynamic capabilities. In order to determine how Digital transformation dimensions (scale; scope and speed) as the independent variables predict Strategic Agility as the dependent variable, through the mediating variable (Dynamic Capabilities), a regression analysis model was computed using linear regression analysis with moderating variable. This model was necessitated by the fact that there are more than two independent variables (scale, scope and speed) affecting one mediating variable (dynamic capabilities) and one dependent variable (Strategic agility). Moreover, the use of regression analysis brought out the cause and effect relationship among

digital transformation dimensions and dynamic capabilities and strategic agility. The results from the regression analysis are presented in tables 4.5 of model summary, 4.6 analysis of variance and 4.7 of regression coefficients.

Table 4.5 Model summary

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.796	.634	.631	.608	.634	218.929	3	107	.000
2	.861	.741	.738	.513	.107	156.121	1	106	.000
1. Predictors: (Constant), Speed, Scale, Scope									
2. Predictors: (Constant), Speed, Scale, Scope, Dynamic Capabilities									

Table 4.5 above shows the two models contained in the model summary, the first model indicates that digital transformation dimensions (scale, scope and speed) predicts 63.1% of variance in strategic agility of the SMEs as shown by the Adjusted R Square of 0.631. The remaining 36.9% of the variance could be explained by other variables that were not covered in this current study. Moreover, the second model (Model 2) indicated that the digital transformation dimensions (scale, scope and speed) as they are mediated by dynamic capabilities predict 73.8% of the variance in strategic agility. Furthermore, the R Squared change is positive that indicates the important role of the mediating variable that leads to strategic agility with both models showing a level of significance of $p < 0.05$. The researcher went on to analyse the model fitness in terms of the variables under study as indicated by Table 4.6 below which looks into the analysis of variance.

Table 4.6: Analysis of variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
		ANOVA				
1	Regression	243.142	3	81.047	218.929	.000
	Residual	140.305	107	.370		
	Total	383.447	106			
2	Regression	284.152	4	71.038	270.432	.000
	Residual	99.295	107	.263		
	Total	383.447	109			
a. Dependent Variable: Strategic Agility						
b. Predictors: (Constant), Speed, Scale, Scope						
c. Predictors: (Constant), Speed, Scale, Scope, Dynamic Capabilities						

Table 4.6 indicates that the model 1 is fit for predicting the relationship between digital transformation dimension and dynamic capabilities as shown by the F value of 218.929 which is statistically significant at $p<0.05$. Moreover, the second model shows that Dynamic capabilities has a adequate fit in predicting strategic agility as it mediates the relationship between digital transformation and strategic agility (F=270.432; $p<0.05$) with a positive sum of squares and the mean square of 71.038 for model 2 and 81.047 for model 1, all being positive. The results of the analysis of variance are useful to the current study as they have confirmed that the research on the impact of Digital transformation on Strategic Agility through dynamic capabilities are fit to carry out the hypothesis testing. Hence, the model can be drawn to the effect that Dynamic capabilities dimensions (scale, scope and speed) have an impact on Dynamic capabilities which in turn impacts on the Strategic Agility. The standardised coefficients results of beta were used to ascertain the predictive power of all the independent variables (scale, scope and speed) and the mediating variable (dynamic capabilities) on Strategic Agility as presented in table 4.7 below.

Table 4.7 Regression coefficients

		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model		B	Std. Error	Beta	T	Sig.	Tolerance	VIF
1	(Constant)	.069	.128		.537	.002		
	Scale	.344	.057	.327	6.054	.000	.331	3.020
	Scope	.205	.068	.203	3.036	.003	.217	4.617
	Speed	.343	.056	.335	6.147	.000	.325	3.079
2	(Constant)	.099	.108		.909	.004		
	Scale	.297	.048	.282	6.177	.000	.329	3.039
	Scope	.137	.057	.135	2.393	.017	.215	4.660
	Speed	.196	.048	.191	4.042	.000	.306	3.272
	Dynamic Capabilities	.386	.031	.405	12.495	.000	.651	1.535
Dependent Variable: Strategic Agility								

The beta coefficients signify the predictive power of the independent variables per unit change in the positive or negative direction in the dependent variable given a unit increase in the independent variable. Table 4.7 indicates two models with model 1 showing the digital transformation dimensions (scale, scope and speed) and on the other hand model 2 shows the predictive power of the mediating variable (dynamic capabilities) on strategic agility. Moreover, both the models are statistically significant at $p<0.05$. In the first model speed has the greatest impact on dynamic capabilities ($\beta=0.335$, $p<0.05$) followed by scale ($\beta=0.282$, $p<0.05$ and lastly scope ($\beta=0.203$, $p<0.05$). On the other hand, the second model shows the combined impact of digital transformation dimensions when being mediated by the dynamic capabilities on strategic agility. Scale is generally the most powerful variable in explaining the impact of digital transformation on dynamic capabilities as they influence strategic agility of the SMEs in Mashonaland Central Province, scale ($\beta = 0.282$, $p<0.05$), followed by speed ($\beta=0.191$, $p<0.05$), then Scope ($\beta = 0.135$, $p<0.05$). Moreover, dynamic capabilities as a mediating variable yielded the greatest impact as it combines all the digital transformation variables ($\beta=0.405$, $p<0.05$). The results are all conforming to the research hypothesis that Digital transformation has a positive impact on Strategic Agility through dynamic capabilities within the SMEs in Mashonaland Central Province.

4.16 Discussion of results

The first hypothesis (H1) predicted that scale has a significant positive impact on Strategic Agility through dynamic capabilities of SMEs in Mashonaland Central Province. The findings indicated significant and positive impact of scale and dynamic capabilities. Scale (β=0.282, t =6.177, p<0.05) and a significant correlation (r=0.512, p<0.05), the result on scale of digital transformation and Strategic Agility through dynamic capabilities was supported by Bharadwaj et al. (2013) who mentioned that increased scale was associated with the perception of lower unit costs and higher profitability. Tallon and Pinsonneault (2011) and Weill, Subramani and Broadbent (2002) concluded that over-indulgence in a large scale of DT may yield counter-intuitive outcomes such as strategic stagnation. They argued that once an organisation expends financial and human capital on digital transformation, they may be overcomed by a need to maximise the value they get out of their investment instead of changing the state of digital affairs based on strategic needs. This implies that despite the path that digital transformation is charting in the digital economy, there is a human element at play that may cloud judgement on whether action or inaction with regard to engaging in digital transformation is in the best interest of strategy. In contrast, Park, El Sawy and Fiss (2017) argue that scale of digital transformation, as exemplified by large enterprise resource planning systems, has a marked impact on strategic agility. They attribute this impact to the ability of such transformation to change the way in which entire businesses operate, hence the study accepted the hypothesis that scale has a positive impact on Strategic Agility through dynamic capabilities in the SMEs in Mashonaland Central Province.

The Second hypothesis (H2) predicted that scope has significant positive influence on Strategic Agility through dynamic capabilities and the following results were produced: (β=0.135, t=2.393, p<0.05), with a positive and significant correlation (r=0.520, p<0.05). From the results it can be drawn that scope of the digital transformation has a significant positive impact on Strategic Agility through dynamic capabilities of SMEs in Mashonaland Central Province. The results are consistent with the study carried out by Matt et al., (2015), who assert that, advances in information technology have prompted businesses to explore a wider variety of digital technology in pursuit of their promise of competitive advantage. The researcher has accepted the second hypothesis that scope of digital transformation has a significant and positive impact on strategic agility through dynamic capabilities of the SMEs in Mashonaland Central Province.

The third hypothesis (H3) predicted that speed of digital transformation has a significant and positive impact on strategic agility through dynamic capabilities in the SMEs sector in Mashonaland Central Province. The findings indicated a significant and positive influence ($\beta=0.191$, t=4.042, p<0.05) showing that the more SMEs are at speed in adopting digital transformation, the greater they will be able to achieve strategic agility. The correlation results of speed and dynamic capabilities supported the regression results (r=0.534, p<0.05). Drawing from Bharadwaj et al. (2013), speed of digital transformation in the digital economy can be observed as being composed of several components, one of which is the speed of introduction of products to the market. Effective digital transformation can therefore be considered in terms of its ability to "accelerate the speed of product launches" (Bharadwaj et al., 2013, p. 476) in line with the strategic mandate of a company. In a global business environment that is increasingly dominated by technology, it is reasonable to expect that firms lagging behind their digitally transformed peers will become increasingly disadvantaged as those that are digitally enabled will set and control the standard for the speed of strategic product launches. In so doing, they will remain competitively advantaged and agile in their responses towards environmental changes. It can be concluded from this current study that speed of digital transformation has a positive impact on strategic agility of the SMEs in Mashonaland province through dynamic capabilities.

The fourth hypothesis (H4) assumed that dynamic capabilities have a significant positive impact on strategic agility of SMEs in Mashonaland Central Province. The findings indicated a positive and significant influence ($\beta=0.405$, t=12.495, p<0.05). These results are supported by the correlation coefficient results which shows strong positive correlation (r=0.695, p<0.05). From the results it can be drawn that at the SMEs in Mashonaland Central Province are achieving strategic agility through the tapping into dynamic capabilities and making use of the digital transformation dimensions. Winners, Teece & Pisano (1994), are organisations that can respond to changes in the business environment rapidly and effectively, reconfiguring their competences and value-delivery mechanisms for competitive advantage they are strategically agile. The ability to use dynamic capabilities plays a crucial role in alerting the organisation to threats and opportunities in the environment before they become material, and especially before they are realised by the concerned organisation's competitors (Helfat & Peteraf, 2015) To this end, the fourth hypothesis is accepted to the effect that dynamic capabilities have a significant and positive impact on strategic agility of SMEs in Mashonaland Central Province.

4.17 Chapter Summary

The chapter looked into data analysis and presentation of results of the study that sought to assess the impact of digital transformation on strategic agility through the medium of dynamic capabilities in Small to Medium Enterprises in Mashonaland Central Province. Introduction to the chapter was provided followed by the response rate, and descriptive analysis of demographic information (age, tenure at the organisation, current position, size of the organisation and level of digital transformation) together with the cross tabulations statistics. Reliability and validity of the instrument used to assess the impact of digital transformation on strategic agility through the medium of dynamic capabilities in Small to Medium Enterprises in Mashonaland Central Province was carried out and all the variables under the study were reliable. Shapiro Wilk test was used to determine whether the data was normally distributed or not, which provided that the sample distribution was non parametric, hence, correlations were done using spearman correlation coefficient. All the correlations were positive and statistically significant, and then the researcher went on further to assess the impact based on linear regression analysis. The predictive power of scale, scope and speed on dynamic capabilities was determined and the impact of dynamic capabilities as a mediating variable on strategic agility was determined. Discussion of results in line with the hypothesis was done in relation to literature. The chapter five to follow will provide a detailed analysis of the recommendations and conclusions to the study.

Chapter Five

Discussion, Conclusion and Recommendations

5.1   Introduction

The previous chapter presented and analysed the dataof the study that sought to assess the impact of digital transformation on strategic agility through the medium of dynamic capabilities in Small to Medium Enterprises in Mashonaland Central Province. This chapter provides the discussion, conclusion and summarizes the entire study while profiling some recommendations based on the empirical findings on the impact of digital transformation on strategic agility through dynamic capabilities. The main aim of the study was to assess the impact of digital transformation on strategic agility through the medium of dynamic capabilities on Small to Medium Enterprises in Mashonaland Central Province. The rest of the chapter presents the achievement of the research objectives, conclusion to the study, hypothesis testing, and contributions of the study, recommendations and areas of further research to the assessment of the impact of digital transformation on strategic agility through the medium of dynamic capabilities in Small to Medium Enterprises in Mashonaland Central Province.

5.2 Achievement of research aim and objectives

The aim of the study sought to assess the impact of digital transformation on strategic agility through the medium of dynamic capabilities in Small to Medium Enterprises in Mashonaland Central Province. Based on the findings that were analysed in chapter four above, the study concludes that both the research aims and the research objectives in section 1.4 and section 1.5 were achieved. Correlation analysis and regression tests were used to assess the objectives of the study as presented section 4.7 and 4.8 of this study with reference to tables 4.4 of correlation analysis, tables 4.5 of the model summary, 4.6 of the analysis of variance and 4.7 of regression coefficients. To this end, the following conclusions were achieved and drawn against each objective:

Objective 1: To establish the impact of scale of digital transformation on strategic agility through dynamic capabilities.

The findings indicated significant and positive impact of scale and dynamic capabilities. Scale ($\beta=0.282$, t $=6.177$, $p<0.05$) and a significant correlation ($r=0.512$, $p<0.05$). The results signify that increased scale of digital transformation is associated with lower production costs

that give higher productivity and profitability in turn. This element aligns the spread of digital transformation across the organisation, creating superior customer engagement capability for the firm. By integrating the data from the multi-sided customer engagement channels with the existing value proposition base, the organisation can begin to develop learning capabilities that mature into an ability to anticipate customer needs effectively based on observed patterns of engagement. This impact is attributed to the ability of the scale of digital transformation to change the way in which the entire businesses operate, hence, on objective one, it is concluded that scale has a positive impact on Strategic Agility through dynamic capabilities in the SMEs in Mashonaland Central Province.

Objective 2: To determine the influence of scope of digital transformation on strategic agility through dynamic capabilities.

In order to achieve the second objective in this current study, the influence of digital transformation on strategic agility through dynamic capabilities was tested using the correlation and regression analysis which proved there is a positive and significant influence scope of digital transformation and strategic agility ($\beta=0.135$, $t=2.393$, $p<0.05$), with a positive and significant correlation ($r=0.520$, $p<0.05$). The results indicate thatscope of the digital transformation has a significant positive impact on Strategic Agility through dynamic capabilities of SMEs in Mashonaland Central Province. The results are consistent with the study carried out by Matt et al., (2015), who assert that, advances in information technology have prompted businesses to explore a wider variety of digital technology in pursuit of their promise of competitive advantage. The study concluded that the scope of digital transformation has a significant and positive influence on strategic agility through dynamic capabilities of the SMEs in Mashonaland Central Province.

Objective 3: To examine the impact of speed of digital transformation on strategic agility through dynamic capabilities.

The third objective in the current study together with the research question and hypothesis sought to examine the impact of speed of digital transformation on strategic agility through dynamic capabilities of SMEs in Mashonaland Central Province. The findings indicated a significant and positive influence ($\beta=0.191$, $t=4.042$, $p<0.05$) showing that the more SMEs are at speed in adopting digital transformation, the greater they will be able to achieve strategic agility. The correlation results of speed and dynamic capabilities supported the regression results ($r=0.534$, $p<0.05$). The results show that the more SMEs are at speed in

adopting digital transformation, the greater they will be able to achieve strategic agility. Moreover, speed of digital transformation in the digital economy can be observed as being composed of several components, one of which is the speed of introduction of products to the market. Effective digital transformation can therefore be considered in terms of its ability to "accelerate the speed of product launches. Hence, it can be concluded from this current study that speed of digital transformation has a positive impact on strategic agility of the SMEs in Mashonaland province through dynamic capabilities.

Objective 4: To assess the impact of dynamic capabilities on strategic agility

The study assumed that dynamic capabilities have a significant positive impact on strategic agility of SMEs in Mashonaland Central Province. The findings indicated a positive and significant influence (β=0.405, t=12.495, p<0.05). These results are supported by the correlation coefficient results which shows strong positive correlation (r=0.695, p<0.05). From the results it can be drawn that at the SMEs in Mashonaland Central Province are achieving strategic agility through the tapping into dynamic capabilities and making use of the digital transformation dimensions. Moreover, the SMEs that can respond to changes in the business environment rapidly and effectively, reconfiguring their competences and value-delivery mechanisms for competitive advantage they are strategically agile. The ability to use dynamic capabilities plays a crucial role in alerting the organisation to threats and opportunities in the environment before they become material, and especially before they are realized by the concerned organisation's competitors. To this end, the fourth objective has concluded that dynamic capabilities have a significant and positive impact on strategic agility of SMEs in Mashonaland Central Province.

Conclusion

The hypotheses which were proposed in section 1.6 of this study on the impact of digital transformation dynamics on strategic agility through dynamic capabilities of SMEs in Mashonaland Central Province are presented in table 5.1 below for decision making and conclusion to the study. Based on the results in tables 4.4 of correlation analysis, tables 4.5 of the model summary, 4.6 of the analysis of variance and 4.7 of regression coefficients, the following decisions were made for each hypothesis:

Table 5.1 Hypothesis testing and decision making

Hypothesis	Decision
H1: Scalehas a significant positive impact on Strategic Agility through dynamic capabilities	Hypothesis accepted
H2: Scope has significant positive influence on Strategic Agility through dynamic capabilities	Hypothesis accepted
H3: Speed of digital transformation has a significant and positive impact on strategic agility through dynamic capabilities	Hypothesis accepted
H4: Dynamic capabilities have a significant positive impact on strategic agility	Hypothesis accepted

Main Hypothesis

H0: Digital transformation has a positive impact on Strategic Agility through dynamic capabilities within the SMEs in Mashonaland Central Province**is fully accepted** because of the positive and statistically significant impact of digital transformation dimensions (scale, scope and speed), tighter with the positive and statistically significant impact of with dynamic capabilities on strategic agility. This conclusion is supported by the results in tables 4.4 of correlation analysis, tables 4.5 of the model summary, 4.6 of the analysis of variance and 4.7 of regression coefficients. The revised conceptual framework can be redrawn to the effect that digital transformation dimensions (scale, scope and speed)have a significant and positive influence on dynamic capabilities that in turn impacts on the strategic agility of SMEs in Mashonaland Central Province. The revised conceptual framework is presented in Figure 5.1 below and has been adopted by the researcher to be the final model.

Digital Transformation Dimensions   **Mediating Variable**   **Dependent Variable**
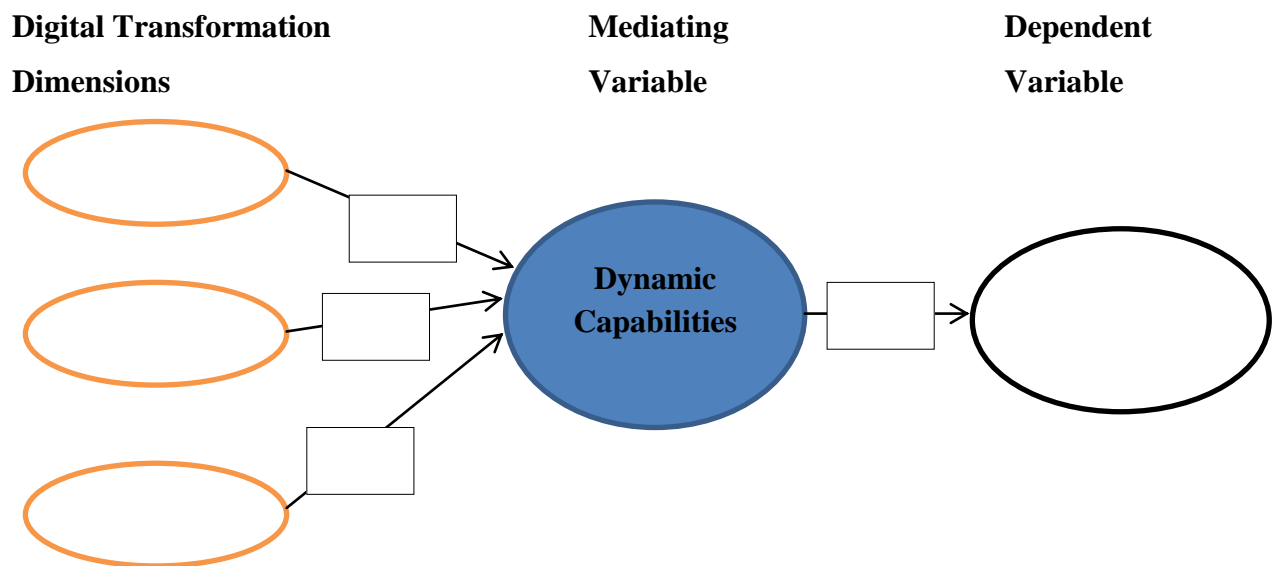
Figure 5.1 Revised Conceptual framework

5.4 Answer to research questions

The major research question to the study as presented in section 1.5 was do digital transformation dimensions have a positive impact on strategic agility through dynamic capabilities within the SMEs in Mashonaland Central Province? Answers to the research question have been profiled from the primary and secondary research findings as presented in chapter four of the current study. Therefore the study can conclude that the research question has been answered. The findings from the study identified the effect of digital transformation dimensions (scale, scope and speed) on strategic agility through dynamic capabilities in SMEs in Mashonaland Central Province, Zimbabwe. The findings have affirmed a positive and statistically significant impact between digital transformation dimensions and strategic agility through dynamic capabilities. The conclusion to the main and sub questions is that digital transformation dynamics as measured by (scale, scope and speed)has a significant and positive impact on strategic agility through dynamic capabilities for SMEs in Mashonaland Central Province.

The moderating effect of dynamic capabilities on digital transformation and strategic agility was presented in chapter 4. The results show that dynamic capabilities as influenced by digital transformation has a positive association with strategic agility. Therefore, the study can conclude that dynamic capabilities if properly managed yields a positive outcome in terms of the strategic agility in organizations.
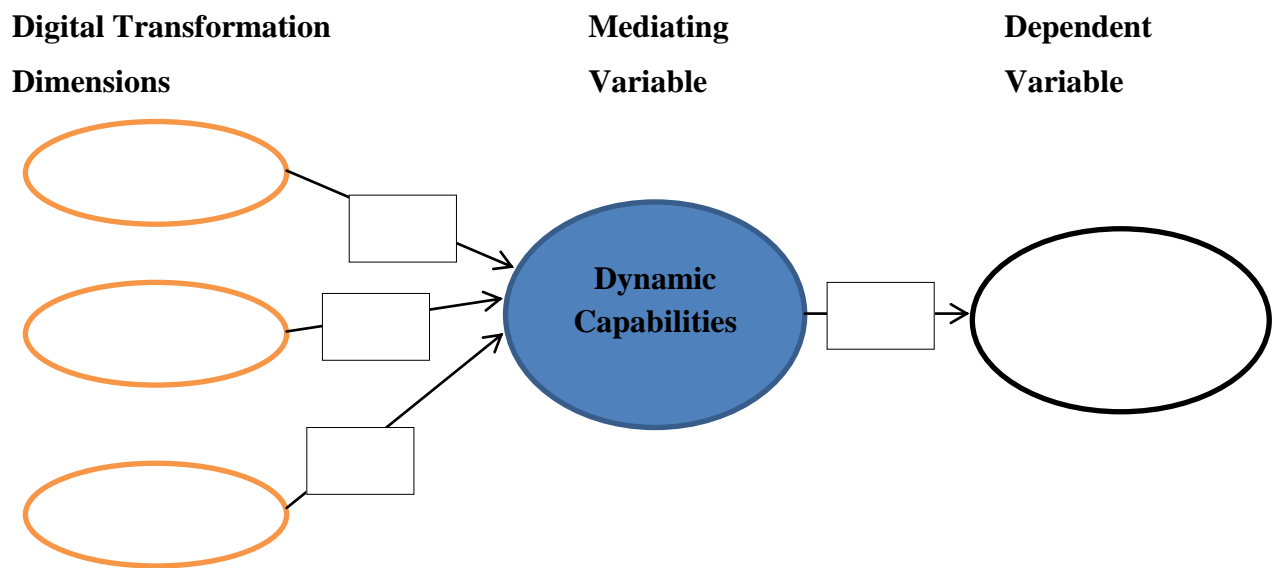
5.5 Contribution

5.5.1 Theoretical Contribution

The study has made significant theoretical contributions on the existing body of knowledge and literature on digital transformation, dynamic capabilities and strategic agility. The major theoretical contribution of the study is that it adopted three digital transformation dimensions (scale, scope and speed) to measure the impact of digital transformation onstrategic agilitythrough a mediating variable (dynamic capabilities) of SMEs in Mashonaland Central Province, Zimbabwe. This is an area that has never been given much research attention in Zimbabwe and mostly due to the geographical location and distance from Harare. This resulted in therevised conceptual framework on the measurement of digital transformation dimensions impact on strategic agility through dynamic capabilities in SMEs in Mashonaland Central Province and for Zimbabwe at large.

The major contribution is that the study tested the impact of digital transformation on strategic agility through dynamic capabilities within the SMEs in Mashonaland Central Province, with the SMEs in Zimbabwe being the case study organisations. This was the major gap as most similar studies were conducted in large corporations and developed countries where the issues of digital transformation are at advanced stages compared to the Zimbabwean setup. Moreover, most studies (Ganguly et al., 2009; Lawler, 2013; Shivakumar, 2014; Harraf et al., 2015 andPark et al., 2017) among others, focused on large business corporations in advanced setup of digital transformation than Zimbabwe. This study has gathered a wealth of knowledge that will be available for future studies on the impact of digital transformation on strategic agility through dynamic capabilities within the SMEs.

This research contributes to the academic theory of business through the reification of an adapted theoretical modelconceptualized by Bharadwaj et al. (2013) that theorized that the three components of DT that is scale, scope and speed were significant contributors to the SA of organisations in the modern economy. Above and beyond proving that there is indeed a relationship between the theorized components of DT and SA, the direction and strength of the relationship between the respective components and SA, which was not described in the work of Bharadwaj et al. (2013), was also established as shown by the arrows in figure 5.2 below. This means that organisations can use this model to anticipate changes in their SA in response to targeted investments in DT.

Figure 5.2 Theoretical concept implied by the relationship between SA and DT

5.5.2 Methodologicalcontribution

The structured questionnaire with a mediating variable (dynamic capabilities) used to collect data in this current study made a substantial contribution to the digital transformation dimensions and their impact on strategic agility. On the academic side, this study provides a substantial input to the digital transformation, dynamic capabilities and strategic agility literature by methodically exploring three digital transformation dimensions(scale, scope and speed) to measure the impact onstrategic agilitythrough dynamic capabilities of SMEs in Mashonaland Central Province. Moreover, the study has made a comparison of different sizes of organisations (micro, small and medium) in assessment of the impact of digital transformation on strategic agility through dynamic capabilities. On the other hand, the current study findings offer a cautious backing to the proposition that digital transformation is an important aspect that organisations in the SMEs sector should embrace so that they tap in dynamic capabilities that in turn strengthens their strategic agility. The methodological contributions of the study are that it is making a comparison of digital transformation dimensions and the impact they have on dynamic capabilities to influence strategic agility from the micro, small and medium sector organisations in Mashonaland Central Province, no study has been undertaken in this area with the same model and dimensions.

5.5.3 Empirical contribution

The study made various empirical contributions to be body of knowledge on digital transformation, dynamic capabilities and strategic agility of the SMEs sector in general and to the SMEs in Mashonaland Central Province in particular.Currently, empirical case studies

exhibiting a typical Zimbabwean scenario on digital transformation, dynamic capabilities and strategic agilityare not available. The study is the first one of its kind to test the impact of digital transformation dimensions on strategic agility through dynamic capabilities in SMEs in Mashonaland Central Province. This is an instrumental input that has brought about the knowledge of the impact of digital transformation in inspiring the overall strategic agility of SMEs in Mashonaland Central Province. For over a considerable length of time, the impact of digital transformation on SMEs sector has not been a major focus of researchers as they gave much attention to large scale corporations in Zimbabwe.

5.6 Policy recommendations

After analyzing the information in this study, the researcher recommends the following for the policy-makers in the small to medium enterprises in Zimbabwe:

- The Ministry of Small and Medium Enterprises and Cooperative Development can form a department in the ministry which ensures that all SMEs in Zimbabwe are adopting digital transformation dimensions so as to improve the quality of the SMEs and adaptability to changes in the environment. This will ensure growth and resilience of the organisations in time of economic downtime.
- The Ministry of Transport and Infrastructure Development, together with the Ministry of Youth, Indigenization and Economic Empowerment can be roped in so that they ensure that organisations in the SMEs sector registered through them and are equipped with knowledge on digital transformation.
- The governing bodies should implement some exercises to train the owners and management of SMEs on digital transformation through workshops and continuous education.
- The owners and management of the SMEs and mostly the associations, should ensure that every biannual they provide their members with training and development programmes to enhance the skills on digital transformation and strategic agility.

5.7 Practical Managerial Recommendations

The study has managed to gather and achieve significant results that will enable the owners of SMEs and management teams to achieve digital transformation in speed, scope and scale of the digital transformation that enhances strategic agility through dynamic

capabilities.From these significant results, the following managerial recommendations are preferred:

5.7.1 Allocation of resources

From the results in table 4.7 of the regression coefficients, it is important for the Small to Medium scale organisations in Zimbabwe to channel more resources towards the scale of digital transformation as it provides greater impact on dynamic capabilities which in turn impacts the strategic agility of the organisations. The resources should be provided to the speed of implementing digital transformation and lastly on the scope of digital transformation as they all impact on strategic agility through dynamic capabilities. Special attention should be given towards dynamic capabilities dimensions (seizing; sensing and transforming) as it has significant and strong impact on strategic agility of the SMEs in Mashonaland Central Province, Zimbabwe. This means that organisazations can use dynamic capabilities dimensions to anticipate changes in the business environment and respond accordingly in order to achieve SA. Firms should navigate external and internal business environment in accordance with chosen strategic trajectory which must take into consideration resources, structures and operations that is through seizing, sensing and transforming.The transforming process is the strategic nerve centre of the organisation, where it acquires, assimilates and acts on information gathered from the environment hence, it needs special attention.

5.7.2 Training of management and employees

The results in chapter four, section 4.7 of this current study to assess the impact of digital transformation dimensions on strategic agility indicates that employees are not adequately equipped with knowledge to tackle the issues of digital transformation. The management and owners of SMEs in Mashonaland Central Province should channel resources towards management and employees training and development mainly on issues to do with speed and scope of digital transformation. The study therefore recommends that management and owners of SMEs in Zimbabwe should priorities capacitating their non-managerial employees as they are the ones involved in customer interaction. The training can be done through in house training and development of staff members and team building exercises that incorporates issues of digital transformation, dynamic capabilities and strategic agility. Moreover, the information can be acquired through workshops and seminars on digital transformation, dynamic capabilities and strategic agility. The SMEs owners and management must continuously check for feedback on issues to do with digital

transformation from customers and other key stakeholders. Lastly they can carry out organisational surveys on digital transformation and strategic agility awareness so as to check progress in advancement with digital transformation at organisational level.

5.8 Generalization of findings

The study covered the SMEs in Mashonaland Central Province of Zimbabwe; therefore, these findings of the impact of digital transformation dimensions on strategic agility through dynamic capabilities can be generalized to the population of the SMEs in Zimbabwe which were not part of the current study. Moreover, these findings can only be generalized to other Small and Medium Enterprises outside Zimbabwe with similar characteristics to the SMEs in Zimbabwe.

5.9 Areas of further research

Throughout the study, the researcher met various challenges and limitations that affected the results and conducting of the research. As a result of these limitations, the study recommends that future researchers on digital transformation and strategic agility should consider researching on the following issues:

- Future researchers might also consider conducting a longitudinal study on digital transformation dimensionsand strategic agility of SMEs in Zimbabwe to establish if the findings will vary over time.

- A study of a similar nature on digital transformation and strategic agility could also be conducted in other SMEs in different industries than those in Mashonaland Central Province in Zimbabwe, focusing on other critical dimensions omitted.

- There is also a need for conducting surveys in all SMEs in Zimbabwe so that a holistic picture of digital transformation, dynamic capabilities and strategic agility can be established. Moreover, data was collected from Mashonaland Central Province only in Zimbabwe. The results would be more informative if data from all the SMEs registered in Zimbabwe was consideredas it allows having a generally wide inference of the digital transformation and strategic agility. Furthermore researches on digital transformation and strategic agility should be done in the whole African continent for comparisons of results.

- Future studies can also extend the current conceptual framework studying the impact of digital transformation dimensions (scale, scope and speed) on strategic agility on a larger set of respondents, which includes the mixture of large entities and services

institutions together with the SMEs. Such a study on digital transformation and strategic agility will immensely contribute substantial knowledge, to the existing body digital transformation, dynamic capabilities and strategic agility in Zimbabwe.

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Appendix 1

UNIVERSITY OF ZIMBABWE

GRADUATE SCHOOL OF MANAGEMENT

Dear Respondent

MASTER OF BUSINESS ADMINISTRATION DISSERTATION QUESTIONNAIRE.

I am conducting research on the influence of digital transformation on strategic agility through the medium of dynamic capabilities. To that end, you are asked to look and complete the following questionnaire on the subject. This will help us better understand how digital transformation affects strategic agility in the modern age, and should take no more than 30 minutes of your time. Your participation is voluntary, and you can withdraw at any time without penalty. Your participation is anonymous and only aggregated data will be reported. By completing the survey, you indicate that you voluntarily participate in this research. If you have any concerns, please contact my supervisor or me. Our details are provided below:

Researcher name: Brighton Korera   Research Supervisor: Dr. David Madzikanda

Email: korerab88@gmail.com   Email: d.madzikanda@gmail.com

Phone: 0776279507   Phone: 0772366364

Yours sincerely

B Korera

SECTION A: DEMOGRAPHIC INFORMATION

1. Indicate your age range

30 years and below	31 – 40 years	41 – 50 years	51 – 60 years	61 years and above

2. How long have you been with the company?

Less than 5 years	6 to 10 years	11 to 15 years	16 years and above

3. Designation in the organisation?

Lower management	Middle management	Senior management

4. Size of your company

Micro (≤30 employees)	Small (31 to 50 employees)	Medium (>50 employees)

5. Level of digital transformation

Low	Medium	High

SECTION B: DIGITAL TRANSFORMATION DIMENSIONS:

For the questions to follow, may you rank your opinion on a Lickert scale of 1-5 as guided below:

Strongly disagree	Disagree	Neutral	Agree	Strongly agree				
1	2	3	4	5				
SCALE OF DIGITAL TRANSFORMATION				**1**	**2**	**3**	**4**	**5**
B1. Organisation is improving the ability of data assimilation								
B2. We are able to create inter organisational alliances								
B3. There is information abundance about our organisation								
B4. The scale is enhancing our network effects								
B5. We use different platforms to reach out to customers								
B6. The ability to harness and make sense of quality data								
B7. We are supplementing those needs through shared platforms								
B8. Scale is improving depth of the transformation engagement								

B9. sharing of platforms and resources affords them added returns					

SCOPE OF DIGITAL TRANSFORMATION	1	2	3	4	5
B10. Advances in information technology have prompted businesses to explore a wider variety of digital technology					
B11. Strategic value proposition informed by multi-sided interaction-enabling technologies					
B12. Creating superior customer engagement capability for the firm					
B13. Robust operational backbone that fosters efficient and effective operational response to environmental stimuli					

SPEED OF DIGITAL TRANSFORMATION	1	2	3	4	5
B14. We have the speed of introduction of products to the market					
B15. We rapidly align and realign the configuration of networks					
B16. We have the speed of alliance formation					
B17. There is aassurance of quality of the information delivered to the various decision-making nodes of the organisation					
B18. Speed enables the firm to deliver value to its clients					
B19. We have enhanced assimilation speed of information across hierarchical layers and operational process flows					
B20. We are competitively advantaged and agile in their responses towards environmental changes					
B21. We have speed and flexibility to the operational backbone					
B22. We have ability to accelerate the speed of product launches					
B23. We are agile in responses towards environmental changes					

SECTION C: DYNAMIC CAPABILITIES	1	2	3	4	5
C1. We are sensing opportunities and threats in the environment					
C2. Our organisation is seizing opportunities available					
C3. We are transforming the organisation to align with the					

	1	2	3	4	5
environment					
C4. Dynamic capabilities have enabled the leveraging of strategic multisided platforms at all levels of the company.					
C5. It is clear how the depth of dynamic capabilities translates to strategic agility for the organization.					
C6 The organisation is providing value capture through mobilization of resources					
C7. Our dynamic capabilities enable our strategy to be more adaptive to the environment.					
C8.Through dynamic capabilities, we have been able to exploit the extended business ecosystem strategy					
C9. Dynamic capabilities have enabled the leveraging of strategic multisided platforms at all levels of the company.					

SECTION D: RESULTS OF DIGITAL TRANSFORMATION DIMENSIONS THROUGH DYNAMIC CAPABILITIES.

The section to follow is as a result of digital transformation dimensions through dynamic capabilities.May you rank your opinion on a Lickert scale of 1-5 as guided:

D: STRATEGIC AGILITY As a result of digital transformation and dynamic capabilities	1	2	3	4	5
D1. Responsiveness of my organisation to changes in the environment is well on point					
D2. Knowledge management is done well in our organisation					
D3. Organisation is able to detect changes through opportunities in the business environment.					
D4. Rapid response is offered through recombination of resources					
D5. We are leveraging on our own merits in order to overcome the change in the environment.					
D6. The organisation is modifying and adjusting the trends and clientele needs without giving up and abandoning the vision of the company					

END OF QUESTIONNAIRE

THANK YOU FOR YOUR VALUABLE TIME