THE ROLE OF KNOWLEDGE INFRASTRUCTURE CAPABILITIES ON THE MARKET PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES – A CASE STUDY OF REDMAN CONSULTING (PROPRIETARY) LIMITED, BOTSWANA.

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DECLARATION

I, Donald Senthufhe, hereby declare that the dissertation titled, **the role of knowledge infrastructure capabilities on the market performance of small and medium enterprises- A case study of Redman Consulting (Pty) Ltd, Botswana**, submitted to Botho University in partial fulfillment of the requirement for the award of the degree of Masters in Business Administration is my bonafide work, carried out under the supervision of Professor Ushe Makambe. I further declare that the work contained in this project has not been submitted either in part or in full for the award of any other degree or professional qualification at Botho University or any other institution.

DEDICATION

I dedicate this work to God the Almighty, who has been my guiding light, source of inspiration and absolute provider of all my needs. Indeed, without him I would not have come this far. To my supervisor, Professor Ushe Makambe, I say thank you. You were steadfast in demanding academic work of the highest quality hence under your guidance, I discovered my true strengths. Lastly, to my wife and children who endured my long absence from home, this victory is yours too.

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I would like to acknowledge all those who supported me in my academic journey. Hats off to my office staff who worked diligently every single day while I focused on completing my studies. Your effort will be rewarded.

To our clients Tholo Holdings, Clover Botswana, Parmalat, Kingpin Trailer spares, J Haskins and Sons, and Lobatse farm Supplies and many others that I cannot mention due to limited space, you stood by me and supported my dream tirelessly. I sincerely thank you all.

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ABSTRACT

The satisfactory performance of small and medium enterprises hinges on many factors that include employees, information technology, organisational structure, and organisational culture. These aforementioned elements are collectively known as knowledge infrastructure capabilities. They are instrumental in helping organisations to develop the required competitive strengths. The study focuses on Redman Consulting (Pty) Ltd. The main objective of the study was to investigate the role that each knowledge infrastructure capability played in the market performance of Redman Consulting.

In order to sufficiently deal with the topic, the extant literature was reviewed in order to expose the researcher to a variety of perspectives on the subject. Furthermore, the reviewed literature was helpful in that it contributed the model upon which the study was based. The model was based on the premise that, the cumulative effect of knowledge infrastructure capabilities leads to improved market performance.

In terms of methodology, the qualitative research methodology was chosen for the study because it enabled the researcher to get close enough to the respondents, to capture key information about their lived experiences. As for the research design, the case study method was chosen because the study focused on only one entity, Redman Consulting. In total, 10 samples were drawn from a total population of 45 employees. The study focused on four key objectives namely a) To explicate the role that people play in the market performance of small and medium enterprises, b) To elucidate the role played by IT in the market performance of small and medium enterprises, c) To establish how organizational structure affects the market performance of small and medium enterprises and, d) To determine the role played by organizational culture in the market performance of small and medium enterprises.

The study revealed several key findings which include the importance of employee welfare, the contribution that training and skills development has on the competence of employees as well as employer – employee relations. Benefits that can emerge from training and skills development include improved ability to acquire and utilize knowledge, ability to understand organizational vision and contribute towards attainment of organizational goals. The study further revealed the

importance of using technology to the organization's advantage. It was noted that most processes within Redman consulting were driven by technology. These included accounting, customer relationship management (CRM), client database and intranet for internal communication. The use of digital platforms for advertising company services was also noted. Despite this widespread deployment of technology, the results of the study revealed that workers were not sufficiently trained in its use. Consequently, the company did not derive the desired competitive advantages from this investment, as would have been the case if workers were sufficiently trained.

CHAPTER ONE

INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Introduction

This study investigates the role of knowledge infrastructure capabilities on the market performance of Small and Medium Enterprises (SMEs) focusing on Redman Consulting (Proprietary) Limited, Botswana. According to Botswana's NDP 11 (2017), SMEs play a major role in promoting economic growth and creating sustainable employment opportunities for Batswana. In this regard, when provided with an enabling environment, SMEs can penetrate new markets, promote economic expansion in creative and innovative ways, stimulate investment and create wealth thus, facilitating employment creation. Chapter 1 of this study outlines the background of the study and problem statement. The research objectives and research questions are also covered in this chapter as well as the significance of the study and the scope and delimitations of the study. The chapter also outlines the limitations of the study, definition of key terms, and, the structure of the dissertation.

1.2 Background of the study

Over the past two decades, SMEs have gained recognition across the globe as the engine of economic growth (Gharakhani and Mousakhani, 2015). These authors suggest that SMEs' play a pivotal role in the economic development of their respective countries through employment creation, economic diversification and, generation of new business ideas. Despite their overwhelming exposure to business risk, Patma, Djajanto and Malden (2017) state that SMEs' have proven to be resilient to many types of shocks, due to their flexibility in adapting to environmental changes.

Azyabi (2018) concurs that SMEs have proven to be an important source of economic growth across the globe, notwithstanding the challenges that they face. Therefore, equipping SMEs with the necessary tools and skills that enable them to develop specific capabilities is the most

appropriate way to get them to perform to their utmost strengths (Abusweilem and Abualoush 2019).

Notwithstanding their impressive characteristics, SMEs continue to face a variety of complex challenges. Gharakhani et al (2015) list some of those challenges as limited access to markets, manpower and financial constraints and, defective or non-existent frameworks for innovation. Bharadwaj, Chauhan and Raman (2015) argue that such structural limitations often lead SMEs' to operate without clearly defined guidelines, resulting in their failure to capture meaningful value from the market.

According to Kianto , Hussinki and Vanhala (2017), SMEs can build knowledge infrastructure capabilities which include people, Information Technology, organizational structure, and organizational culture, as a way to streamline their operations thus, helping them to gain competitive advantage over rivals. The knowledge infrastructure capabilities are supported by knowledge process capabilities such as knowledge acquisition, storage, conversion, and dissemination, for improved organizational performance (Bharadwaj et al 2015). According to Pandey and Dutta (2014), knowledge infrastructure capability emanates from organizational capability theory, which approaches knowledge management effectiveness from the viewpoint of organizational capability. The authors further state that a firm's extent of effectiveness stems from its ability to effectively manage its knowledge stocks.

 However, the capability to manage such knowledge stocks is heavily dependent on the firm's knowledge management infrastructure hence, the use of knowledge infrastructure capabilities as a tool for improving market performance (Pandey et al 2014). Other authors such as Bharadwaj, Chauhan and Raman (2015) describe knowledge infrastructure capabilities as a framework comprising of technical, structural and cultural elements, which harmoniously work together to produce firm specific capabilities. When combined with human capital, these elements provide a firm with the competitive advantage required to outperform competitors in the market (Bharadwaj et al 2015).

Gharakhani and Mousakhani (2015) state that knowledge infrastructure capabilities can equally be developed by small and medium enterprises as a way to build their competitive strengths. When SMEs have well developed knowledge infrastructure capabilities, they stand a better chance of responding to new and unusual situations such as demand shifts, technological changes, etc. (Gharakhani et al 2015). According to Azyabi (2018), SME performance is strongly correlated with the extent to which their knowledge infrastructure capabilities are developed hence, deficiencies in any of the four capabilities namely people, IT, structure and culture compromises the effectiveness of the SME. The knowledge infrastructure capabilities, and the role they play in the market performance of SMEs, are discussed below.

1.2.1. People

Every organization requires workers (people) for its operations. According to Patma et al (2017), people are a fundamental component of the organisation's knowledge assets. Gharakhani et al (2015) argue that given their importance within the organisation's knowledge infrastructure framework, firms must strive to facilitate the involvement and participation of their employees in knowledge management initiatives. Bharadwaj et al (2015) posit that the expertise of employees which usually result from their tacit knowledge can be a great source of competitive advantage for the firm. Therefore, as part of their knowledge infrastructure development initiatives, firms must create a climate that promotes the interaction of employees and sharing of knowledge (Gharakhani et al, 2015).

1.2.2 Technology

As one of the major components of knowledge infrastructure capabilities, technology has a significant influence on the creation and exploitation of knowledge practices. Gharakhani et al (2015) posit that IT provides the base upon which knowledge solutions are built. In the absence of IT, the entire range of knowledge processes such as acquisition, storage, conversion, dissemination, and application will be difficult to perform (Mohajan 2017).

1.2.3 Organisational structure

According to Bharadwaj et al (2015), organizational structure is the second most influential factor after IT in the development of knowledge infrastructure capabilities. Its influence is

derived from the fact that, it is the foundation upon which rules, policies, procedures, processes, incentive systems, reporting structure and, organisational boundaries are anchored and executed. Kianto et al (2017) aver that, given its overarching influence within the organisation, organisational structure can also inhibit knowledge filtration across departments if it is bureaucratic. Therefore, managers who desire to build sound knowledge infrastructure capabilities must ensure flatter organisational structures to promote information flows across organisedman boundaries.

1.2.4 Organisational culture

Knowledge culture also contributes to the success or failure of knowledge management initiatives. Syed (2016) posits that knowledge culture influences communication styles, approaches, and attitudes of the workforce. It can promote or hinder knowledge sharing and utilisation hence, its critical importance to the successful development of knowledge infrastructure capabilities (Patma et al, 2017).

Experts believe that knowledge infrastructure capabilities have a direct correlation with the market performance of the firm (Bharadwaj et al, 2015). For example, firms that operate within a well-developed knowledge infrastructure framework have been found to enjoy a bigger market share, higher sales volumes, higher customer satisfaction levels, stronger brand recognition, and positive publicity (Patma et al, 2017).

Mohajan (2017) posit that the knowledge infrastructure framework is a model that can be used by SMEs to improve their knowledge management practices. Therefore, this study investigates the role of knowledge infrastructure capabilities on the market performance of SMEs with a particular focus on Redman Consulting, (Pty) Ltd.

1.2.5 Redman Consulting (Proprietary) Limited

Redman Consulting is a corporate training and management consulting firm that falls within the SME category. It has been in operation for almost seven years and employs a total of 45 workers. The clientele of the company includes private businesses, learning institutions, and government

departments. Over the past two years, the company embarked on a transformational journey to change the way it conducts business. Such initiatives include the adoption of IT practices such as automated accounting procedures. However, two years down the line, the company is still battling the same old problems of shrinking revenues, low staff morale, lack of customer loyalty and, poor organisational performance. This unsatisfactory performance is reflected in the company's audited financial results for the previous year and, so far the current year does not show any signs of improvement.

This chronic underperformance may be cured by the adoption and, effective implementation of knowledge infrastructure capabilities. According to Patma et al (2017), knowledge infrastructure elements such as people, IT, organizational structure, and organizational culture combine to form knowledge infrastructure capabilities that result in improved organizational performance.

1.3 Problem statement

Redman Consulting operates on the basis of a decentralized system where business units such as programme development, sales and marketing, finance and accounting as well as Human Resources (H.R) are detached from each other. There is no central repository for data. Therefore, information for each department is stored in that department's computers. Each department uses its own IT platforms making knowledge sharing difficult. The company structure is rigid with the managing director personally responsible for supervising each unit. The detachment of business units has led to a culture of aloofness amongst staff that, is characterized by high individualism and limited interdepartmental interaction.

Consequently, the market performance of the firm has remained unsatisfactory. According to the company's annual business review for 2019, sales revenue, profits and market share, were all below the minimum thresholds set by the company. Currently, the company has some resources which, if properly exploited, could lead to improved organizational performance.

1.4 Research objectives

The primary objective of this study is to investigate the role of knowledge infrastructure capabilities on the market performance of small and medium enterprises. The secondary research objectives are as follows:

- To explicate the role that people play in the market performance of small and medium enterprises.
- To elucidate the role played by IT in the market performance of small and medium enterprises.
- To establish how organizational structure affects the market performance of small and medium enterprises.
- To determine the role played by organizational culture in the market performance of small and medium enterprises.

1.5 Research questions

Based on the research objectives listed above, the study seeks to answer the following research questions:

- What role do people play in the market performance of small and medium enterprises?
- How does IT contribute to the market performance of small and medium enterprises?
- How does organizational structure affect the market performance of small and medium enterprises?
- How does organizational culture affect the market performance of small and medium enterprises?

1.6 Significance of the study

This study explores the role of knowledge infrastructure capabilities such as people, IT, organisational structure, and organisational culture on the market performance of Redman Consulting. By fully examining the role of knowledge infrastructure capabilities on the market performance of this firm, the study is expected to generate significant knowledge for future reference. It is expected that such knowledge will be critical in guiding Redman Consulting on how to create a comprehensive framework for developing knowledge infrastructure capabilities.

Furthermore, the study has several policy implications in terms of its contribution to the body of know-how on knowledge infrastructure capabilities and, their role in enhancing firm performance. The study is expected to help guide policymakers when they design support interventions for SMEs. Secondly, curriculum designers can tap into the study in order to expand the scope and efficiency of entrepreneurial training methods in both vocational and academic settings. Lastly, this study sets the foundation for further research into how fully developed knowledge infrastructure capabilities can be used as a catalyst for SME growth particularly in developing countries.

1.7 Scope of the study/delimitations

This study is focused on the role of knowledge infrastructure capabilities on the market performance of small and medium enterprises. The study was conducted at the premises of Redman Consulting (Pty) Ltd, an independent business entity specializing in management consulting and corporate training. Although other knowledge management practices and processes such as knowledge acquisition, conversion, storage, retrieval, application, and dissemination may be referred to in the study, they however, do not form the core of this study.

Other factors which were also briefly addressed in the study include IT enablers such as the internet, government policy towards SMEs, skills proficiencies of the general labour force as well as the socio economic and technological conditions prevailing in Botswana. These factors are important because they have a strong bearing on the performance of SMEs.

1.8 Limitations of the study

The study has several potential limitations due to time and cost implications. The time allocated for the study, which is six months, was too short for the execution of a comprehensive study. The situation was further exacerbated by the prevailing social distancing regulations which have made securing appointments for face to face interviews a challenge. In order to deal with these challenges various strategies were devised. These included committing more hours every evening in order to complete the project on time. The project costs were covered through loan advances obtained from the employer. Challenges brought about by social distancing regulations were solved by the use of digital communications technology such as Zoom. However, in some cases management were able to avail an office for conducting interviews where participants would take turns to take part.

Besides time constraints, cost considerations also impacted the study negatively. For example, this is a self-funded study that is undertaken with a limited budget. However, the employer was generous enough to provide loan advances to cover the cost of the study. Therefore, the researcher was compelled to execute the study alone without, for example, a research assistant to help with data collection. Despite working alone, the researcher was able to create time every evening to work on the project and ensure its timely completion. The study was also affected by methodological limitations. These included the sample size, biases associated with self - reported data such as interviews, methods for collecting data, and insufficient data from previous studies especially with regards the SME sector in Botswana. Challenges associated with self-reported bias were handled by means of assuring participants as to the highest level of integrity and confidentiality in the conduct of the study. For example, participants were assured that their responses would be treated with utmost confidentiality and that they were free to not participate in the study, if they had any reservations. Due to limited data about SMEs in Botswana, more focus was put on reviewing literature on SME studies conducted in different parts of the world such as Europe, Asia, the Middle East and parts of Africa.

1.9 Definition of terms

Table 1.1 below outlines the key terms that were used in this study and their definitions.

Table 1.1: Definition of key terms

Term	Definition	Source
Knowledge Management (KM)	The practice where knowledge is captured, distributed, and utilised effectively leading to the enhanced productivity and performance of an organisation	Azyabi (2018)
Knowledge Management Capabilities (KMC)	An organisational mechanism that is used to continually create knowledge within the firm through the use of infrastructure resources such as people, technology, organisational structure, and organisational culture	Bharadwaj, Chauhan, and Raman (2015)
Knowledge management processes	A dimension of Knowledge Management which consists of elements such as knowledge acquisition, conversion, storage, and dissemination.	Azyabi (2018)
Information Technology	The electronic systems (hardware and software) that comprise databases, document management, web browsers, search and retrieval capabilities, data mining, capturing, indexing, processing, and distribution.	Bharadwaj et al (2015)
Organisational culture	The combination of values, morals, core beliefs, customs and behaviors that represent the value system of an organisation.	Kianto et al (2017)
Organisational Structure	The combination of rules, policies, procedures, processes, hierarchy of reporting relationships, incentive systems, and departmental boundaries of an organisation	Bharadwaj et al (2015)
Small and Medium Enterprises (SMEs)	A business entity whose total turnover, employment levels or both, fall within or below a particular threshold.	Gharakhani et al (2015)
Organisational culture	The combination of values, morals, core beliefs, customs and behaviors that represent the value system of an organisation.	Kianto et al (2017)

1.10 Chapter layout

Chapter one – Introduction and background to the study

This chapter covers the introduction, background of the study, problem statement, research objectives, research questions, and significance of the study. The scope of the study and limitations of the study are also cover and key terms are also defined.

Chapter two – Literature review

This chapter reviews the extant literature that is related to this study. The concept of Knowledge infrastructure capabilities and its elements such as people, IT, organizational culture, and organizational structure are reviewed in this chapter.

Chapter Three –Research design and methodology

This chapter discusses the methodology that was used to conduct the study, the approaches used in analyzing data, population and sampling strategy as well as ethical considerations.

Chapter four – Data presentation, analysis, and interpretation

This chapter presents and discusses the findings of the study. Visual instruments such as figures tables were used to enhance the text.

Chapter five – Final summary, recommendations, and conclusion

This chapter provides a final overview of the study findings and implications for SMEs. Recommendations on interventions are outlined as well as the researcher's observations.

1.11 Chapter summary

This chapter introduced the constructs covered in this study and discussed the background to the study. The knowledge infrastructure capabilities namely people, IT, organisational structure, and organisational culture were briefly discussed. The problem statement, research objectives, and research questions were also outlined. The scope of the study and its limitations were also discussed. The next chapter discusses in more detail the main research constructs that constitute this study, that is, the knowledge infrastructure capabilities namely, people, IT, organisational structure, and organisational culture.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The previous chapter introduced the study and discussed the background of the study outlining the problem statement, research objectives, research questions, the scope of the study and its limitations. The purpose of this chapter is to review existing literature on knowledge infrastructure capabilities and how they affect market performance of organizations, particularly SMEs. The knowledge infrastructure capabilities that are discussed in this chapter are people, IT, organizational structure, and organizational culture.

2.2 The role of knowledge infrastructure capabilities on the market performance of SMEs

According to Gharakhani et al (2015), firm performance can be defined as the enterprise's ability to create acceptable outcomes and actions. Small and medium enterprises need to perform to their utmost potential in order to reap financial and reputational benefits from their efforts. However, Abusweilem et al (2019) argue that despite their potential, most SMEs lack the skills and resources that are necessary to optimize their performance. Such deficiencies include lack of understanding on how to develop frameworks that are necessary to build knowledge infrastructure capabilities.

In this age of globalization, knowledge can be viewed as an important asset for SMEs because it enables such businesses to be competitive and profitable (Syed, 2016). When a firm has adequately developed knowledge infrastructure capabilities, it enjoys superior performance due to its ability to coordinate activities surrounding IT, people, organisational culture, and organisational structure (Syed, 2016; Abusweilam et al, 2019).

Paissitanand, Digman and Lee (2018) describe knowledge infrastructure capabilities as a multi-dimensional system upon which organizational strategy is built. The authors further state that infrastructure is a system that must function properly because it plays a mediating role between strategy design on one hand and implementation and effectiveness on the other hand. In this regard, the knowledge infrastructure system which comprises people, IT, structure and culture

must be deliberately designed to achieve specific goals such as a) supporting continuous learning and generation of new knowledge b) higher levels of innovation c) excellence in service delivery and d) knowledge capture (Paisittanand et al 2018). According to Baskerville and Dulipovici (2016), industries vary in the way that they require, acquire and utilize knowledge.

For example, knowledge intensive firms such as management consultancies, advertising and public relations agencies, investment banks, Law firms and accounting firms generally utilize more knowledge as they rely on the expert knowledge of their employees. Baskerville et al (2016) states that these knowledge intensive firms utilize knowledge infrastructure capabilities for achievement of strategic goals such as a) building intellectual property b) developing specific attributes to facilitate their participation in the knowledge economy c) continuity management and d) to harvest knowledge spillovers from expert sources in order to improve the quality of their internal knowledge stocks.

According to Kianto et al (2017), knowledge management practices impact market performance because of the efficiency they bring to business processes. This view is reinforced by Bharadwaj et al (2015) who concur that, firms that possess highly refined knowledge infrastructure capabilities experience a learning effect that can improve their ability to reduce redundancies, respond rapidly to change, and develop new and innovative ideas.

Azyabi (2018) concurs and states that around the world, many SMEs and large companies are vigorously adopting knowledge management practices in order to achieve competitive sustainability. Omotayo (2015) argues that the new market dynamics have placed knowledge at the center of organisational competitiveness thus, creating the need for companies to develop knowledge infrastructure capabilities that can assist them to exploit emerging opportunities. Gharakhani et al (2015) argue that through careful collaboration, benchmarking and continuous learning SMEs can develop key competencies required to improve their market performance. For example, SMEs can become experts at serving specific market segments through a combination of learning, engaging with customers and deliberately harnessing the power of information technology to facilitate innovation (Gharakhani et al 2015). Other authors such as Kianto et al

(2017) touch on the need for SMEs to focus on building organizational structures that enable the implementation of key operational systems. For example, SMEs can develop standard operating procedures to guide their daily operations. Such documented procedures would guarantee that there is minimal disruption when key staff leave the company or the founder/owner becomes incapacitated. Another key component of the knowledge infrastructure framework is organizational culture. According to Abualoosh et al (2018), culture affects the market performance of SMEs because it influences the organization's work ethic and by extension customer service standards, product or service quality and customers' perception of the company.

Botswana is one of the countries in which SMEs dominate the economy. According to the Government of Botswana National Development Plan 11 (2017), SMEs accounted for more than 50% of the country's registered businesses. The same report states that the SMEs sector is characterised by poor market access, limited access to financial resources, unskilled workforce, and deficient management practices. The SME sector in Botswana also boasts a large number of service-oriented companies and organizations, ranging from financial services such as insurance and stock brokers to postal services, logistics, tourism and educational services (NDP11 of 2017).

Apart from NDP 11, other reports were also reviewed as part of the literature review. The reviewed reports such as Velde (2007), world bank group report on doing business in Botswana (2020), Botswana country commercial guide (2020) and the united nations Botswana investment policy review (2003) discussed the service industry by breaking it down according to sectoral activities e.g., postal service, business services, financial services, etc. but with no mention of consultancy services. This discovery led the researcher to conclude that the literature on consultancy was scant. Nevertheless, all the reviewed reports discussed the common challenges faced by small and medium enterprises regardless of the industry in which they operate.

According to Patma et al (2017), SMEs have developed a reputation that is synonymous with business failure. The reasons for such failure are diverse and they include poor marketing strategies, poor financial management, substandard customer service, and poor product quality

especially in the case of SMEs that focus on manufacturing or packaging. Pandey and Dutta (2014) assert that factors such as those aforementioned usually retard the market performance of the firm, as they cause the business to be vulnerable to competitive forces vying for the same market.

Pandey et al (2014) further argue that to sufficiently measure the market performance of a firm, both financial and non-financial metrics should be used. Non-financial metrics include market share, brand equity, repeat purchases, and customer retention rates, among others. Financial metrics include breakeven analysis, average price per unit, gross profit, net profit, liquidity ratios, and return on investment and others. Since firms thrive on the basis of knowledge capabilities at their disposal, it follows that a firm must possess specific knowledge capabilities that can give it the competitive edge to outmaneuver competitors and improved its market performance (Paisittanand, Digman and Lee 2019).

According to Bharadwaj et al (2015), organisational knowledge capabilities can be dissected into two categories namely knowledge process capabilities and knowledge infrastructure capabilities. Although this study is focused on knowledge infrastructure capabilities, knowledge process capabilities also deserve some mention, given their contribution to the effectiveness of firm strategy implementation. A brief overview of the relationship between knowledge process capabilities and knowledge infrastructure capabilities is given below.

- **Knowledge process capabilities and knowledge infrastructure capabilities**

Paisittanand et al (2019) argue that knowledge process capability is an antecedent to knowledge infrastructure capability. Therefore, knowledge infrastructure capabilities cannot thrive in the absence of knowledge process capabilities which include knowledge acquisition, storage, conversion, and dissemination. The authors further assert that, knowledge infrastructure and process capabilities jointly act as a force that gives the firm the ability to successfully implement strategies that result in improved market performance. To further demonstrate the important relationship between knowledge process and infrastructure capabilities, Patma et al (2017) state that, when organisations desire to transmit knowledge within or across organisational

boundaries, management must re-arrange the knowledge infrastructure capabilities such that, they accommodate the smooth flow of information.

However, since knowledge infrastructure capabilities are not a unitary phenomenon but rather a combination of factors that must be properly aligned, management of the firm must work hard to create synergies amongst such factors. The creation of harmony amongst knowledge infrastructure elements such as people, IT, organisational structure, and organisational culture is paramount not just for the support of knowledge processes but, also for the achievement of companywide effectiveness that led to improved market performance (Paisittanand et al, 2019).

Pandey et al (2014) believe that the ability to balance the importance between knowledge infrastructure capabilities and knowledge process capabilities is paramount since, both affect the implementation of all competitive strategies aimed at improving the market performance of the firm. The relationship between knowledge infrastructure capabilities and strategy implementation effectiveness is further examined below.

- **Knowledge infrastructure capabilities and strategy implementation effectiveness**

Every firm in the business sphere constantly grapples with ways to improve its efficiencies in order to make above average profits, attain a bigger market share, and make better quality products and so on. Central to such efforts are strategies which must be developed, implemented, monitored, evaluated, and refined from time to time. According to Masadeh et al (2019), for businesses to survive and prosper in the dynamic environment, they need to develop sustainable competitive advantages. The authors note that such competitive advantages can only be attained through the possession of strategic resources whose characteristics are rarity, valuable, imperfect imitability, and non-substitutable. Gharakhani et al (2015) state that because, organisational knowledge has all of these characteristics, it has gained overwhelming acceptance as a critical strategic resource.

Based on the above view, it can be concluded that SMEs, just like larger firms, must also utilise organisational knowledge to create competitive advantages in the marketplace. As such, they must develop and implement relevant competitive strategies as per the dictates of the market.

According to Azyabi (2018), some of the commonly used competitive strategies which SMEs can adopt include differentiation and focus. However, for SMEs to truly develop the requisite knowledge stocks, they must first strengthen their knowledge infrastructure capabilities such as people, IT, organisational culture, and organisational structure (Gharakhani et al, 2015). For example, in as far as human resource is concerned SMEs can embark on intensive training efforts to improve the skills of their workforce.

Skilled employees are better able to work with less supervision, are less prone to costly operational errors including errors of judgment and, they easily assimilate information. Biloslavo and Zornado (2018) assert that these qualities make employees an important asset to the organisation. Therefore, in any strategy implementation exercise, a firm with well-trained employees would have fewer challenges compared to one whose workforce is unskilled. Other capabilities such as IT, organisational structure, and organisational culture also influence strategy implementation in a significant way. For example, the power of IT allows a firm to develop tools that promote organisational efficiency.

Such tools include databases, customer relationship management systems, sales force automation systems and, so on. Biloslavo et al (2018) state that these technologies enabled interventions help the firm to be better organised in the way that it manages information flows, leading to in improved response to the demands of the market. Similarly, organisational structure and culture also affect strategy implementation effectiveness. According to Gharakhani et al (2015), a culture of knowledge sharing supported by a flatter organisational structure is useful for faster dissemination of information and more efficient implementation of competitive strategies.

Masadeh et al (2019) state that, there is a direct relationship between efficient knowledge infrastructure capabilities and, the firm's ability to implement strategies that result in improved market performance. Thus, it can be concluded that knowledge infrastructure capabilities are crucial for the successful implementation of strategies that can help SMEs improve their market performance. The knowledge infrastructure capabilities are believed to be vital for business sustainability, profitability, and growth (Bharadwaj et al, 2015; Gharakhani et al, 2015; Patma et

al, 2017). The four major infrastructure capabilities namely people, IT, organisational structure, and organisational culture are further explained below.

2.2.1   People

According to Patma et al (2017), people are an integral part of any organisation. In organisations that seek to develop substantial knowledge infrastructure capabilities and competitive advantages, people are an indispensible part of such a process. People are crucial to the success of any organisation because they facilitate knowledge acquisition, conversion, application, and sharing (Gharakhani et al, 2015). Azyabi (2018) concurs that knowledge sharing is extremely important for the dissemination of vital information and key experiences. In this regard, companies ought to simplify procedures for departmental interactions in order to promote the free flow of information.

Despite their importance as a knowledge asset, people may face many challenges in the workplace which frustrate efforts to create knowledge infrastructure capabilities. According to Mohajan (2017), most common barriers faced by workers include complex procedures and processes that are tedious to deal with, low managerial commitment to organisational objectives and, resistance to knowledge management efforts by some in the workforce. Meher et al (2016) argue that such barriers weaken knowledge generation efforts and thwart the organisation's chances of gaining leverage from its human capital.

In view of the diverse range of challenges that confront people in the workplace, specific human resource strategies must be developed to mitigate the negative effects of such problems. Gonzalez et al (2015) suggest improved skills development efforts and creation of performance management systems. The rationale for skills development is that, improved skills facilitate the absorption of knowledge which is a pre-condition for knowledge sharing. Other authors argue that, successful knowledge absorption is essential for the development of key competencies that can be used to solve practical problems in the workplace (Lyer et al, 2014; Baskerville et al, 2016; Mohajan, 2017).

Considering the complex processes that are associated with the development of key employee competencies, the need to measure performance is of critical importance (Gonzalez et al, 2015). Therefore, along with the skills development initiatives, organisations must develop relevant metrics to measure the performance of their workforce. When the workforce is sufficiently skilled, the task of developing knowledge infrastructure capabilities becomes less onerous (Bharadwaj et al, 2015).

Experts believe that, despite the unquestionable importance of human capital in building organisational knowledge assets, several barriers exist that impede the full scale development of such human capital (Bharadwaj et al, 2015; Haghighi, Bagheri and Kalat, 2015; Azyabi, 2018; Biloslavo et al, 2018). These authors have identified constraints such as poor leadership, lack of adaptation, poor networking capabilities, and limited skills amongst workers as serious obstacles to the creation of organizational knowledge stocks. The authors further state that each of these constraints affects the development of knowledge infrastructure capabilities in many ways, such as in the examples given below.

- **Poor leadership**

Haghighi et al (2015) emphasise the importance of strong leadership when it comes to developing knowledge infrastructure capabilities. According to the authors, the role of leadership is to develop and continuously support a clear vision of both the present and the future, with regards the organisation's knowledge requirements. Once the vision has been developed, management must ensure that there is a buy-in from workers who will then look up to management to provide sound leadership (Haghighi et al 2015).

Biloslavo et al (2018) propose that management must not just lead by example in support of the vision but, must go a step further and allow workers to be as innovative as they can. The ability to grant workers sufficient space to demonstrate their creativity is important for a number of reasons including, sharing of tacit knowledge, motivation of the workforce, and ownership of the organisational vision. Therefore, without strong leadership, human capital cannot be fully developed, and the result would be the failure of the entire knowledge infrastructure framework to provide any benefits to the firm (Omotayo 2015).

- **Adaptability**

Haghighi et al (2015) posit that, the creation of new knowledge within a firm is usually accompanied by a lot of learning due to the emergence of new challenges that necessitate the need for innovative thinking. As such, management and workers must constantly adapt to the new environment. However, in many cases, adapting to the new environment becomes a serious challenge to the extent that an organisation would try to solve new problems using old techniques or strategies (Biloslavo et al, 2018).

Kianto et al (2017) argues that lack of adaptation can be solved through several ways including exposure to the outside world and, through skills development. The author argues that such exposure breeds the necessary competences and confidence to deal with emerging challenges. Exposure to the outside world helps managers and workers to benchmark and observe best practices from industry peers. Biloslavo et al (2018) argue that, it is important that organisations desist from insulating themselves from the outside world. Instead, they must motivate their workforce to learn as much as they can from various sources within and outside the organisation.

- **Limited skills**

Appropriate skills and competences are necessary for the successful execution of an organisation's mission. Haghighi et al (2015) argue that since knowledge can quickly become irrelevant due to changes in both the internal and external environments, it is critical that workers constantly undergo relevant training to compensate for that loss. At the same time, workers who demonstrate unique capabilities and competencies must be encouraged to share their knowledge across the organisation. Mohajan (2017) suggests that improved skills increase workers' ability to apply knowledge. The ability to apply knowledge results in employees' improved competences in handling various tasks that contribute to superior organisational performance.

In the case of SMEs, the development of unique employee capabilities and competencies can give them the much-needed competitive advantages that they need to improve their market performance. Some of the benefits that can accrue to the organisation when employees are sufficiently skilled include, enhanced effectiveness at service delivery, problem solving

capabilities which save the company valuable time and money, increased capacity to absorb knowledge, improved quality of workmanship, and higher productivity (Omotayo, 2015). Kianto et al (2017) states that in many cases, the presence of the aforementioned factors translates to enhanced organizational efficiency including, improved market performance. The link between superior skills and improved market performance is further explored below.

- **How skilled workers contribute to the firm's market performance**

According to Kianto et al (2017), the contribution of workers' skills to the market performance of the firm can be analysed from a variety of perspectives such as, core knowledge assets and business model perspectives. From the core knowledge assets perspective, elements such as market knowledge, systemic knowledge and experiential knowledge combine to influence the organisation's market strategy (Kianto et al 2017). The author further states that, within the three perspectives, there are specific skills and know-how that helps to define an organisation's capabilities in such areas. For example, market knowledge assets may consist of specific knowledge such as market structure, supply chain, value chain information, product design concepts, and brand equity determinants. Omotayo (2015) concurs that such specific knowledge is crucial for the improved market performance of a firm.

In experiential knowledge assets, individual workers may possess important tacit knowledge and practical skills that can affect an organisation's performance in the market (Kianto et al 2017). For example, such workers may have mastered key skills such as sales negotiation, effective communication, and building customer relationships. Mohajan (2017) argues that the concerned employees may also have developed important qualities such as being trustworthy, dependable, and conscientious. According to Biloslavo et al (2018), a firm that has, at its disposal, workers who possess such skills and capabilities is most likely to enjoy superior market performance than one whose workers lack the same skills and competences.

As stated above, the contribution of skilled workers to the market performance of a firm can also be studied from the business model perspective. Kianto et al (2017) opines that since a business model essentially deals with how a company creates, delivers, and captures value, considerable knowledge stocks are required to support such efforts. In other words, specific knowledge assets

are needed to support a business to create and deliver value, just as knowledge stocks are required to help the business capture value (Kianto et al 2017).

According to Haghighi et al (2015), most business models will encompass elements like value chain architecture, customer base description, and product or service profile and others. Nevertheless, regardless of the structure of the business model, the possession of specific knowledge will always be a fundamental requirement if the business is to succeed in its mission (Haghighi et al, 2015). For example, the specific activities which a firm must perform to deliver value to customers in the most efficient way require skilled workers. Secondly, in order for knowledge transfer to occur from the organisation to its customers, skilled workers are needed to transmit that knowledge. Thirdly, for the firm to successfully exploit opportunities in its targeted market segment, it needs skilled workers to do so (Kianto et al 2017). The preceding examples serve to demonstrate that every firm, regardless of size, requires skilled workers to achieve its goals.

Information technology

Information technology has often been described as a critical enabler of business efficiency. According to Julian, Rezaei and Amin (2018), IT has assumed a supporting role for organisational functions. Information technology is also widely deployed to connect people and, it facilitates conversations while reducing transaction and coordination costs. Furthermore, IT increases productivity and accelerates the dynamics of innovation across all types of organisations including SMEs (Omotayo 2015).

Kianto et al (2017) argue that IT can be exploited to improve information search and retrieval, data analysis and visualisation, knowledge creation, and knowledge sharing. Moreover, IT practices can be tailored to directly support many knowledge management practices including the strengthening of knowledge infrastructure capabilities (Patma et al, 2017). Mohajan (2017) states that SMEs can improve their performance if they harness the power of technology to improve their competitiveness. Despite the undisputable contribution of IT to the overall success of knowledge management initiatives, it, however, has its own limitations.

Omotayo (2015) posits that many organisations have woken up to the transient nature of technology oriented competitive advantages. Consequently, these organisations have embraced the notion that people come first and they must therefore be empowered through training so that they fully exploit the benefits of IT. Gonzalez et al (2015) also reiterate the importance of placing people at the forefront of technology arguing that knowledge originates in people and, technology is simply an accessory that facilitates the creation and transmission of such knowledge. Technology alone, without human intervention, cannot offer an organisation the much-needed competitive advantage (Omotayo 2015). The benefits and limitations of IT are explored below.

➢ **Advantages of information technology**

Advancement in IT have revolutionised the way that societies create and consume knowledge. According to Biloslavo et al (2018), IT has made it possible for large amounts of information to be handled efficiently. For example, organisations develop databases to capture, store, retrieve, and share large volumes of information. In terms of communication, the internet and email have transformed the speed and efficiency of communication within and outside the organisation.

Ghakhani et al (2015) state that, in many instances day to day workflows have been heavily impacted by developments in IT. For example, sales force activities are now easily managed through the use of sales force automation software, while the use of customer relationship management software (CRM) has also become widespread. Masadeh et al (2019) further argue that rapid technological advancements have led to increased effectiveness of knowledge management activities in general and, the streamlining of knowledge infrastructure capabilities in particular. For example, rapid technological adoption has resulted in improved communication across organisational boundaries.

Regular interdepartmental contacts result in flatter organisational structures, a condition that is considered a major prerequisite for the effectiveness of knowledge infrastructure capabilities (Masadeh et al 2019). Organisational culture is also heavily influenced by IT. Despite its reputation as the most difficult variable to change within the organisation, Pandey et al (2014) cite several examples to demonstrate that indeed IT positively affects organisational culture.

Evidence of positive effects of IT on organisational culture include, a) timely sharing of real time data to improve efficiency in decision making, b) improved collaboration resulting in timely completion of important tasks, c) more flexibility in the way that work is done due to the option to work remotely and, d) rapid skills development through the use of digital learning and teaching platforms. Biloslavo et al (2018) have divided functional IT into three distinct groups for easier understanding. These are a) technologies for knowledge codification and storage, b) communication technology, and c) collaborative technology. A brief explanation of each category is given below.

- **Technologies for knowledge codification and storage**

Since knowledge is originally tacit in nature, it must be converted to its explicit form for it to be stored, shared, and applied (Kaldeen and Samsudeen, 2020). Information technology is critical in this process as it avails the tools that enable that transformation to happen. According to Audretsch, Belitski, Caiazza and Lehmann (2020), techniques for knowledge codification include production rules, decision trees, knowledge maps and knowledge-based systems. In the absence of information and computer technology, performing such complex tasks would almost be impossible.

In SMEs, just like in large companies, the above capabilities are bound to result in the creation of new knowledge which gives them the competitive advantage they need to improve their market performance (Audretsch et al, 2020). The ability to use technology to develop such knowledge stocks would go a long way in alleviating knowledge gaps within the SME sector, given their limited capacity to hire qualified personnel due to resource constraints (Kaldeen et al, 2020).

- **Communication technologies**

According to Audretsch et al (2020) information technology has simplified the way communication occurs both within and outside the organisation. At the same time, advances in IT have ushered in a wide range of tools to support everyday communication activities. Some of

the most commonly used tools include email, intranets, sms text messaging, blogging, voice calling and various social media platforms.

Biloslavo et al (2018) describe IT as a critical enabler of knowledge management activities and a catalyst for efficiency in service delivery. Information technology can also help to reduce costs and improve operational efficiency. Syed (2016) argues that information technology reduces the need for travel, allows for video communication, and speeds up delivery of written correspondence. Besides convenience, these benefits lead to significant reduction of communication costs, a scenario that augurs well for small businesses.

- **Collaborative technologies**

According to Kaldeen et al (2020), collaborative technologies such as skype, zoom, video chat, and Google drive and many more, have made human interaction and collaboration much easier in both business and social settings. For example, video technologies enable teams to hold meetings from remote locations. Such technologies can also be used in human resource activities such as conducting skills development training. Mohajan (2017) describes these technologies as equally suitable for use by SMEs. For example, through video technology, sales teams can conduct sales presentations for global audiences from the comfort of their offices. Since SMEs are well known to suffer acute resource limitations, the use of such technologies can significantly improve their revenue generation and service delivery capabilities (Mohajan, 2017).

➢ **Influence of IT on SME market performance**

The deployment of IT to enhance organisational efficiency has become so popular that almost every aspect of work is performed with the aid of some form of technology. According to Bharadwaj et al (2015), one of the major advantages of IT is that it makes information acquisition, storage, and dissemination less costly and more convenient. In this regard, tools such as databases, data warehouses, company intranets, email communication, video conference and others, help in the capturing, processing, and sharing of information. Syed (2016) argues that, the possession of these capabilities improves organisational efficiency, while increasing

productivity. Consequently, a firm that enjoys efficiency in its workflows is able to satisfy its customers and ward off competition (Syed 2016).

According to Pandey et al (2014), information technology has made it possible for firms to interact with their customers, regardless of the physical distance between the two. For example, through the use of company websites, blogs, and social media platforms, firms are able to interact with their customers more closely. Pandey et al (2014) further state that such interactions are mutually beneficial in that they help the firm to gain sufficient knowledge of customer requirements, while customers on the other hand benefit from receiving satisfactory service. Other authors such as Syed (2016) opine that technology facilitates close interactions between firms and their customers resulting in knowledge creation for both parties.

In a situation such as the one described above, firms get to develop intimate knowledge of their customers' spending patterns, affordability, price sensitivity, and major dislikes. Syed (2016) further argues that this knowledge helps the firm to tailor its services to suit the circumstances prevailing in the market. In the end, such knowledge becomes a source of competitive advantage that helps the firm to outsmart its competitors (Pandey et al, 2014).

Paisittanand, Digman and Lee (2018) posit that IT is also necessary for the establishment of communities of practice. According to the authors, communities of practice are virtual communities that are connected by their interest and expertise in a particular field. Since these communities exist in the virtual space, IT is a major tool that facilitates their connectivity. Paisittanand et al (2018) further state that since interactions amongst these communities result in the creation and sharing of new knowledge, SMEs should tap into that expertise as opposed to hiring costly experts. The resulting knowledge can also be used to improve the organisation's performance both internally in terms of improved processes, procedures, and workflows, and externally, in terms of its interaction with customers (Baskerville et al, 2016).

2.2.1 Organizational structure

According to Bharadwaj et al (2015), organisational structure is defined as the rules, policies, procedures, and processes, hierarchy of reporting relationships, incentive systems, and

departmental boundaries that influence the design of the organisation. Other authors such as Masadeh et al (2019) define organisational structure as the specification of jobs that must be done within the organisation and the ways through which such jobs relate to one another.

Bharadwaj et al (2015) list organisational structure as the second most critical factor after organisational culture in influencing the implementation of knowledge management initiatives in general and, building knowledge infrastructure capabilities in particular. In this regard, organisational structures must be built in such a way as to be flexible enough to not hinder or inhibit collaboration and, knowledge sharing across internal organisational boundaries.

Bharadwaj et al (2015) observe that organisational structure has an important bearing on the company's ability to build knowledge infrastructure capabilities. This view is supported by Gharakhani et al (2015) who argue that organizations that are characterized by strong bureaucratic structures suffer from lack of free information flows. Consequently, knowledge sharing becomes a cumbersome process resulting in significant overlaps in the extent of knowledge possessed by employees. Patma et al (2017) advocates for flatter organisational structures arguing that, they promote free information flows and staff interaction.

Gonzalez et al (2015) describe organisational structure in terms of three distinct categories namely formalisation, centralisation, and integration. In this approach, formalisation refers to the codes that regulate the behavior of workers and, in highly formalised organizations, such codes usually retard information flows and stifle innovativeness. The authors further state that highly centralised structures breed non-participatory tendencies amongst workers, while lean organisational structures stimulate innovation, knowledge creation, and sharing.

Integration focuses on the extent of interactions between individual workers and various departments of the organisation (Gonzalez et al, 2015). According to Gharakhani (2015), knowledge management practices thrive on heavy information flows and this necessitates the active participation of management especially in lowering or eliminating interdepartmental boundaries that could hinder knowledge exchanges.

➢ **Types of organizational structures**

Extant literature identifies several types of organisational structures, each with its advantages and disadvantages. A brief overview of the various organisational structures is given below.

a) **Bureaucratic organisational structure**

Bharadwaj et al (2015) describe a bureaucratic structure as one that is characterised by explicit rigidity and a strict top-down reporting system. According to the authors, such structures slow down organisational processes and increase constraints on information flows. The result is lack of information sharing, poor knowledge distribution, and the overall retardation of organisational performance. According to Masadeh et al (2019), bureaucratic structures may also hinder the establishment of appropriate incentive schemes, a factor that leads to staff demotivation and poor performance.

Furthermore, due to their overemphasis on adherence to certain rigid procedures, too often a great deal of time and effort are required for information to filter through different levels of the bureaucratic system (Kaldeen et al, 2020). The need to exert such cumbersome effort in a bid to comply with the rigid system, demoralizes workers and extinguishes their willingness to collaborate and share information (Paisittanand et al, 2018).

b) **Flexible organisational structure**

Biloslavo et al (2018) describe a flexible organisational structure as one where there is less emphasis on departmentalisation and, strict adherence to hierarchy in reporting. The authors further note that flexible organisational structures are characterised by loose problem-solving teams, work specific task forces, and joint planning groups and so on. According to Bharadwaj et al (2015), the purpose of a flexible structure is not just to promote more flexibility within the enterprise but, also to give employees more space to develop and share their knowledge.

Other authors such as Baskerville et al (2016) posit that since creativity and innovativeness involve non-conformist thinking, a process that may rely on cross boundary interactions for its enrichment, flexible organisational structures are therefore, the most appropriate platforms for

new knowledge creation and diffusion. Baskerville et al (2016) further state that cross boundary interactions usually result in the creation of coalitions for the advancement of knowledge, establishment of worker-initiated communication channels and, employee mobility. All these conditions are critical for the facilitation of knowledge creation, sharing, and application.

c) Implicit organisational structures

Biloslavo et al (2018) describe implicit structures as those organisational structures whose workforce is organised around informal peer groups, interest groups, professional groups, and personal networks both within and outside the organisation. Omotayo (2015) concurs and posits that one of the major advantages of this setup is that, it promotes creation of communities of practice within the organisation and beyond. These communities of practice create and share knowledge, something that raises the possibility of better market performance for the concerned firm (Omotayo, 2015).

➢ The relationship between organisational structure and market performance

According to Patma et al (2017), there is a direct relationship between organisational structure and market performance. The authors posit that knowledge-based work activities thrive in the absence of bureaucratic structures because, for effective delivery of innovative solutions, information must quickly permeate all concerned business units to enable the formulation of comprehensive solutions. For example, demand shifts in the market usually require solutions which are formulated using inputs from departments like production, marketing, sales and so on (Patma et al, 2017). Pandey et al (2014) observe that there are many factors that can cause demand shifts on the market. These include changes in consumer tastes, cheaper substitutes, and new arrivals of superior quality.

Other authors such as Audretsch et al (2020) also demonstrate strong links between organisational structure and market performance. The authors argue that the acquisition of knowledge requires dynamic organisational structures rather than those that are bureaucratic. This view is shared by Azyabi (2018) who argues that, since organisational structure determines the rules and responsibilities relating to supervision, coordination, and execution of tasks,

decentralisation of authority is paramount to the development of organisational efficiency and effectiveness. The result is superior performance across the entire firm leading to notable improvements in the firm's key performance indicators (Patma et al, 2017).

2.2.4 Organisational culture

An appropriate organisational culture has been described as a critical enabler of knowledge sharing. According to Bharadwaj et al (2015), managers must know how to influence organisational culture, so as to cultivate a philosophy that is supportive of learning, cooperation, and mutual support. While existing literature offers many definitions of organisational culture, they all have some semblance. Masadeh et al (2019) refers to organisational culture as the values, beliefs, principles, and behaviours that exist within an organisation. As a result, each organisation has its own unique culture.

Patma et al (2017) state that, some of the initiatives that managers can adopt to influence organisational culture include promotion of face-to-face interactions among departmental staff, as well as between lower-level staff and senior management. In addition to face-to-face communication, the use of common language and formation of work teams must be encouraged (Kianto et al, 2017). Omotayo (2015) suggests that organisational culture is by far the most difficult variable to deal with in organisations, while at the same time, it is acknowledged as the most impactful knowledge infrastructure capability. In many organisations, there is a culture of hoarding knowledge, as opposed to sharing it, despite evidence that the latter yields greater benefits for the organisation (Gonzalez et al, 2015).

To deal with the culture of aloofness and knowledge hoarding, Meher et al (2016) suggest the adoption of several strategies which include open communication with workers about the importance of sharing knowledge, identifying knowledge experts and rewarding them for sharing knowledge and, encouraging team work so that whatever knowledge emerges from such efforts is dispersed amongst several members. Ultimately, to ensure that the organisation benefits from knowledge initiatives, much effort must be directed towards changing the organisational culture to make it supportive of knowledge management practices (Patma et al, 2017).

Other authors argue that, given the difficulties associated with changing organisational culture, it may be prudent for organisations to implement knowledge strategies that can be easily supported by the existing culture (Baskerville et al, 2016; Mohajan, 2017; Kaldeen et al, 2020). Nonetheless, regardless of the type of approach that management may adopt, several fundamental conditions are always necessary for the successful coordination of knowledge infrastructure capabilities. These conditions are trust, leadership, and a clearly articulated organisational vision (Syed, 2016). The text below examines the significance of these factors in building an appropriate organisational culture.

- **Trust**

Trust is an indispensable ingredient of human relationships at all levels of society. When people do not trust each other, they cannot be expected to collaborate in any meaningful way. According to Baskerville et al (2016), trust helps build and sustain valuable networks and mutually beneficial relationships, while lack of trust has the opposite effect. Therefore, in organisations where the culture of mistrust is prevalent, there is widespread hoarding of knowledge and limited sharing of the same. Another dimension of trust is confidence. Patma et al (2017) suggest that one of the major byproducts of trust is confidence. Workers must have confidence in their superiors at all times, for the former to share knowledge with the latter more effectively. For example, when incentives have been promised for sharing specific knowledge, workers must have the confidence that management will reciprocate once such knowledge has been shared. Patma et al (2017) state that workers, who show the most inclination to share their knowledge, are those who believe that management will recognise their efforts.

The implication of the importance of trust in organisations is that, managers must embark on deliberate effort to cultivate trust within the organization in order to facilitate knowledge creation and sharing. When sufficient trust has been cultivated, the firm can harvest significant amounts of knowledge from their workers, leading to the accumulation of substantial knowledge stocks which can be used as a source of competitive advantage.

- **Leadership**

Leadership is one of the factors that heavily influence organisational culture. Bharadwaj et al (2015) aver that effective leadership is required at all levels of the management hierarchy because, leadership influences the tone of the organisation's culture. In other words, management behaviour reflects the organisation's culture. Furthermore, leadership is required to provide financial and other resources and, to support efforts that are aimed at building knowledge infrastructure capabilities (Bharadwaj et al 2015).

Another important dimension of leadership is its responsibility to guide the organisation in seeking appropriate knowledge that is required for the success of the firm (Baskervillle et al, 2020). Guiding workers signals to them which knowledge is most important for the organisation and by extension, which information they must seek to develop such knowledge. When workers lack guidance in this sphere, they tend to waste valuable time and other resources, generating knowledge that is irrelevant to the needs of the firm (Biloslavo et al, 2018).

- **Organisational vision**

Syed (2016) describes organisational vision as necessary to guide the actions of everybody within the organisation. Although senior management is responsible for implementing the vision of the organisation, they nonetheless need total buy-in from workers, if the mission of the organisation is to be achieved. According to Pandey et al (2014), workers who understand the organisation's vision are most likely to contribute meaningfully to the attainment of organisational goals. Therefore, the vision and its goals must all be clear and non-contradictory. If they are not clearly articulated, they will not be understood or shared and, the result will be confusion, conflict, and demotivation of employees (Pandey et al, 2014). The implication for managers of SMEs is that effort must be made to establish a clear vision for the organization, mindful of the substantial influence that a vision has on organisational culture.

➢ **Enhancing organisational performance through organisational culture**

As has already been stated, organisational culture has the potential to either retard knowledge creation and sharing or facilitate these knowledge processes that influence organisational performance. Amongst its positive effects on the organization, Pandey et al (2014) mentions, a)

facilitating greater knowledge sharing and diffusion, b) willingness to collaborate, c) greater innovativeness and problem solving, d) improved performance for the firm. Syed (2016) posit that where trust has been built into organisational culture, the organisation enjoys greater stability as there is less friction amongst workers and, between workers and management. The stability further translates to minimum staff turnover thereby allowing the firm to continue to extract tacit knowledge from its workforce.

High staff turnover is an issue that negatively affects many organisations. Paisittanand et al (2018) argue that the more workers stay with the firm, the more they develop a deeper knowledge about the firm, its products and services, markets, competitors, and regulators. This knowledge influences the employees' innovativeness where problem-solving is required. Pandey et al (2014) support the importance of staff retention to an organization, stating that firms which have a culture of retaining staff for long periods of time, ultimately incur less training costs compared to those that have to be constantly recruiting and training new staff.

> **Consequences of a negative organisational culture**

While organisational culture can be a tool for progress when it is positive, it however can be a destructive force if not properly managed. According to Mohajan (2017), some of the symptoms of a negative organisational culture include workers' resistance to knowledge sharing efforts, unwillingness to collaborate, high competitive rivalry as opposed to cooperation and consensus seeking, lack of trust in leadership and lack, of commitment to the organisation's vision. When such a culture exists in an organisation, innovation, knowledge generation, and knowledge sharing suffer immensely (Mohajan, 2017). This view is reinforced by Azyabi (2018) who argues that, a negative organisational culture has a devastating effect on the performance of an organisation because, its effects tend to nullify any benefits which the organization could derive from its knowledge stocks.

The knowledge infrastructure capabilities that have been discussed in the above sections can be adopted by SMEs to build their competitive strengths (Bharadwaj et al, 2015; Kianto, 2017; Azyabi, 2018). In an effort to build sustainable competitive advantage, SMEs must pay particular attention to the role played by people. Azyabi (2018) argues that people represent the most

significant knowledge asset in any organisation. Therefore, to reap the most benefit from this asset, organisations ought to implement knowledge-based practices that stimulate employees 'desire for high performance'. These practices include recruitment, training, performance appraisal, and compensation management. Kianto et al (2017) argues that, best practices in human resource management result in employees who are proactive, diligent, and committed to the attainment of the organisation's vision. The competencies of such a workforce translate to improved market performance for SMEs (Kianto et al, 2017).

According to Azyabi (2018), the knowledge infrastructure framework represents the foundation upon which SMEs can build their competitive strategies. When all four elements of the framework namely people, information technology, organisational structure, and organisational culture are aligned to the company's vision, SMEs can gain a competitive advantage that result in improved market performance.

2.3 Theoretical framework

The knowledge infrastructure framework provides a platform for companies to develop the necessary capabilities to compete in today's dynamic business environment. According to Azyabi (2018), the theoretical framework which comprises people, IT, organizational structure, and organisational culture, is widely seen as the appropriate mechanism to enhance organisational competitiveness. The author argues that given the important role played by each knowledge infrastructure capability in the overall performance of an organisation, greater emphasis must be placed on enhancing their efficiency so that, collectively, they generate the much-needed competitive advantage. The theoretical framework/model shown in Figure 2.1 below shows the interconnectedness of knowledge infrastructure capabilities. the model also shows that when these knowledge elements are chained together, they result in improved organizational performance.
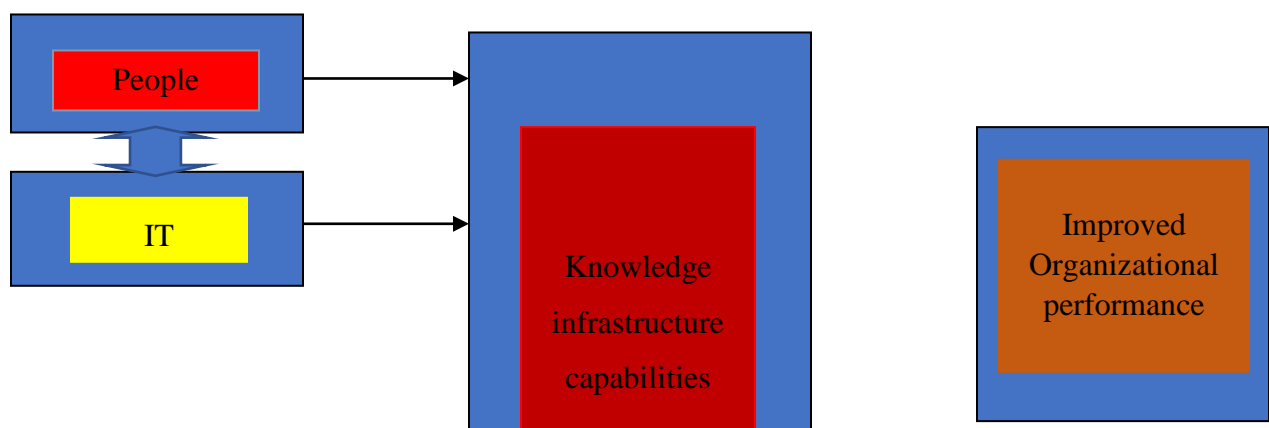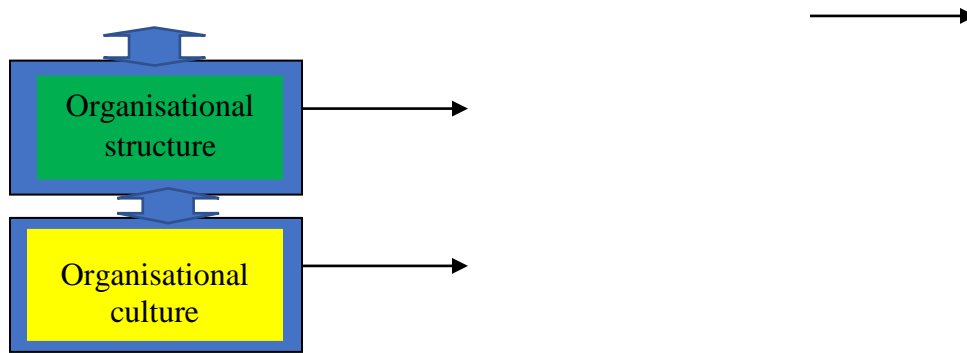
Figure 2.1*: Knowledge Infrastructure Theoretical Model (Source: Azyabi, 2018, p43).

The knowledge infrastructure theoretical model depicted in figure 2.1 above shows that, improved organizational performance is a function of knowledge infrastructure capabilities operating together within a singular framework. The interconnectedness of knowledge infrastructure elements means that any weakness in one, affects the efficiency of others. According to Azyabi (2018), in order to gain significant benefits from knowledge infrastructure capabilities, organizations must strive to eliminate any weaknesses from each of the four capabilities.

2.4 Chapter summary

The knowledge infrastructure capabilities namely people, IT, organizational structure and organisational culture were discussed in detail in this chapter. The knowledge infrastructure theoretical model was also presented. Furthermore, the effect of knowledge infrastructure capabilities on the market performance of SMEs was discussed. The discussion further explored the various elements of IT such as software and hardware, as these are fundamental to the delivery of technological solutions. The next chapter explores the research design and methodology adopted in this study.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

The previous chapter reviewed extant literature focusing on knowledge infrastructure capabilities such as people, information technology, organisational structure, and organisational culture. The research model upon which this study is based was also discussed. Other aspects that are discussed in this chapter include research design, research methodology, population and sampling, data collection, validity and reliability, ethical considerations, and data analysis techniques.

3.2 Research design

The research design that was selected for this study was the case study. Zainal (2017) describes research design as a framework for conducting a research study and it details the procedures that are necessary for obtaining the information that is required to solve the research problem. According to Teegavarapu and Summers (2015), the case study method is a suitable research design where the intention is to answer "why" and "how" type questions by studying the subject within a real-life setting.

Ishak and Bakar (2015) posit that where the intention of the researcher is to observe behaviors while capturing feelings and opinions, the case study is the most suitable method as it allows

close interaction with the subjects. According to Zainal (2017), case studies can be categorized as exploratory, explanatory, or descriptive. The author further states that exploratory case studies serve to explore phenomena in the data which may be of interest to the researcher while explanatory case studies help to explain phenomena that are revealed by the data. Descriptive case studies serve to describe phenomena that emerge from the data (Zainal 2017). The exploratory case study approach was adopted for this study. In comparison to the other two approaches namely descriptive and explanatory, it was deemed to be relevant to the study as it allowed the researcher to gather crucial information about the company.

3.3 Research methodology

According to Ishak and Bakar (2015), research methodology comprises the systems, approaches, techniques, and procedures that are used to conduct the study. Zainal (2017) states that research methodology comprises of components such as research design, data collection, population and sampling techniques, reliability and validity as well as ethical considerations.

The qualitative research methodology was adopted for this study. According to Syed (2016), the qualitative research methodology, especially one in which direct interviews using semi-structured or structured questions are used, is a reliable means to obtain detailed responses from the study participants. The purpose of this approach was to enable the researcher to get in-depth information about the phenomenon being studied.

Since the purpose of this study was to investigate the role of knowledge infrastructure capabilities on the market performance of small and medium enterprises using direct interviews, the use of the qualitative research methodology was considered to be appropriate. This was mainly because, both managers and employees had their own unique experiences which they could easily express in words as opposed to numbers. Therefore, by adopting the interview method, the researcher expected to gain valuable insights into the personal experiences of the participants.

3.4 Population and sample selection

In this study, the population comprised 45 employees and management of Redman Consulting. The purposive sampling technique was used to select the research participants. According to

Gharakhani et al (2015), in purposive sampling, the researcher chooses a sample that is believed to be representative of the entire population. The researcher must ensure that the selected case exhibits the major characteristics that are desirable for the study (Ishak et al 2015). Similarly, Redman Consulting was selected because it exhibited the key characteristics such as poor market performance, limited market penetration, and lack of growth.

Following from the above, the sample size for this study was fixed at 10 participants. The selection of the respondents was determined as follows:

- Three managers
- Three supervisors
- Four frontline sales staff

The sample size was determined based on the recommendations of Gharakhani et al (2015) who posit that qualitative studies rarely benefit from large samples due to the repetitive nature of responses. Therefore, selecting a sample that is larger than 10 from a population of 45 could result in responses that do not add value to the study at some given point.

3.5 Data collection

According to Robson (2014), there are several methods of collecting qualitative data in a case study design. These include structured and unstructured interviews, documentary analysis, observation, and focus groups. The author states that these methods can be used jointly or independently. While all these methods can yield important data, their effectiveness will vary based on the goals of the researcher. For example, Zainal (2017) argues that the face-to-face interview is effective at capturing participants' lived experiences, opinions, feelings, and knowledge about a particular phenomenon. In this study, the goal was to capture respondents' experiences hence the direct interview technique was adopted. In this method, respondents were given interview questions in advance to familiarize themselves with them. The interview procedure was such that only one person at a time was interviewed in private, away from the glare and influence of workmates. This approach enabled respondents to feel comfortable and answer questions freely. Participants were also reminded of their rights to withdraw their participation if they began to feel uncomfortable with the interview.

According to Ishak et al (2015), open structured questions are important in instances where the researcher aims to obtain in-depth responses. Furthermore, personal interviews are necessary in situations where scientific methods of data collection cannot reach the desired depth of inquiry (Ishak et al 2015). Although other methods such as focus groups and documentary analysis could be used, it was observed that their effectiveness would fall short of the objectives of the study hence the decision to use the structured interview technique ahead of these other methods.

3.6 Validity

Kriukow (2019) states that validity of the research findings may be ascertained by avoiding certain biases namely respondent bias, researcher bias, and reactivity. According to the author, respondent bias refers to a scenario where the respondents fail to give honest responses for any reason. Researcher bias refers to the researcher's prior knowledge or assumptions about the phenomenon being studied, whereas reactivity refers to the role that is played by the researcher in terms of their physical presence and the influence they bring to the research arena (Kriukow, 2019).

In this study, validity was ascertained through elimination of researcher bias. In this regard, the researcher took several steps which helped to ensure that the findings were as objective as they could be. The steps taken included 1) capturing narrative quotations verbatim, 2) ensuring that during data reduction, the resulting codes reflected the original meaning of the data 3) desisting from conferring any perceived or implied meaning to the respondents' narrations, and 4) triangulation of theory, for example, comparing what emerged from the research findings to the existing theory. According to Zainal (2017), triangulation of theory is particularly important because it helps to bring objectivity to the research findings. For example, if the correlation between the findings and the theory are high, then the measurement method is deemed to be valid.

3.7 Data analysis

Since this was a qualitative study, analysis of data was done through thematic analysis. According to Robson (2014), thematic analysis is a commonly used data analysis method in qualitative studies. Malhotra, Birks, and Wills (2012) posit that in thematic analysis, the findings are usually supported by the extant literature thereby eliminating any prospects of subjectivity.

Thematic analysis involves creating codes and themes, the latter of which becomes headings for subsequent presentation of findings (Malhotra et al 2012). In terms of presentation of data, the narrative approach was adopted. According to Robson (2014), the narrative approach is appropriate in cases where the research data is predominantly story-based, for example, where the subjects narrate their experiences in relation to the phenomenon that is being studied.

3.8 Ethical considerations

The ability to conduct research in an ethical manner is a necessary requirement for the success of the research process. In this regard, the researcher liaised with the supervisor who provided guidance on the matter including the acquisition of a research permit. The researcher did not commence any data gathering activities until the research permit was received from the government of Botswana.

Collection of data was preceded by a meeting with the respondents during which they were given consent letters requesting for their participation in the study. The consent letters were in duplicate with a portion for capturing the names and contact numbers of participants. The participants signed the letters and retained a copy while the other copy was kept by the researcher.

The respondents were assured of the confidentiality of their responses and that these were going to be used solely for academic purposes. The respondents were also informed of their right not to answer any questions and to withdraw from the study at any point they chose to do so.

3.9 The Narrative paradigm

Analysis of data was performed using the narrative approach. This method of analysis was selected based on an extensive review of qualitative data analysis literature. The various sources that were consulted supported the use of narrative analysis by highlighting the various circumstances under which such an approach could be used. In most instances, the literature started off by defining the term 'narrative' as it relates to qualitative research. Various definitions of the term are given in this section.

According to Gibbs (2010), a narrative is a story through which an individual or groups of individuals represent and contextualise their experiences. The author further states that narratives have certain key defining characteristics such as the following:

➢ Narratives have a beginning and end
➢ Narratives are characterized by a sequence of events
➢ Narratives are temporal – for example, they have causal consequences
➢ Narratives are told for their significance

Kipar (2019) avers that narratives may emerge from individual interviews, focus groups, policy documents, story books, oral tales, movies, or recorded materials. Curry (2015) defines a narrative as a non-random sequence of events that conveys action and movement through time. Furthermore, narratives are important because they are one of the major ways of communicating as they also help people to make sense of their surroundings.

According to Curry (2015), a major defining feature of narratives is causality, that is, as the story evolves through time, certain events tend to trigger specific consequences. In order to illustrate the point, Curry (2015) posits that sources such as oral interviews, texts, research papers, and policy documents represent narratives that denote the occurrence of certain events over time. Other authors such as Kawulich (2015) describe narratives as any form of data that emanates from sources such as interview transcripts, field notes, focus groups, and texts from published reports.

Following from the above, it is evident that the authors concur on key aspects such as sources of narrative data, its key characteristics, and the reasons why narratives emerge in the first place. The researcher therefore found the position adopted by the authors to be relevant to this study because a) the individual interviews that were conducted sought to capture the reasons for the current state of affairs at Redman Consulting b) establish the sequence of events that led to it and c) to allow participants to narrate those aspects of their lived experiences which they deemed significant. These narratives were later developed into codes, categories, and themes. The following section describes the coding process in detail.

3.10 Coding

Coding is an essential ingredient of qualitative data analysis. According to Curry (2015), coding is the process of organising the data into chunks that are alike. Gibbs (2010) describes coding as an iterative process of data analysis in which the researcher goes between description and interpretation using either inductive or deductive reasoning. Russell (2015) postulates that in inductive coding, the researcher reads through the data and identifies interesting themes, words, and expressions and uses those to construct codes, while in deductive coding the researcher starts the analysis with preconceived codes and tries to identify corresponding themes as they analyse the data.

Curry (2015) further argues that one of the major defining features of coding is that there is no single correct method of conducting the coding process. As such, the researcher is allowed to approach the analysis from a variety of perspectives that are based on various considerations such as the overall objective of the study and the specific issues that the research questions seek to address. According to Kipar (2019), coding is usually done at three levels namely open, axial, and selective coding. In data analysis for this study, the inductive approach was adopted. Secondly, a three-stage method of coding was applied which is further explained below.

3.10.1 Open coding

The researcher started off by reading through the 10 interview transcripts thoroughly so as to familiarise himself with the data. Several authors including Woodall (2016), Kipar (2019), and

Curry (2015) all emphasise the importance of reading and re - reading the data to ensure that one is absolutely familiar with the text before any coding can be commenced. Once the researcher was familiar with the text, the process of breaking the data down into small units by creating code structures began. Curry (2015) describes a code structure as a compilation of the emerging codes.

The above author describes the code structure as an effective mechanism for developing codes and sub codes. After open coding was completed, the researcher moved on to the second stage of the coding process which is known as axial coding. Axial coding culminated in the emergence of categories out of which the final themes were derived. This approach to data analysis was adapted from Kipar (2019), Curry (2015) and Woodall (2016). Table 3.1 below shows the initial codes that were derived from the participants 'interview scripts.

Table 3.1: Participants initial codes

PARTICIPANT N0	PARTICIPANT CODES
P1	Uncertainty, Ignorance, People are everything, Benchmarking, no innovation, limited freedom, Lower costs, service delivery, connects people, secrecy, toxic environment, open communication, customer knowledge, cooperation, low customer base,
P2	Uninformed, complex, Predictable, Trustworthy, Superior products, hard work, people centered, demotivators, stagnation, transparency, infighting, limited resources, poor leadership
P3	Ignorance, proactive, flexible, knowledge preservation, social media, collaboration, centralized, retardation, frustration, revolt, recognition, bottlenecks, virtual space, work
P4	Uninterested, efficient, versatile, reliable, competitive, empowerments, resistance,

	productive, transparent, open communication, effective communication, dependable, efficient, superior products, cooperation, expertise, proactive, transparent, trust,
P5	Isolation, oblivious, discouraged, lethargic, uninterested
P6	Detached, uniformed, uninterested,
P7	Competitive, uninformed, attitudes, ambition, productive, proficient, transparency, compensation, profitable, customer service, recognition, cooperation, engagement, Leadership, compassionate, trustworthy
P8	Scared, skeptical, isolated, effective, productive, detached, cooperation, commitment, computer literate, knowledgeable,
P9	Service standards, cooperation, sharing, conflict resolution, sharing, competitive, multiple skills, new knowledge
P10	Restrictions, lack of access, uninformed, team spirit, leadership, exemplary, fair, empathetic,

3.10.2 Axial coding

According to Gibbs (2010), axial coding involves exploring the relationships between categories and making connections between them. Curry (2015) describes axial coding as the process of relating sub categories to a category. The author further states that axial codes can be grouped under a particular heading or simply listed together without a heading. Likewise, in this analysis, codes were listed loosely without headings while retaining their relational characteristics. According to Gibbs (2010), axial coding is an important step in the data reduction process because when done correctly, it enables the researcher to emerge with categories that easily relate to the research objectives. Table 3.2 below shows the axial codes grouped according to their similarities or relational characteristics.

Table 3.2: Initial codes regrouped according to similarities

GROUP	AXIAL CODES
1	Uncertainty, ignorance, toxic environment, secrecy, uninformed, uninterested, no innovation, isolation, Detached, restrictions, lack of access, centralized, skeptical, scared, stagnation, infighting

2	Frustration, retardation, revolt, demotivation, bottlenecks, resistance, attitudes, discouraged, lethargic, limited resources,
3	Proactive, efficient, versatile, competitive, flexibility, engagement, team spirit, ambition
4	Trustworthy, open communication, reliability, recognition, cooperation, dependability, poor leadership, compassion, cooperation, predictable, exemplary, fair, empathetic, transparent, engaging, conflict resolution, compensation,
5	Benchmarking, collaboration, lower costs,
6	Social media, productive, customer service, connects people, effective communication,
7	Knowledge preservation, superior products& services, innovation, customer knowledge, new knowledge, multiple skills, computer literacy, information sharing, virtual space
8	Service standards, competitiveness, commitment, low customer base, profitability, service delivery, complexity

3.10.3 Selective coding

Curry (2015) refers to selective coding as the process of selecting the core categories, systematically relating them to other categories, validating those relationships, and filling in categories that need further refinement and development. Gibbs (2010) states that selective coding may also be understood in the context of a central idea around which a particular story is conceptualised. Furthermore, in selective coding, the researcher must seek to limit the number of codes developed as too many tend to defeat the ultimate goal which is data reduction (Gibbs, 2010). So, in doing selective coding, the researcher followed the approach described by the authors. He ensured that once the selective coding process was complete, there were few codes per category. It was out of these categories that the final themes emerged. Table 3.3 below shows the transition from categories to themes.

Table 3.3: Transition from selective codes to emergent themes

CATEGORY 1 CODES	EMERGING THEME		CATEGORY 2 CODES	EMERGING THEME
Knowledge acquisition	**Training**		Effective Communication	**Efficiency**
Skills development			Improved workflow	

Job shadowing			Superior service design	
Benchmarking			Specialized knowledge	
CATEGORY 3 CODES	**EMERGING THME**		**CATEGORY 4 CODES**	**EMERGING THEME**
Authority	**Control**		Commitment	**Mutual support**
Rules and regulations			Cooperation	
Delegation			Leadership	
Stability			Motivation	

3.11 Themes

Curry (2015) defines themes as abstract entities that bring meaning and identity to a recurrent experience and its variant manifestations. The author further states that in developing themes, the researcher needs to consider certain key issues such as the following.

➤ **Theoretical framework** – it helps guide the researcher to position the analysis results in the theory thus, facilitating understanding of the data within the context of the theoretical framework.

➤ **Reviewing research questions** - Reviewing the research questions helps to guide the researcher in developing appropriate themes because, answers to the research questions must emerge from the developed themes.

Themes can also be ordered in a hierarchical fashion in order to help manage the intricacies of qualitative data analysis. According to Woodall (2016), themes can be organised into three hierarchies namely basic themes, organising themes, and global themes. A global theme gives birth to an organising theme out of which emerge several basic themes.

The preceding approach guided the researcher in developing appropriate themes. After thoroughly analysing the refined selective codes, four major themes emerged from the participants' narratives. These themes emerged from codes that bore the most similarities. They are as follows.

➤ Training

➤ Efficiency

➤ Control

➤ Support

These themes were assigned the role of global themes, out of which emerged organising themes and basic themes. According to Woodall (2016), global themes, organising themes, and basic themes can be organised into a thematic diagram such as the one depicted in Figure 3.1 overleaf.
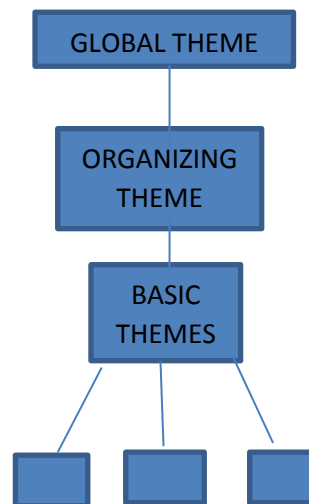

Figure 3.1*: Model: Structure of a thematic diagram (Source: Woodall, 2016, YouTube videos)

Based on the thematic approach that was adapted from Woodall (2016), the data was presented in such a way that the themes were arranged in a hierarchical order, for example, the global

theme at the top, followed by the organising theme, and the basic themes were presented last. The researcher found that presenting the data in this format helped to retain the logical flow of the narratives' substantive message.

Finally, tables were used to record selective quotations from various participants. For the purpose of maintaining participant anonymity, each of the 10 interview scripts was marked with a number instead of the respondent's name. The quotations were deliberately used sparingly, for example, only one table of narrative quotations under the primary research objective and each under the respective secondary research objectives was used. The reason for this was that various authors such as Woodall (2016), Curry (2015), and Russell (2015) caution against extensive use of narrative quotations. In particular, Woodall (2016) states that simply listing endless quotations under a thematic heading is not thematic analysis thus suggesting that, quotations should rather be used to support analytic commentary. Table 3.4 overleaf shows themes and sub-themes that are relevant to each secondary research objective.

Table 3.4: Themes and sub themes

THEME 1	TRAINING		THEME 2	EFFICIENCY
Global theme	Training		Global theme	Efficiency
Organizing theme	Continuous Training		Organizing theme	Increased efficiency
Basic themes	Competence		Basic themes	Organization
	Productivity			Competitiveness
	Proficiency			Innovation
THEME 3	CONTROL		THEME 4	SUPPORT
Global theme	Control		Global theme	Support
Organizing theme	Tight Control		Organizing theme	Mutual support
Basic themes	Demotivation		Basic themes	Reciprocity

	Delegation			Motivation
	Inefficiency			Commitment

3.12 Chapter summary

This chapter presented the research design, research methodology, and the population and sample selection procedure. Data collection procedures and issues of validity and reliability of a study were also discussed along with ethical considerations and data analysis techniques. The next chapter presents and analyses the data that was obtained from the research participants. The chapter also discusses and interprets the study findings.

CHAPTER FOUR

DATA ANALYSIS, DISCUSSION, AND INTERPRETATION

4.1 Introduction

The previous chapter dealt with processes and procedures for the collection of data. In terms of process, elements such as research design, data collection instruments, methods of data collection, population, and sampling as well as data analysis techniques were explained. The purpose of this chapter is to present and analyse the research findings. The findings will be based on the primary research objective which was to explicate the role of knowledge infrastructure capabilities on the market performance of Redman Consulting (Pty) Ltd. The chapter also presents the findings under the secondary research objectives which were:

- To explicate the role that people play in the market performance of small and medium enterprises.
- To elucidate the role played by IT in the market performance of small and medium enterprises.
- To establish how organisational structure affects the market performance of small and medium enterprises.
- To determine the role played by organisational culture in the market performance of small and medium enterprises.

In terms of data analysis, a procedure known as coding was used as explained in Chapter 3. Coding involves open, axial, and selective coding. Furthermore, the chapter addresses the procedures for developing themes. Themes will be categorized in their hierarchical order namely global, organising and basic themes as already explained in Chapter 3. Finally, the chapter presents a thematic network diagram to demonstrate the relationships amongst the identified knowledge infrastructure capabilities.

4.2 Presentation and discussion of the key findings of the study

The purpose of this section is to present and discuss the research findings. In doing so, the findings will be linked to the research objectives. The findings will be presented and discussed in their logical order beginning with the primary research objective which is to investigate the role of knowledge infrastructure capabilities on the market performance of Redman Consulting (Pty) Ltd. Thereafter, the focus will shift to the four secondary research objectives which are re-stated above. Each secondary research objective is accompanied by the main theme and the three sub themes all of which emerged from the participants' narratives. In total 10 respondents were targeted and all of them obliged and availed themselves for interviews. In this regard, the response rate was 100%. In terms of the demographics of the respondents there were five males and five females. Their ages ranged between 25 and 35 years of age. Four of them had a high school certificate as their highest qualification, four had diplomas while two had bachelor's degrees. In terms of length of service, two respondents were inside the two-year bracket, five were within the five years bracket, while two were above seven years of service.

In organizing the emergent themes and sub themes, the researcher relied on the work of Kipar (2019) who posits that emerging themes must be relevant to the research questions and objectives otherwise the study would have failed to fulfill its purpose. As such, the researcher ensured that all the themes and sub themes were relevant to the research objectives. This was done by ensuring that all the themes represented the meanings that were expressed in the participants' narratives and that the lived experiences that were expressed by the participants were not lost during analysis.

4.2.1 The role of knowledge infrastructure capabilities on the market performance of Redman Consulting (Pty) Ltd (Primary research objective)

This section presents the main findings of the study which sought to investigate the role of knowledge infrastructure capabilities on the market performance of Redman Consulting. It is worth noting that some of the participants displayed lack of knowledge about knowledge infrastructure capabilities. Consequently, this affected their ability to offer meaningful responses. While some respondents attempted to answer interview questions to the best of their ability, others would simply state that they had no idea what the questions were all about. In some notable cases, participants kept asking the researcher to clarify the term, "Knowledge infrastructure capabilities" as they did not know what it meant.

Once the clarification alluded to above was provided, participants responded in a way which suggested that they did not understand how knowledge infrastructure capabilities worked together to create a competitive advantage for the organisation. However, due to the scope of the interview questions, the researcher could not establish the cause of such ignorance. Nonetheless, this discovery did not surprise the researcher since the extant literature reviewed had documented endless scenarios in which respondents may fail to answer interview questions.

Failure to effectively respond to interview questions has been explained by various authors. For example, Mohajan (2017) suggests that participants' failure to adequately respond to interview questions may stem from factors such as 1) lack of familiarity with the subject under discussion and 2) Participants' lack of confidence in the process, for example, believing that their anonymity might be compromised by their participation. Kianto et al (2017) posits that some factors that lead to respondents' failure to meaningfully respond to interview questions are organisational in nature, for example, lack of a knowledge sharing culture, restricted access to organisational knowledge resources, and poor investment in knowledge generation capabilities by the organisation. Most of the conditions described by the author were experienced by the researcher during the interview process. Table 4.1 below depicts quotations in which participants, all of whom are managers, either knew nothing or very little about knowledge infrastructure capabilities.

Table 4.1*: Excerpts from interview scripts 1, 2 and 3 (Managers)

P/N0.	Q/N0.	Position	Narrative Quotation
1	2	Accounts manager	"Am not sure. The problem is I am not too familiar your terminology- like, I don't really understand what Knowledge infrastructure is.
2	1	Sales manager	"Nothing, I have never heard of that word before".
2	2	Sales manager	"Maybe. If it could help it would be a good thing I guess".
3	1	Administration manager	"I don't know anything about that expression. We have never dealt with such things in our company".
7	1	Administration manager	" I don't have a clue what that is, but I also don't want to lose my job when the company finds out I told you these things"
10	2-3		"Hey your questions are difficult. The company has not taught us those things so how can I know these things?"

During data collection, the researcher observed a similar pattern amongst the first three participants namely the Administration Manager, Sales Manager and Accounts Manager. They all did not know what is meant by knowledge infrastructure capabilities. In all instances, the researcher had to thoroughly explain the concept to them. However, the three participants continued to demonstrate some confusion throughout the interview. At one point, Participant Three indicated that the company had not trained them on knowledge infrastructure capabilities hence she could not be expected to know how to answer the interview questions. The responses by these three participants corroborated the assertion by Mohajan (2017) and Kianto et al (2017) that both organisational and individual barriers may be responsible for participants' lack of competence when it comes to answering interview questions.

Kianto et al (2017) argues that while it is the responsibility of management to remove organisational barriers, it should not be assumed that the elimination of individual barriers is the sole responsibility of individual employees. The author argues that some of the individual

barriers are actually created by the organisation through poor recruitment practices. For example, organisations must recruit individuals who exhibit high learning potential and collaborative capabilities in addition to their expertise (Kianto et 2017). In the case of Redman Consulting, the researcher was surprised by the extent of the three managers' ignorance with regards knowledge infrastructure capabilities. While it could be indisputable that the company had never introduced the concept, the ignorance of the managers brought into question the company's recruitment practices.

Furthermore, the ignorance helped to reveal that Redman Consulting did not have a knowledge infrastructure framework in place to guide its strategic direction. In the reviewed literature, authors such as Gharakhani et al (2015) posit that SMEs are prone to poor recruitment practices due to their serious resource constraints. The author argues that some of these recruitment practices result in the employment of less capable individuals. In the case of Redman Consulting, while the knowledge gaps of the managers may be genuinely due to organisational failure, the possibility that the company recruited less capable people into managerial positions cannot be dismissed either. It is therefore likely that the company's unsatisfactory market performance may, in part, have its roots in management failures as opposed to market forces.

Kianto et al (2017) argues that human capital is the most significant knowledge asset in an organisation. According to the author, knowledge-based human resource management practices are likely to improve market performance by motivating and enabling employees to utilise and build both their personal knowledge as well as that of the firm. However, the results of the study do not demonstrate that Redman Consulting prioritises human capital as a source of competitive advantage. On the contrary, the results strongly indicate that there is an overwhelming lack of effort to build knowledge infrastructure capabilities as may be seen from the narrative quotations captured from company supervisors and presented in Table 4.2 overleaf.

Table 4.2: Excerpts from interview scripts 4 and 5 (Supervisors)

Participant#	Question#	Position	Narrative Quotes
4	1-4	Accounts Supervisor	'You are asking me very difficult questions. That stuff is for managers.
5	1-20	Sales Supervisor	"Sorry I am not sure what your questions want. I am scared I will give you wrong answers".
Participant#	Question#	Position	Narrative Quotes

The second group of participants, just like the first one, struggled with the first three questions from the interview guide. The objectives of those three questions were to test the participants' awareness of knowledge infrastructure capabilities and their impact on the market performance of Redman Consulting. Regrettably, both managers and supervisors showed absolute lack of knowledge in respect of knowledge infrastructure capabilities. Unexpectedly, as the interview progressed, most participants from both groups were able to answer interview questions relating to individual knowledge infrastructure capabilities. The researcher noted this as an interesting revelation in that it helped to explain how both the participants and Redman Consulting approached knowledge infrastructure matters.

The study revealed that the participants treated each knowledge infrastructure capability as a stand-alone element. For example, they did not realise the interconnectedness of the capabilities. Consequently, they did not realise that knowledge infrastructure capabilities have to function together within a well-defined framework so as to improve the market performance of the firm. The importance of the interconnectedness of the knowledge infrastructure capabilities is adequately covered in the extant literature by Azyabi (2018), Kianto et al (2017), Gharakhani (2015) and Bharadwaj et al (2015). For example, the knowledge infrastructure model in this study adapted from Azyabi (2018) shows the interconnectedness of the four knowledge elements namely people, IT, organisational structure, and organisational Culture. The model shows that together the aforementioned knowledge infrastructure capabilities work to improve the market performance of a firm.

Azyabi (2018) further argues that integration of knowledge infrastructure capabilities must be a deliberate action undertaken by management. In short, the capabilities will not align themselves without management effort, nor will the organisation attain any competitive advantage if the knowledge infrastructure elements are allowed to function independent of each other. The consequences of lack of coordination of knowledge infrastructure capabilities are summarised by Kianto et al (2017) who states that if companies are lacking either resources or competencies, they are unlikely to gain knowledge-based competitive capabilities. As a result, their market performance would also be affected. The results of the study revealed that Redman Consulting also suffered from human and capital resource constraints which hindered the development of knowledge infrastructure capabilities hence the organisation's market performance.

Some of the examples cited by the respondents as proof of poor market performance were a) a high customer attrition rate 2) a shrinking clientele base 3) Lack of customer loyalty, and 4) lack of competitive ability. The participants in both managers and supervisors' categories gave various narrations which revealed flaws in the company's people strategy, organisational structure, and organisational culture. Most of these findings are discussed under the respective secondary research objectives which are covered elsewhere in this chapter. Table 4.3 below shows narrative quotations from the last group of the respondents – the front-line staff.

Table 4.3*: Excerpts from interview scripts 7, 8, and 10 (Frontline staff)

Participant #	Question#	Position	Narrative Quotes
7	1	Sales person 1	'Don't know what I can say. The question is tough. I wished the company trained us on those things"
7	2	Sales Person 1	"Am not sure – I don't really know what to say. All I know about is dealing with customers. Management has never taught discussed those complicated things"
8	1-5	Sales person 2	"I don't understand your questions. What are they all about?"
10	1-3	Receptionist	"I don't think I can answer that coz your questions are confusing. Also they are not part of my job"

Participants seven, eight and ten also had difficulty answering the first three questions. It became apparent during the interview that the respondents were not familiar with the term 'Knowledge infrastructure capabilities. When questions were posed to them, the participants responded by requesting the researcher to explain the meaning of 'Knowledge infrastructure capabilities. The researcher obliged and thoroughly explained the term. Although the interviews continued right to the end, there was a feeling of uneasiness on the part of the participants largely due to the perceived complexity of the subject under discussion. Amongst the front-line workers, Participant Nine was the exception. Although she also worked as a sales assistant, she was capable of answering most of the questions, albeit not convincingly.

In terms of the overall outcomes of the study, the results overwhelmingly show that Redman Consulting lacks a knowledge infrastructure capabilities framework to guide its operations. This is proven by the fact that there are no coordinated efforts in place to harness the power of people, IT, organizational structure, and organisational culture. Each knowledge infrastructure capability has been left to function on its own. The lack of coordination of knowledge infrastructure capabilities has resulted in a lackluster market performance of the firm. Some of the most obvious symptoms of poor market performance which frontline participants were able to pinpoint included dwindling customer numbers due to stiff competition, low morale amongst staff culminating in poor customer service, lack of product diversity, that is, offering the same service every year while competitors are innovating, and failure to introduce new products and services.

The challenges identified at Redman Consulting through this study serve to confirm similar findings by several authors in the reviewed literature. For example, Patma et al (2017) posit that the development of competitive advantage upon which improved market performance depends is a function of management's ability to adequately synchronise the activities of knowledge infrastructure capabilities. The authors further state that knowledge infrastructure capabilities play a transformational role in the firm as they heavily influence the speed of innovation and delivery of innovative products to the market. Azyabi (2018), upon whose work the research model is based, argues that it is almost impossible for a firm to enjoy positive market performance when any of the knowledge infrastructure capabilities are weak. The results of the

study indicate that there are weaknesses in Redman Consulting's knowledge infrastructure framework. As a result, the company's market performance is not satisfactory.

4.2.2 The role that people play in the market performance of Redman Consulting (Secondary research objective one)

- **Main theme – Training**

- **Sub themes / Basic themes – Competence, Productivity, and Proficiency**

This section presents the results of the study in relation to secondary research objective 1 which is to explicate the role that people play in the development of knowledge infrastructure capabilities at Redman Consulting. Most of the participants gave narratives which indicated a high level of awareness with regards to the role played by people at Redman Consulting. The narratives yielded a major theme called training and basic themes namely competence, productivity, and proficiency. Table 4.4 below shows the narrative quotations from which the main theme and basic themes were derived.

Table 4.4: Interview excerpts depicting the role of people at Redman Consulting

P/N0	Q/N0	Position	Narrative Quotations
1	4	ACC manager	'People play a big role in the company. Without them no business can survive".
1	6	ACC Manager	"Training is key. Also, employees need mentors. Well trained employees produce better results.
2	4	Sales manager	"People are everything—without workers no company can survive"
2	6	Sales manager	"Companies must pay for employees to get more skills".
3	4	Admin manager	"I believe people play a big role in every company. It's a pity some companies take employees for granted. At Redman Consulting people are the back bone of the company"
7	4	Sales person 1	"People are key drivers of everything in the company …I mean like production, sales, deliveries. I can say people do everything really"
9	4	Sales person 3	"Everything depends on people. You can't expect a business to run without people, but those people must be talented people who can be easily trained to produce better results".

As may be seen in Table 4.4 above, the majority of the participants believed that people played an important role at Redman Consulting. They unanimously expressed the view that all other activities at Redman Consulting such as customer service, revenue generation, goods delivery, accounts management, administration activities, and marketing could not occur in the absence of people. Therefore, people were the most important resource in the company. The result of the study matches other findings in the extant literature.

Authors such as Bharadwaj et al (2015), Mohajan (2017), and Gharakhani et al (2015) have also concluded that people are the most important resource in an organisation. For example, Gharakhani et al (2015) states that for an organisation to remain competitive, it must effectively practise the activities of creating, acquiring, documenting, transferring, and applying knowledge in solving problems and exploring opportunities. The author posits that all these activities require capable people who can execute them in such a way as to create a competitive advantage for the firm.

Themes and sub themes (secondary research objective one)

In relation to the emerging themes, participants shared the view that Redman Consulting needed to prioritise skills development either through external training opportunities or on the job training. Participants Two and Three who are Sales Manager and Administration Manager respectively, conceded that employees did not have the resources to embark on skills development initiatives on their own hence the company needed to step in and assist them. Participant One who is the Accounts Manager commented that Redman Consulting could benchmark from other organisations that train their employees regularly and get reimbursements from the government.

Participants Five and Six who are both supervisors lamented that the lack of employee training at Redman Consulting made their supervisory tasks even more difficult as front-line workers were prone to making costly errors. Participant Six stated that as the sales supervisor, he had to intervene on many occasions in cases where front-line salespeople had, for example, overcharged a customer, provided wrong information, or simply mishandled a customer request resulting in some misunderstanding. Participant Six observed that some of the mistakes could be solved by extensive training on product knowledge.

Employee training is a topic that features heavily in the extant literature. According to Kianto (2017), staff training and development are key imperatives that can be used to create some competitive advantages provided that continuous employee training and development are treated as an ongoing priority. Kaldeen and Samsudeen (2020) argue that there is a direct correlation between employees' competence and organisational market performance. Therefore, organisations must invest in initiatives that are aimed at boosting the competence of their employees.

As for the sub - themes namely competence, productivity, and proficiency, these are the result of participant narratives which showed a strong belief that well trained employees could produce better results than those who are not properly trained. For example, Participant Six cites several examples where performance gaps could be closed by means of proper training. In the context of the participant narratives, the closing of gaps translates into improved employee competence, productivity, and proficiency.

According to Kianto et al (2017), training and development provide the needed boost for market performance of a company as it adds firm-specific knowledge to its knowledge base to create the required competitive advantage. Therefore, the narratives that were expressed by the participants and the resulting themes are well supported in the literature.

This section demonstrated the role played by people at Redman Consulting. It also discussed the narratives from which the main theme, Training, was derived along with sub-themes being competence, productivity, and proficiency. Relevant literature was also cited to support the findings of the study.

4.2.3 The role played by IT in the market performance of Redman Consulting (secondary research objective two)

- **Main theme: Efficiency**

- **Sub themes / Basic themes: Organisation, competitiveness, and innovation**

This section discusses the role played by information technology in enhancing market performance of Redman Consulting. The section addresses secondary research objective two. The results of the study showed that the participants acknowledged the role played by information technology in the daily affairs of the company. Narrative quotations relevant to this secondary research objective are captured in Table 4.5 below.

Table 4.5: Interview excerpts depicting role of IT in enhancing market performance of Redman Consulting

P/N0	Q/N0	Position	Narrative Quotations
1	8	Acc. Manager	"We use IT for internal and external communication. Internally it supports our intranet. Externally it helps with digital communication like email. We also use it to surf the internet"
1	9	Acc. Manager	" I think it can make them very competitive because SME s can use it to access valuable information just like big businesses"
1	10	Acc. manager	" Yes, IT can improve market performance because with technology, companies can communicate directly with customers"
2	8	Sales manager	"Here we use technology to capture, store and retrieve information. We have customers and supplier databases that rely heavily on IT"
	9	Sales manager	"I believe IT can speed up the process to develop KIC because it is an enabler of most business efforts, eg. innovation, organizational learning and knowledge sharing depend on IT"
2	10	Sales manager	" I think IT can improve market performance of SMEs because it can help them reach more customers at reduced costs
7	8	Sales person 1	"Well, it's used for things like work scheduling, records management and marketing. Our company relies heavily on social media and other digital platforms for advertising"
7	9	Sales person1	"I think SMEs can use IT to automate their processes just like we do at Redman Consulting. Our processes in sales, marketing, accounting and Admin are mainly automated.

The narrative quotations indicated in Table 4.5 above demonstrate the extent to which information technology plays a role in the affairs of Redman Consulting. Some of the areas where information technology is mostly used include marketing. For example, some respondents

alluded to the use of information technology to advertise the company's services and communicate directly with customers, while others mentioned applications such as information capturing, storage, and retrieval. Other uses of IT include work scheduling and accounting. In a nutshell, the results of the study indicate that IT is used quite extensively at Redman Consulting. Based on the reviewed extant literature, the presence of IT infrastructure such as hardware and software within an organisation is a major prerequisite for development of knowledge infrastructure capabilities.

According to Omotayo (2015), IT is a key enabler of organisational processes because 1) it facilitates collaboration between geographically dispersed teams 2) it facilitates knowledge management activities through codification of knowledge, and 3) it facilitates communication and knowledge sharing. Bharadwaj et al (2015) believe that it is important for SMEs to comprehend the extent to which IT can be harnessed to achieve organisational competitive dynamics. Information Technology applications can be classified as 1) knowledge-oriented technologies, for example, Web browsers to facilitate knowledge sharing 2) function oriented technologies, for example, office automation 3) specialty oriented technologies, for example, design software such as CAD, and 4) social networking technologies, for example, for information sharing (Bharadwaj et al, 2015). The authors argue that when SMEs are aware of these capabilities of IT, they can fully exploit the technology and improve their organization's market performance.

The above argument is important for this discussion because the captured narrative quotations indicate that Redman Consulting is using IT at the most basic level which is way below the full scope of its possible deployment. Another key finding of the study is that the use of IT at Redman Consulting has not fully translated into improved market performance. This finding is significant because it defies the commonly held notion that somehow, IT automatically confers strategic competitive advantages on an organisation. The reviewed literature cautions against such thinking. For example, Omotayo (2015) argues that IT is just a tool whose immense power must be controlled by people for the attainment of specific outcomes but is incapable of achieving much on its own. Kianto et al (2017) posits that organisations must deliberately

support key business processes with appropriate IT capabilities that can improve organisational performance.

Ordinarily, the extensive use of IT at Redman Consulting should have translated into enhanced market performance. However, due to the stand-alone nature of knowledge infrastructure capabilities, the combined effect of those capabilities has been found to be lacking. The research model of the study, adapted from Azyabi (2018), clearly shows that improved organisational performance is a function of the combined strengths of the four knowledge infrastructure capabilities namely people, IT, organisational structure, and organisational culture working in tandem with each other. The author states that poor coordination of these knowledge infrastructure capabilities hinders market performance.

Themes and sub themes (secondary research objective two)

The interview narratives yielded one major theme namely efficiency and three sub-themes namely organisation, competitiveness, and innovativeness. The major theme emerged based on the finding of the study suggesting that IT had improved the company's processes and procedures leading to improved workflows. Consequently, the company's internal activities had become better organised. Although IT facilitates the acquisition of innovative and competitive capabilities, the same had not yet happened at Redman Consulting as shown by the lackluster market performance of the company. These two sub themes represent efforts which are still at their nascent stage but are projected to help improve the organisation's future performance.

This section discussed the role of IT in the development of knowledge infrastructure capabilities and enhancement of market performance at Redman Consulting. The findings revealed that the company had invested significantly in IT infrastructure. However, the availability of IT infrastructure had not translated into improved market performance due to poor coordination of knowledge infrastructure capabilities namely people, IT, organisational structure, and organisational culture.

4.2.4 How organizational structure affects the market performance of Redman Consulting (secondary research objective three)

- **Main theme: Control**
- **Sub themes/ Basic themes: Demotivation, delegation, and inefficiency**

This section presents the findings of the study that are relevant to secondary research objective three which is to establish how organisational structure affects the development of knowledge infrastructure capabilities at Redman Consulting and how this affected the market performance of the firm. Participants' narratives are captured in Table 4.6 below.

Table 4.6: Interview excerpts on the state of organisational structure at Redman Consulting

P/N0	Q/N0	Position	Narrative Quotations
1	12	Acc. Manager	"I think when procedures are too strict- that stifles freedom of expression and kills creativity, so I think a good organizational structure must be flexible"
2	13	Sales Manager	"No I don't think so because the director maintains total control over everything. Even managers don't have the authority to make decisions. They must consult the director on everything. For me there is too much centralization"
3	14	Admin Manger	"Yes, I do think that some organizational structures induce fear in employees. As such workers become too scared to make mistakes, but in the absence of mistakes there is no learning. So in my view, a structure that is less strict promotes creativity and the will to solve organizational problems".
5	11	Supervisor 2	"I think a good organizational structure helps to create strong work teams.
7	13	Salesperson 1	"Hey, I don't know what to say. The director is the manager, supervisor, everything. Everyone must report to him daily, even the smallest things. Surely, how can things work that way? So, I really don't think the structure at Redman consulting is good at all.
9	14		"I think so. You see, workers don't feel safe when they sense that they can get fired anytime. That affects the way they perform. So

			workers need support from management. "

The narrative quotations captured in Table 4.6 above indicate that the respondents do not view the organisational structure at Redman Consulting as being conducive for the development of knowledge infrastructure capabilities. Most of the participants expressed narratives which reflected concern with the way that the organisation was run. For example, Participants One, Two, and Three who are all departmental managers complained that management of the company was so centralised that even departmental managers like themselves had been reduced to the level of ordinary workers. They specifically expressed dissatisfaction with the director of the company whom they accused of running the business single-handedly.

Participant 1, who is the Accounts Manager cited several examples where the director had by-passed him and made decisions which later negatively impacted on the former's job. Participants One, Two, and Three also expressed the complications that had arisen out of this setup. They all indicated that as departmental managers, they were expected to be efficient in executing their duties, yet they were denied the authority to make decisions that were affecting their departments. Other respondents such as Participants five, Seven, and Nine also expressed dissatisfaction with the management structure of the company.

Of the three participants, Participant Nine who works as a Sales Assistant was the most vocal. She complained bitterly that she gets paid on commission and every week she must provide the Sales Manager with reports for all the previous week's work. The Sales Manager is supposed to sign the report and forward it to the director for clearance so that the salesperson gets paid. However, Participant Nine indicated that the director was always away and therefore unable to sign her sales reports. Consequently, she would not be paid all her dues come month end, something that worried her a lot. Other participants had fairly muted responses which did not warrant capturing.

In as far as the reviewed literature is concerned, there is consensus amongst several authors about how organisational structure affects the development of knowledge infrastructure capabilities. According to Azyabi (2018), the efficiency of an organisation's structure is measured by the

degree of centralisation. Centralisation in an organisation hinders frequent sharing of ideas and interdepartmental communication and results in discontinuousness as well as distortion of ideas. On the contrary, a flexible organisational structure has positive effects on knowledge management practices across the firm (Azyabi, 2018).

Bharadwaj et al (2015) describe organizational structure as the second most critical factor in the development of knowledge infrastructure capabilities because it embodies the rules, policies, procedures, processes, reporting relationships, and incentive systems that help define the organisation. The authors further state that in view of the magnitude of potential negative effects of a poor organisational structure, organisations must deliberately place flexibility at the core of their organisational structures.

The captured narratives suggest that the organisational structure at Redman Consulting is not conducive for the development of knowledge infrastructure capabilities. The company functions on a rigid organisational structure that stifles freedom of expression, innovation, and creativity. The rigidity of the structure has also caused widespread demotivation amongst staff members.

Themes and sub themes (secondary research objective three)

The major theme and basic themes emerged from the preceding narratives. For example, the major theme, control, emerged as a result of the participants' narratives describing the management style as being overwhelmingly centralised with the director exercising tight control over all affairs of the company. Similarly, basic themes such as demotivation, delegation, and inefficiency emerged in response to the participants' negative characterisation of their work environment. For example, a tightly controlled working environment caused widespread demotivation of staff. Furthermore, tight control had caused inefficiencies in the execution of administrative duties. On the contrary, decentralisation would reduce bureaucracy and increase efficiencies.

This section presented the findings of the study that are relevant to secondary research objective three. Excerpts of participants' narratives were also given to demonstrate the link between the original narratives and emergent themes. The extant literature that is relevant to the research

objective was also discussed. The next section presents the findings of the study that address secondary research objective four.

4.2.5 The role played by organizational culture in the market performance of Redman Consulting (Secondary research objective 4)

➢ **Main theme: Support**
➢ **Sub themes/ Basic themes: reciprocity, motivation, and commitment**

This section presents the findings of the study that are relevant to secondary research objective four which is to determine the role played by organisational culture in the development of knowledge infrastructure capabilities at Redman Consulting and how this might have affected the market performance of the firm. Several narrative quotations from the participants are captured in Table 4.7 below.

Table 4.7: Interview excerpts depicting the role of organizational culture at Redman Consulting

P/N0	Q/N0	Position	Narrative Quotations
1	15	Accounts manager	"I think culture is key. Everything depends on culture because Culture is about people"
1	16	Accounts manager	'I think they must lead by example. They must show their workers what must be done.
2	17	Sales manager	" chaos- I think there would be big problems such as low productivity, indiscipline, etc.
2	18	Sales manager	I think its fair. Problem is lack transparency. Its like management feels that workers are untrustworthy so they hide everything from them.
3	19	Admin manager	"I think more inclusiveness is key. Management must engage workers and not treat them like outsiders.
7	15	Salesperson 1	"I think it affects the company in that, sometimes people don't do their work well because of laziness or so, then the company loses customers.
7	18	Salesperson 1	"It's not bad. Just that sometimes people get frustrated and refuse to assist others –that's a problem sometimes"
9	15	Salesperson 3	Market performance comes from the efforts of workers. When workers are happy and they do well, the company prospers".
9	17	Salesperson 3	"Lack of progress. I think it will be dangerous for a company to let poor culture ruin the business

9	18	Salesperson 3	"Sometimes it's good, sometimes it's bad. If people just work together and build trust, things would be fine"
10	20	Salesperson 1	"Train staff, pay them well and make them happy.

The narratives from the participants shown in Table 4.7 above indicate that the participants are aware of the factors that constitute a positive organisational culture. They cite factors such as lack of trust, inability to cooperate, and lack of transparency as causes of workplace challenges. Another concern that emerged from the narratives is lack of engagement between management and workers. They complained that management does not involve workers in key decisions leaving workers feeling like they are outsiders. The participants also demonstrated an understanding of the relationship between organisational culture and market performance.

Overall, participants' narratives suggested that the organisational culture at Redman Consulting was relatively suitable for the development of knowledge infrastructure capabilities despite certain weaknesses. For example, several participants responded that the employees at Redman Consulting exhibited positive qualities in their interactions with each other. These qualities included mutual respect, fairness, cooperation, and tolerance all of which are necessary for the development of knowledge infrastructure capabilities.

The above findings have a high correlation with the reviewed literature. For example, Mohajan (2017) states that barriers to building knowledge assets mostly stem from the existence of poor organisational culture which is characterised by a lack of knowledge sharing and other symptoms. According to Bharadwaj et al (2015), organisational culture has been identified as the most difficult element of the knowledge infrastructure framework to align to organisational goals. The authors posit that the reasons for this difficulty are diverse but include the fact that culture encompasses core beliefs, traditions, morals, and values of people all of which are difficult to change. According to Azyabi (2018), other factors that influence organisational culture include reward systems, business processes, and leadership.

A further look at participant narratives reveal that the respondents believe that management must play a leadership role in shaping the organisational culture at Redman Consulting. For example,

some participants expressed the view that management must not just talk but should actually show employees how to conduct themselves. This narrative echoes the same sentiments that have been expressed by Mohajan (2017) in which various leadership issues are described as having the capacity to either hinder or aid the development of knowledge infrastructure capabilities. These include 1) lack of management commitment 2) lack of attractive incentive schemes, and 3) lack of strong leadership. It is evident from the review of narratives that management at Redman Consulting must play a proactive leadership role in promoting aspects of organisational culture which workers must adopt.

**Themes and sub themes (secondary research objective four)**

The themes that emerged from the narratives best describe the situation at Redman Consulting. The major theme, support, reflects the concern of the participants that management is not leading by example. The participants further expressed the view that lack of management commitment had resulted in some of the workers lacking commitment themselves hence the theme commitment. Other sub themes, reciprocity and motivation emerged from the participants' assertion that market performance and employee motivation go hand in hand. In short, when workers lacked motivation due to management's failure to reciprocate their efforts, there could be no improvement in the company's market performance.

This section focused on the role of organisational culture in the development of knowledge infrastructure capabilities of Redman Consulting and how this may have affected the firm's market performance. The narratives from the respondents were also presented. Relevant literature was discussed to help link the results of the study with the theory.

4.3 Thematic network

The thematic network exhibited in Figure 4.1 summarises the relationships amongst various themes. The purpose of the diagram is to show the interconnectedness of the themes. As stated in the literature by Azyabi (2018), knowledge infrastructure capabilities must be fully integrated for them to create the desired competitive advantage for the firm. Woodall (2016) posits that the emergent themes must retain their relational characteristics and must vividly speak to the research objectives. In the same manner the connecting lines demonstrate the relational aspects.

Figure 4.1: Thematic network
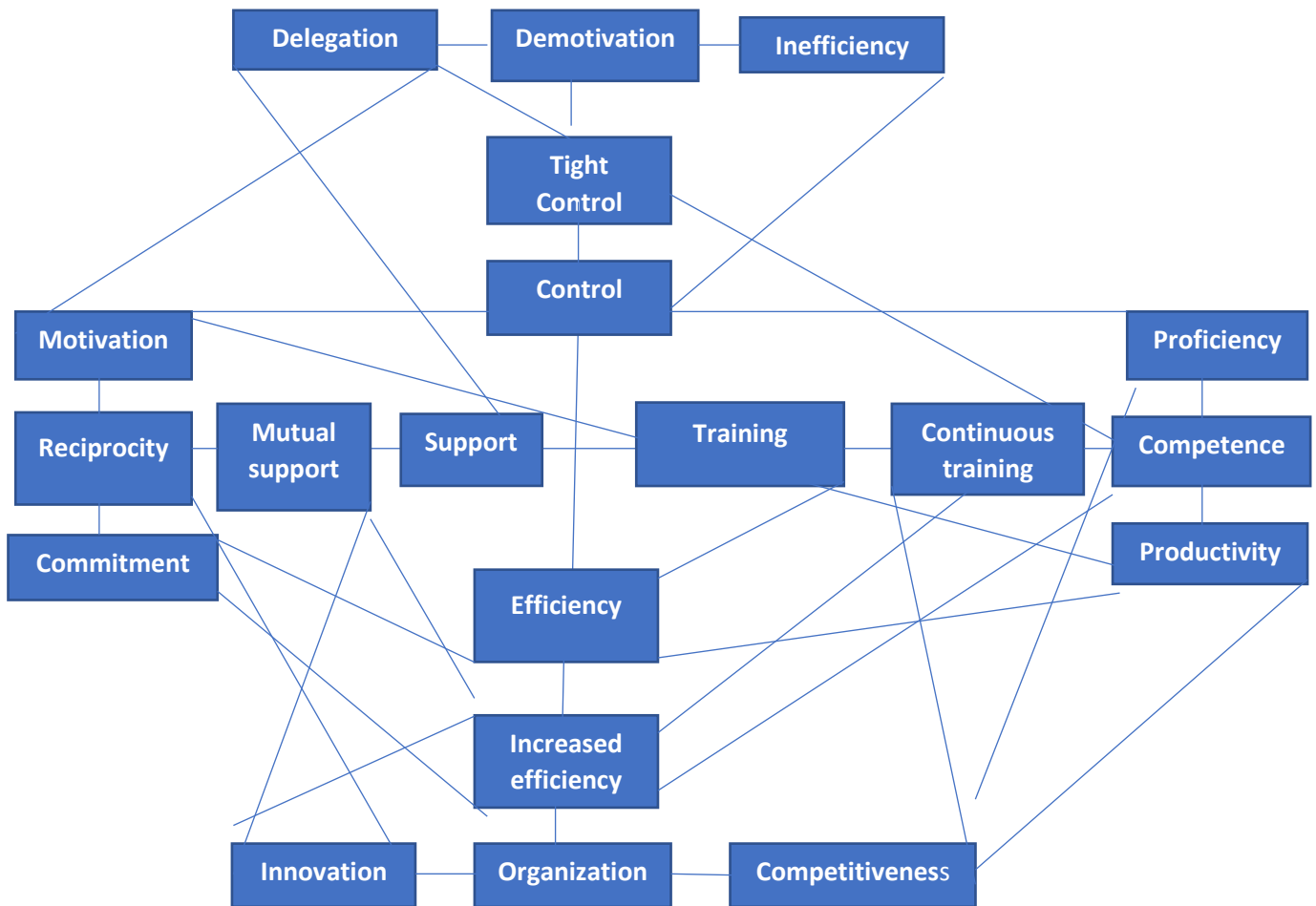
4.4 Chapter summary

This chapter presented and discussed the key findings of the study. The findings were analysed in line with the presentation in Chapter 2. The findings focused on the role of knowledge infrastructure capabilities at Redman Consulting and effects on market performance of the firm. The next chapter presents the final summary, recommendations and conclusion.

FINAL SUMMARY, RECOMMENDATIONS AND CONCLUSION

5.1 Introduction

The preceding chapter presented and interpreted the research findings. The purpose of this chapter is to summarise the research findings and offer recommendations based on the findings of the study. The chapter will also offer a conclusion of the study.

5.2 Purpose of the study

The objective of the study was to investigate the role of knowledge infrastructure capabilities on the market performance of Redman Consulting (Pty) Ltd, Botswana. The study adopted a case study research design in which structured interview questions were used in face-to-face meetings to collect relevant data from the research participants.

5.3 Final summary

This section presents the ultimate summary of the research findings. The section has five segments which comprise the primary research objective, the first secondary research objective, the second secondary research objective, the third secondary research objective, and the fourth secondary research objective.

5.3.1 The role of knowledge infrastructure capabilities on the market performance of small and medium enterprises. (primary research objective)

The results of the study revealed that there was a strong correlation between market performance and the presence of strong knowledge infrastructure capabilities. The study revealed that most employees of Redman Consulting had limited understanding of the importance of knowledge infrastructure capabilities. Although their daily activities confirmed that they operated within a knowledge infrastructure capabilities framework, they did not fully understand the advantages that came with a full deployment of such capabilities.

The study findings further revealed that the predominant practice at Redman Consulting was to treat each knowledge infrastructure capability as a stand-alone entity. There was no sign that any

attempts were being made to integrate the four knowledge infrastructure capabilities namely people, IT, organisational structure, and organisational culture.

Due to the negligible role played by knowledge infrastructure capabilities, the market performance of the company had not been satisfactory. The study identified key factors which helped to explain Redman Consulting's unsatisfactory market performance. These factors included lack of innovation, a situation that had resulted in the company failing to either introduce new products or revamp existing ones. This particular factor made it difficult for Redman Consulting to compete on the market. Other factors included a high customer attrition rate, rampant demotivation of staff, and poor leadership.

The complaint about feeling demotivated was widespread amongst the respondents. Factors such as lack of delegation, lack of recognition for personal effort as well as lack of opportunities for training and career development contributed to rampant demotivation of employees. Regarding lack of delegation, the respondents complained that the Managing Director ran the organisation single handedly even though the company had hired departmental mangers such as the Administration Manager, Sales Manager, and Accounts Manager. The respondents complained that the lack of delegation created serious bottlenecks in their workflow. For example, the Sales Manager cannot sign and authorise time sheets for the payment of salespeople's commission; the Accounts Manager cannot run payroll without the authorisation of the Managing Director, and the Administration Manager cannot authorise staff leave without the consent of the Managing Director. All these factors hindered the smooth flow of daily activities resulting in widespread demotivation of managerial employees.

5.3.2 The role of people in the market performance of Redman Consulting (Pty) Ltd. (Secondary research objective one)

The purpose of this secondary research objective was to ascertain the role that people played in the development of knowledge infrastructure capabilities at Redman Consulting. The study revealed that the employees of Redman Consulting were instrumental to the success of the company. For example, they attended to customers, performed administrative duties, and generated revenue through both internal and external sales activities. None of the company's

activities were outsourced thus workers of Redman Consulting performed all the tasks within the company.

In spite of the overwhelming importance of its employees, the results of the study revealed that Redman Consulting did not have a strategy in place to support the professional development of its workforce. Workers were left to do what they could at their own expense. This is despite the presence of government initiatives through which companies get reimbursed for training their employees. Despite the unsatisfactory working conditions, Redman Consulting had not experienced a high staff turnover as would be the case in many instances. This can be attributed to the fact that workers have formed a committee that works with management to address workers' grievances. The workers feel that the committee is making good progress, albeit slowly, and they are hopeful that in due course, management will implement some of the desired changes which include adequate compensation, recognition for excellent performance, creation of opportunities for career advancement and many more.

5.3.3 The role played by IT in the market performance of Redman consulting (Pty) Ltd (secondary research objective two)

The results of the study revealed that IT plays a critical role in the daily affairs of Redman Consulting. Information technology is used for many activities such as data capturing, storage, retrieval, and sharing. It is also used extensively in marketing and sales activities. For example, marketing activities where IT is used include product promotions on social media, circulating product news within the community of customers, and advertising.

Information technology is also used by salespeople for various purposes such as work scheduling, sharing product information with customers, video conferencing, email communication, and information sharing through social media. Within the company, IT is used for intranet services as well as management of customer accounts. The study also revealed that Redman Consulting had invested significantly in IT infrastructure. This notable investment could mean that the company understands the role of IT in the development of knowledge infrastructure capabilities.

However, the investment in IT infrastructure had not yet translated into a competitive advantage. Although commending the company for investing in IT and thus making data handling less cumbersome, workers complained that they lacked adequate training in many aspects of IT. They expressed the belief that with sufficient training, they could do more with the technology and help the company to prosper.

5.3.4 How organizational structure affects the market performance of Redman Consulting (Pty) Ltd (secondary research objective three)

This section was meant to establish how organisational structure affected the development of knowledge infrastructure capabilities at Redman Consulting and how this affected market performance of the company. The study revealed that organisational structure had a significant impact on the workers' daily lives. The respondents revealed that the company had a rigid/ centralised organisational structure. They complained that the lack of flexibility made their jobs difficult in that almost everything required the input of the Managing Director. Similarly, departmental managers could not make any decisions and act without the input from the Managing Director. Furthermore, the rigidity of the organisational structure had severely hindered staff interactions as workers tended to spend most of their time within their departments**.**

5.3.5 The role played by organisational culture in the market performance of Redman Consulting (Pty) Ltd (secondary research objective four)

The study sought to determine the role played by organisational culture in the development of knowledge infrastructure capabilities at Redman Consulting and how this might have affected the firm's market performance. The findings showed that habits such as working together for a common purpose, providing mutual support to fellow workers, and practicing tolerance were highly cultivated at Redman Consulting. The study further revealed that despite many challenges that demotivated staff, workers were mainly proactive in executing their tasks. They did not always wait for supervisors to instruct them but rather they followed each day's routine without fail.

It was also noted from the results of the study that some workers at Redman Consulting had not changed jobs for close to a decade. The study revealed that this was due to the team spirit which workers cultivated amongst themselves and, to a lesser extent, with management. Apparently, workers had their own code of conduct which they practiced amongst themselves. For example, they voluntarily took over and did the work of their colleague who may be absent due to illness or other reasons. Secondly, they had their own WhatsApp group where they discussed various issues, both personal and work related. The bond amongst them was so strong that each of them felt like they owed their allegiance to the group.

5.4 Recommendations

The study revealed several key issues that are worth noting. The first one is employee welfare. Companies need to prioritize staff welfare, as it has a direct impact on employees' performance. Secondly, relations between management and workers must also be properly handled so as to reduce animosity between the two groups. Other important issues that require careful consideration include training and skills development. These recommendations are discussed in detail below.

5.4.1 Staff welfare

The findings of the study suggest that staff welfare has a big impact on organisational market performance because workers are responsible for every activity that is undertaken at Redman Consulting. Below are recommendations to help organisations deal with the challenges of staff welfare.

➢ Redman Consulting must develop clear policies that give priority to all aspects of staff welfare. Such policies must include staff training and skills development, social support structures, compensation schemes, collaboration with other organisations to help workers bench mark best practices, workers and management joint committees to help deal with grievances, and a commitment by management to act fairly at all times when handling workers' issues.

- The company must set up a committee to implement the policy, make recommendations, advise management on required changes and review it periodically to ensure that it remains relevant to the aspirations of both management and workers.

5.4.2 Trust

Redman consulting must address the absence of trust between workers and management. In order to succeed in this endeavor, the company must adopt the following recommendations.

- Management must be exemplary by fulfilling their promises to the workers. Management must not promise something then renege on that promise, as that destroys trust.
- Management must establish multiple communication channels through which they can reach employees. Furthermore, two-way communication between workers and management must be encouraged. In that setup, management must not reprimand workers for voicing genuine concerns.

5.4.3 Modification of organisational structure

The company must aim to boost the morale of workers by improving working conditions. To realize that goal, the company must heed the following.

- Decentralise authority. Top management must delegate more responsibilities and authority to departmental managers. This way departmental managers and workers will work closely together, and the former will identify and solve problems of the latter more quickly. This will remove system bottlenecks, reduce frustration amongst workers, and improve their performance.
- Allow for more interaction between departmental employees. Senior management should facilitate organisational learning and knowledge sharing and introduce incentive schemes to compensate those who share their knowledge.

5.3.4 Prioritise usage of information technology

Technology is central to organizational success given its overarching reach within and outside the organisation. In this regard, Redman Consulting must adopt the following recommendations.

➢ Balance investments in technology with equal effort in training staff on the use of such technologies. In the absence of adequate training, the acquired technology will be underutilised and the company will not benefit from its investment in technology.

➢ Investigate alternative ways where IT can be deployed in order to enhance organisational performance. In this regard, Redman Consulting must benchmark from within and outside Botswana to learn best practices in the application of IT.

5.5 Conclusion

The study focused on the role of knowledge infrastructure capabilities on the market performance of Redman Consulting (Proprietary) Limited. The findings confirmed that each knowledge capability played a crucial role in the operations of Redman Consulting. The four knowledge infrastructure capabilities which the study focused on were people, IT, organisational structure and organisational culture. The findings of the study revealed that each of them played a significant role in enhancing the company's market performance. However, the glaring gap was that each of them functioned as a standalone entity thus failing to trigger the competitive benefits that would have occurred from their proper alignment.

In terms of contribution to knowledge, the study was useful as it highlighted the strengths and weaknesses of Redman Consulting in respect of the four knowledge infrastructure capabilities. For example, on the issue of people, the study revealed that Redman consulting did not have a people centered strategy despite the fact that virtually every activity within the company was driven by people. On the contrary, the company could become more competitive if it focused on growing the skills of its workers.

Regarding the role of IT, the study revealed that Redman Consulting had invested significantly in that area. Therefore, what the company must focus on is training its workers to be competent in using the technology. Empowering workers is most likely to yield substantial benefits as workers' competence could translate into market competitiveness. Organisational structure and organisational culture were also analysed. The results of the study suggested that workers were weary of the company's rigid organisational structure.

The rigid structure was described as a source of demotivation by most workers. Therefore, Redman Consulting could benefit immensely from modifying its structure and making it more flexible. This would reduce the level of anxiety amongst workers and make them less resentful towards management. Organisational culture was also discussed. The results of the study revealed that the culture at Redman Consulting exhibited some positive attributes. For example, workers operated as a tight unit, supported each other when the need arose and shared knowledge through their personal social media accounts. This is a positive outcome as organisational culture is usually described as the most difficult variable to manage within the knowledge infrastructure capabilities framework.

Lastly, the study has several implications for various groups. These include other SMEs in the same category as Redman Consulting, policy makers and future researchers. First, other SMEs can use the findings to learn about knowledge infrastructure capabilities and improve the performance of their own enterprises. Second, policy makers can use the results of the study to try and understand how knowledge infrastructure capabilities affect organisational market performance. They can then incorporate such knowledge into capacity building efforts aimed at SMEs. Third, future researchers can use these findings as a point of departure for future research. For example, they can use these findings to build their hypotheses and investigate whether or not these results can be generalised to other SMEs outside Botswana and across the globe.

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APPENDIX 1: Introduction letter

Dear Participant

This letter serves as an introduction. I write to request your participation in the study that I am undertaking in partial fulfillment of the requirements for my degree of Masters in Business Administration (MBA) at Botho University. Your participation if consent is granted shall be to partake in the face to face interview. The title of the study is given below.

The role of Knowledge infrastructure capabilities on the market performance of SMEs - A case study of Redman Consulting (Pty) Ltd, Botswana.

Kindly note the following:

1. You are free to decline this request if you don't feel free to participate.
2. The information collected is for research purposes only and shall not be used for any other purpose.
3. The maximum duration for face to face interviews shall be 1(one) hour only.

Attached to this letter are interview questions to help you prepare for the interview. Should you require any further clarification, please do not hesitate to contact me at the numbers below.

Full name of Student: Donald Senthufhe

Study Programme: Masters of Business Administration (MBA)

Supervisor: Prof Ushe Makambe

NB: Your name and contact number are required as proof of consent.

Yours sincerely,

Donald Senthufhe
72164154/ 74646823

Participant consent

Consent granted   Yes   No

Full name of participant: _____

Contact details: Mobile no: _____

Email: _____

APPENDIX 2: Interview questions

1. What do you know about knowledge infrastructure capabilities?

2. Do you think it is important for small and medium Enterprises to develop Knowledge infrastructure capabilities?

3. Explain how you think SMEs can benefit from having fully developed knowledge infrastructure capabilities?

4. What do you think is the role of people in the development of knowledge infrastructure capabilities?

5. As an employee of Redman Consulting, how do you think you can contribute towards the company's development of knowledge infrastructure capabilities?

6. SMEs around the world including Botswana are known to suffer from acute skills shortages. How do you think this challenge can be overcome, particularly for local SMEs like Redman Consulting?

7. What role do you think Information Technology plays in the company's ability to develop new products and services?

8. Explain how Information Technology is used at Redman Consulting.

9. In your own words explain the role that information technology can play in the efforts by SMEs to develop knowledge infrastructure capabilities.

10. Do you think increased use of information technology can result in improved organizational market performance?

11. What do you think is the role of organizational structure in aiding the development of knowledge infrastructure capabilities?

12. In what ways do you think organizational structure can inhibit the development of knowledge infrastructure capabilities?

13. In your view, is the organizational structure at Redman Consulting suitable for the development of knowledge infrastructure capabilities?

14. Do you think there is a relationship between a particular organizational structure and above average market performance?

15. Explain how you think organizational culture affects the firm's market performance.

16. What do you think managers, particularly in the SME sector can do to improve the culture of their organizations?

17. What do you see as the potential long-term consequences of a poor organizational culture?

18. Describe the organizational culture at Redman Consulting.

19. If anything must change within its culture, what should that be?

20. What do you think SMEs like Redman Consulting must do to improve their market performance?

END OF INTERVIEW: THANK YOU FOR PARTICIPATING