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Mobile network operator willingness to cannibalise as a dynamic capability

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2021

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Mobile network operator willingness to cannibalise as a dynamic capability

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A research report was submitted to the Wits Business School in the University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Management in the field of Innovation Studies

Johannesburg, 2021

ABSTRACT

The purpose of this study is to explore a willingness to cannibalise as a dynamic capability within incumbent mobile network operator (MNO) firms to enable radical innovations. Radical innovation is imperative for firm performance, growth, and survival in a rapidly changing and uncertain business environment. MNOs are increasingly facing an environment of business defined by discontinuous changes in their competitiveness, such as regulatory pressures, increased competition and alternative technologies customers can use to access services. Therefore, a willingness to cannibalise will be a critical dynamic capability for MNOs facing such a challenging environment.

The study proposed a conceptual framework for the strategic management of the innovation process within MNOs. The framework suggested that MNOs must be willing to sense (explore) and seize (exploit) opportunities whilst shifting resources towards opportunities that may lead to cannibalising their current investments to enable more radical innovations. The central proposition of this study was that having a willingness to cannibalise as a dynamic capability will enable incumbent MNOs to adequately respond to discontinuous change environments by enabling radical innovations through their firm-level innovation processes.

The study used a qualitative research approach to investigate the validity of the proposed conceptual framework and research propositions. The study used semi-structured interviews with decision-makers within incumbent MNO firms in South Africa. The collected data were analysed to test the validity of the framework and determine the views of decision-makers on willingness to cannibalise as a dynamic capability that results in radical innovation.

The study found that a willingness to cannibalise is an essential dynamic capability for MNOs faced with a VUCA environment and requires the strategic management of

innovation to enable radical innovations. The study found that MNOs must develop robust internal markets with higher levels of autonomy for their business units if they are to seize on potentially cannibalistic opportunities. The study also found that the role of senior leaders in shaping the organisational structures and systems and creating an innovation-enabling culture is crucial for developing a willingness to cannibalise as a dynamic capability.

The implications of these results are that traditional MNOs will need to fundamentally change their organisational structures and systems and adopt an innovation-enabling culture if they are to develop a willingness to cannibalise. Senior leaders within MNOs must set the direction by changing their attitudes towards innovations that cannibalise short-term investments. Innovation management practices will be essential in the ability of MNOs to effectively introduce innovations that could cannibalise.

KEYWORDS

Dynamic Capabilities, Willingness to Cannibalise, Radical Innovation

DECLARATION

I, _____, declare that this dissertation is my own unaided work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Management in the field of Innovation Studies at the Wits Business School in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other University.

Signature: ……..

On this …… day of ……20 ……..

Name

DEDICATION

For Tlho, always

ACKNOWLEDGEMENTS

I would like to thank my family for their patience and understanding. My willingness to cannibalise our time together was only possible through your support and willingness to support my love for learning.

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LIST OF ABBREVIATIONS & ACRONYMS

4IR	Fourth Industrial Revolution
ARPU	Average Revenue Per User
CAPEX	Capital Expenditure
EXCO	Executive Committee
GDP	Gross Domestic Product
KPI	Key Performance Indicator
MNO	Mobile Network Operator
NPS	Net Promoter Score
OPEX	Operational Expenditure
OSD	Organisational Self-Disruption
OTT	Over-The-Top
ROI	Return on Investment
SMS	Short Message Service
Telco	Telecommunications operator
VUCA	Volatile, Uncertain, Complex, Ambiguous
WEF	World Economic Forum

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CHAPTER 1: INTRODUCTION

1.1 PURPOSE OF THE STUDY

This study aimed to explore how firms can build a willingness to cannibalise as a dynamic capability within their strategic management of innovation in a dynamic and rapidly changing environment that is Volatile, Uncertain, Complex and Uncertain (VUCA). In the context of this study, cannibalisation refers to the deliberate "creative destruction" that occurs when firms develop and introduce innovations that compete with their current product offerings (Cravens, Peircy, & Low, 2002). The study sought to understand how firms can develop a willingness to cannibalise on current investments to enable radical innovations that are potentially "disruptive" to the firm's existing products and services.

Today's telecommunications industry is experiencing high levels of turbulence and disruption (Grossman, 2016). This study investigates how incumbent Mobile Network Operators (MNOs) can develop the capabilities necessary to respond to the disruption through the strategic management of innovation within the firms. However, the researcher believes that insights from the study will be useful for incumbent firms in other industries facing the disruptive forces or turbulent changes brought about by the Fourth Industrial Revolution.

The current environment in which firms operate has been described as VUCA and a driver of disruptive innovation (Millar, Groth, & Mahon, 2018). There is a need for firms to adapt to this VUCA reality, and the ability of firms to respond to rapid change is going to determine whether the government's intention to respond effectively to the digital revolution is successful or not. For firms to successfully respond to these rapid changes, this study argues that they need to acquire specific capabilities to respond successfully. Dynamic capabilities are critical to the ability of organisations to respond to disruptions and rapid change in their environment (Schoemaker, Heaton, & Teece, 2018).

1.2 CONTEXT OF THE STUDY

At the beginning of 2019, the South African President appointed a Commission on the Fourth Industrial Revolution (4IR), the aim of which was to help the government respond effectively to the "digital industrial revolution" (The Presidency, 2019). The World Economic Forum (WEF) states that we are in an age of significant technological, economic and societal changes brought about by advances in digital technologies. The 4IR will impact the ability of businesses to achieve competitive advantage because of an accelerated "innovation cycle", resulting in a faster mortality rate for business models (World Economic Forum, 2018).

In this "end of competitive advantage" era (McGrath, 2013), firms must develop the capacity and capabilities to respond to existential threats. This new reality changes the attitude of firms towards innovation and "the changing nature of innovation" (p. 8) with an increasing awareness of the impact of disruptive technologies and business models on incumbents and their ability to compete (Baller, Dutta, & Lanvin, 2016).

Hence, the recognition by the World Economic Forum (WEF) that business dynamism ("[the] capacity to generate and adopt new technologies…") is a crucial pillar to a country's competitiveness in the Fourth Industrial Revolution (World Economic Forum, 2018). Firm-level innovativeness is recognised as critical to the ability of the overall economy to be competitive (Crossan & Apaydin, 2010). Firms will need to develop relevant capabilities to help them respond to an era where sustaining competitive advantage is difficult; the capabilities are suitable for a turbulent and ever-changing environment.

1.2.1 ORGANISATIONAL SELF-DISRUPTION AND A WILLINGNESS TO CANNIBALISE

In a qualitative study, Ramukumba (2018) proposed and evaluated a conceptual framework for understanding how firms can sustain competitive advantage by developing the strategic capabilities that enable them to respond to discontinuous changes in their environment by developing a willingness to cannibalise on their investments. The study argued that firms could respond to discontinuous changes in their environment by developing Organisational Self-Disruption (OSD), defined as a "dynamic capability that enables organisations to be willing to transform their resources, business models radically, and strategy at the expense of short-term goals, investments and value creation to respond to discontinuous changes in their environment […] and sustain a competitive advantage" (Ramukumba, 2018, p. 2).

OSD enables organisations to respond to discontinuous change through the strategic management of organisational ambidexterity (explore and exploit), strategic flexibility (adaptability and proactive to change) and strategic renewal (changing of organisational capabilities and competencies) (Ramukumba, 2018). Ramukumba (2018) primarily focused on enabling OSD through strategic adaptation and strategic choices by organisational leaders.

While Ramukumba (2018) found that OSD enabled leaders to respond to discontinuous change through the strategic adaptation of organisational capabilities, it did not pay enough attention to understanding what a willingness to cannibalise as a dynamic capability entails. Although Ramukumba (2018) recognised OSD as necessary in responding to discontinuous change, it also did not highlight the magnitude of the innovation (radical/incremental) required in that response.

This study builds on Ramukumba (2018) by investigating how a willingness to cannibalise as a dynamic capability is crucial for incumbent firms facing disruption in

their industries to enable radical innovations. This research argues that radical innovations are critical for firms looking to respond to a VUCA world. This study builds on understanding the elements of a willingness to cannibalise, internal markets, innovation champions, future market focus, and their impact on the willingness to cannibalise.

The study extends on Ramukumba (2018) by further exploring a willingness to cannibalise as dynamic capability and understanding how MNOs can build the capabilities necessary to self-disrupt, i.e., to cannibalise on their investments. The study focused on a single industry facing disruption to explore the incumbents' innovation challenges further and expand on how decision-makers within the industry view the role of a willingness to cannibalise in responding to disruption.

This study seeks to explore how firms can develop a willingness to cannibalise as a dynamic capability. Therefore, this study aims to understand how decision-makers can develop a willingness to cannibalise as a dynamic capability within MNOs to enable radical innovation in responding to a rapidly changing business environment.

1.2.2 THE MNO CONTEXT

There were an estimated 5.1 billion global mobile subscribers in 2018 (GSMA, 2019). MNOs generated revenues of up to $1.03 trillion and are expected to invest $321 billion between 2019 and 2020 (GSMA, 2019). The mobile economy has had a significant impact on the world economy, contributing 4.6% to the global GPD in 2018 alone. The telecommunications industry has contributed significantly to the South African economy. Mobile connectivity has contributed to growth in almost all other industries in both the global and local economies.

The South African telecommunication industry generated some R187.6 billion in revenues and employed over 37,000 people directly in 2018. Mobile operations generated over 50% of all revenues generated and continued to grow even with mobile penetration at over 100% (Bekker, 2019). Although key financial metrics continue to show growth (Lancaster, 2019), growth has slowed as the market has reached saturation, with average revenue per user (ARPU) trending downwards even as consumer demand for data services grows (FitchSolutions, 2019). These declining revenues pose a risk to the ability of the industry to contribute to the overall economy. This trend is also visible in the global telecommunications industry.

Global telecommunications revenues have been declining since 2010, even as data-driven networking has required operators to invest heavily, thereby putting pressure on margins (Frisiani, Jubas, Lajous, & Nattermann, 2017; Rehse & Wilms, 2012). Both the local and international MNO markets have had to adapt to the digital revolution. The digital revolution has resulted in consumers moving away from traditional industry products and services and embracing new disruptive Internet-based alternatives (Mohr & Meffert, 2017; Bekker, 2019).

This disruption has led to some operators reducing their investments into innovation projects (Collinson & Martin, 2018), resulting in telecommunications operators being left behind by Internet-based technology players in realising the benefits of radical innovation. The "digital-first" services and business models of the new digital economy have led to the migration of value in the telecommunications value chain, away from incumbent MNOs to value-adding Over the Top (OTT) digital service providers (Hacklin, Bjorkdahl, & Wallin, 2018).

Overall, mobile network technologies have positively impacted world economic development, with studies finding that mobile penetration contributed significantly to economic growth (Gruber & Koutroumpis, 2011; Saunders, Warford, & Wellenius, 1994). African economies at all income levels have also benefitted from mobile networks rollout (Chavula, 2013). Indeed the GSMA (2019) notes that mobile networks

are an essential part of the "digital future" with advances in connectivity, speed and digital infrastructure depending on the adoption of new mobile network technologies. However, there is now a recognition that MNOs will need new and innovative business models driven by digital transformation (Rehse & Wilms, 2012; WEF, 2017).

Innovation pull has always driven technological progress in the telecommunication industry (Bekker, 2019). The mobile industry's ecosystem has predictable ten-year cycles of radical innovation (new technologies, standards and products emerge) and incremental innovation (refinement of offerings) (Jia, Durrani, & Chen, 2018). Investments in discontinuous technological developments and radical innovations led to the rapid growth of the telecommunications industry by coordinating and building the required capabilities that drove growth (Godoe, 2000).

The emergence of mobile telecommunications led to the third industrial revolution and was part of the fifth technological revolution (Pinheiro et al., 2019; Perez, 2010). The telecommunications industry is essential to efforts towards 4IR because it is critical to enabling Industry 4.0 technologies which countries will need to adopt to achieve the potential economic benefits of 4IR (Pinheiro et al., 2019). MNOs will have to move away from incremental innovations and towards more radical innovations by adopting digital transformation as a catalyst for changing their capabilities (WEF, 2017).

MNOs are looking at opportunities to disrupt other markets such as finance and health, which have seen better growth prospects (Collinson & Martin, 2018). In the South African market, MNOs are also looking for opportunities to innovate outside traditional products offerings of voice and data. For example, Vodacom's new offerings include financial and digital services such as insurance, mobile money and other digital content (Vodacom Group Limited, 2019), and MTN stated that 3% and 6% of 2018 revenues came from digital services and financial services, respectively (MTN Group Limited, 2018).

As incumbents look at innovation, they will need to consider that some radical innovations may result in their traditional product offerings' cannibalisation.

1.3 RESEARCH PROBLEM STATEMENT

This study sought to understand the implications of willingness to cannibalise on the ability of MNOs to implement radical innovations. The study also aimed to determine how incumbent MNOs can develop a willingness to cannibalise as a dynamic capability for today's VUCA world.

Although a willingness to cannibalise has is positively related to the ability of firms to introduce radical innovations (Chandy & Tellis, 1998), there is no empirical or anecdotal evidence suggesting that firms have been able to successfully implement this as a strategic orientation. Even General Electric's attempts at self-disruption have so far proven to extract value more than create it (Immelt, Govindarajan, & Trimble, 2009; Colvin, 2018).

Christensen, the father of the "theory of disruption", suggested that firms need to consider disrupting themselves as a way to protect themselves from being disrupted (Christensen & Raynor, 2003). There was even a suggestion that the consulting industry can develop an ability to self-disrupt using some of the suggestions in Christensen's *The Innovator's Solution* (Christensen, Wang, & van Bever, 2013).

However, this type of self-disruption primarily involves the firm investing in an outside entity with its organisational structure and capabilities, with results often failing to have the intended impact once they are brought into the larger firm (Gans, 2016). Since the effects of disruption on incumbents are uncertain, Gans (2016) argues that instead of focusing on customer demand (like Christensen), incumbents must concentrate

instead on the supply-side organisational changes that enable them to respond to change the environment.

Dynamic capabilities enable firms to develop the capabilities to respond to disruption (Schoemaker et al., 2018). With the rapid changes in their business environment and the challenges of leading in a VUCA world, incumbent MNOs will need to respond successfully to known, unknown and possibly unknowable threats. These rapid changes will require new capabilities to quickly respond to the fast pace of change in the innovation cycle (Baller et al., 2016).

A self-disruption ability is essential, as firms need to be willing to invest in areas that potentially disrupt their status quo (Chandy & Tellis, 1998; Gans, 2016). A willingness to cannibalise as a dynamic capability would give incumbents the requisite capabilities to invest in radical innovations at the expense of their current investments. Therefore, there is a need to develop and operationalise a willingness to cannibalise as a dynamic capability in incumbent MNOs.

However, there is a gap in the literature in that whilst there have been studies on the importance and significance of wiliness to cannibalise, there are no studies on how organisations can develop capabilities that would specifically enable a wiliness to cannibalise. There is also currently no literature on willingness to cannibalise or self-disruption within the MNO or telecommunications industry. As stated above, the industry is facing disruption globally. There is a need for it to respond with new innovations that are beyond incremental or continuous improvements.

Therefore, this study aimed to explore a willingness to cannibalise within the MNOs industry and to propose dynamic capabilities as essential to the ability of organisations to develop a willingness to cannibalise. The study focused on the South Africa MNO context where incumbents are faced with declining revenues from traditional services and a saturated market.

1.4 SIGNIFICANCE OF THE STUDY

This study used the theories of dynamic capabilities and the strategic management of innovation to develop a conceptual model of how organisations can successfully develop a willingness to cannibalise as a dynamic capability. The study focuses on the MNO perspective to see how decision-makers respond to a turbulent environment.

Willingness to cannibalise as a dynamic capability is particularly advantageous given the fast pace of change and the need for MNOs to respond rapidly without compromising their survival. The study explains how a willingness to cannibalise can be operationalised as a dynamic capability by incumbent MNOs to respond to the rapid changes of a VUCA world through radical innovations.

The study contributes to an understanding of the management of innovation within South Africa's MNOs and how radical innovation can be enabled in response to a VUCA world faced by the MNOs. The study also introduces several antecedents for enabling a willingness to cannibalise as a dynamic capability that researchers will be able to explore in the future.

1.5 DELIMITATIONS OF THE STUDY

In keeping with the original studies on the theory of disruption, this study is limited to incumbents facing disruptive changes in their environments. The focus will be on incumbent MNOs in the South African market. The study will limit itself to building dynamic capabilities only in the South African MNO context; therefore, the research excluded incumbents' international operations. The unit of analysis for the study was the MNO incumbent and the unit of observation were decision-makers within the MNOs.

1.6 ASSUMPTIONS

The study assumes that:

- The willingness to cannibalise is vital for organisations facing the need to implement radical innovations (Chandy & Tellis, 1998).

- The strategic management of innovation within firms is critical to improving innovation processes (Goffin & Mitchell, 2017).

- Although not discussed extensively in this study, the assumption is that the other OSD elements are still critical pillars for this dynamic capability to be enabled.

1.7 DEFINITION OF KEY TERMS

1. **Innovation.** Innovation is **"**the multi-stage process whereby organisations transform ideas into new/improved products, services or processes, to advance, compete and differentiate themselves successfully in their marketplace" (Baregheh, Rowley, & Sambrook, 2009, p. 1334). Innovation includes both the processes and outcomes where "value-added novelty" results from introducing new or improved products, services and/or markets, new production processes or new management systems (Crossan & Apaydin, 2010). In the context of this study, innovation is the process and the outcome of organisations transforming ideas into new or improved products, services, processes or systems.

2. **Radical Innovation**. Innovation can be divided into varying degrees of magnitudes such as incremental, breakthrough or radical (Goffin & Mitchell, 2017). Radical innovation in this context changes the competitive landscape by redefining the market or by creating new markets. Such radical innovations are

often revolutionary, disruptive, discontinuous or breakthrough in the academic literature (Crossan & Apaydin, 2010). Some scholars limit radical innovation to just technological changes that introduce new technologies from the ones currently in use (Pisano, 2015). However, this limits the ability to understand radical innovation in systems, business models, processes and other non-technology types. Therefore, in the context of this study, radical innovations are any innovations introducing discontinuous changes to the technological trajectory, business models and business strategy of the incumbents in the industry.

3. **Dynamic Capabilities.** The seminal works of Teece et al. (1997) and Eisenhardt and Martin (2000) defined dynamic capabilities. According to Teece et al. (1997, p 516), dynamic capabilities are "the firm's ability to integrate, build and reconfigure *internal and external competencies* to address *rapidly changing environments*… thus reflect an organisation's ability to achieve new and innovative forms of competitive advantage and market positions". According to Eisenhardt and Martin (2000, p. 1107), dynamic capabilities are "the firm's processes that use resources – specifically processes to integrate, reconfigure, gain and release resources – *to match and even create market change*… thus are organisational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve and die". Although Teece et al. (1997) and Eisenhardt and Martin (2000) disagree on whether dynamic capabilities can lead to sustainable competitive advantage (Peteraf, De Stefano, & Verona, 2013), both definitions highlight the importance of dynamic capabilities as internal organisational competencies or resources that are essential when responding to changes in the environment.

4. **Willingness to cannibalise.** Chandy and Tellis (1998, p. 475) first proposed willingness to cannibalise as "the extent to which a firm is prepared to reduce the actual or potential value of its investments". They view this willingness as a trait of the firm's key decision-makers, embedded in the organisation's culture. Using Chandy and Tellis and updating Ramukumba's (2018, p. 2) definition of organisational self-disruption, the willingness to cannibalise is the willingness by organisational decision-makers "to radically transform resources, business

models, and strategy at the expense of short-term goals, investments and value creation, to respond to any discontinuous changes in their environment to achieve sustainable competitive advantage".

5. **Strategic management**. Strategic management is concerned with the decision and actions of managers that determine the organisation's performance (Wheelen et al., 2018). It can be defined as "the art and science of formulating, implementing and evaluating cross-functional decisions that enable the organisation to achieve its objectives" (David & David, 2017, p. 5).

6. **Strategic management of innovation**. The Strategic management of innovation is "using appropriate strategic management techniques and measures to augment the impact of the firm's innovation activities on firm growth and performance" (Keupp, Palmie, & Gassmann, 2012, p. 368).

1.8 RESEARCH QUESTIONS AND PROPOSITION

The research questions must guide the research process towards solving the research problem of understanding the implications of a willingness to cannibalise as a dynamic capability on MNO firms' ability to implement radical innovation in a VUCA business environment. These questions will guide the research process, from reviewing relevant literature to the data collection and analysis.

Research question 1: How do incumbent MNOs build, integrate or reconfigure organisational resources and capabilities to capacitate a willingness to cannibalise as a dynamic capability that would enable them to respond to discontinuous changes in their industry through radical innovations?

Research sub-question 1.1: How do decision-makers within MNOs view the significance of a willingness to cannibalise current investments in enabling radical innovations?

Research sub-question 1.2: How can MNOs develop a willingness to cannibalise as a dynamic capability to empower radical innovations?

As Chandy and Tellis (1998) first showed, a willingness to cannibalise is positively related to successful radical innovation within firms. Firms' ability to self-disrupt is critical in today's fast-changing environment (Christensen & Raynor, 2003; Gans, 2016; Christensen, Wang, & van Bever, 2013).

This study seeks to understand how firms can build this capability as a dynamic capability for a rapidly changing environment to radically innovate despite potential

discontinuous changes due to the VUCA environment. The main research proposition is that:

> ***"Having a willingness to cannibalise as a dynamic capability will enable incumbent MNO firms to adequately respond to discontinuous changes in their VUCA environments by enabling radical innovations through their firm-level innovation processes"****.*

1.9 OUTLINE AND STRUCTURE OF THE REPORT

Chapter 1: Introduction

This chapter introduced the research purpose, problem, significance and context of the study. The chapter contextualised the need for organisations to be able to self-disrupt if they survive in a rapidly changing VUCA environment.

Chapter 2: Literature review

This chapter gives more details on the theoretical concepts underpinning the study. This chapter presents further discussions of relevant innovation concepts, the strategic management of innovation and dynamic capabilities. It also proposes a conceptual framework and the research propositions.

Chapter 3: Research methodology

The research methodology chapter discusses the methods and procedures used to conduct the study. The chapter provides details about how the research study was conducted, including the selected research approach.

Chapter 4: Presentation of findings

This chapter presents the findings of the data collected in the semi-structured interviews. The chapter links the findings to the research questions from Chapter 1 and highlights the themes emerging from the data.

Chapter 5: Analysis and discussion of findings

Chapter 5 analyses and discusses the research findings and their implications for the research propositions. This chapter will link the findings presented in chapter 4 to the literature reviewed in chapter 2 whilst discussing the implications of the results on the proposition and sub-propositions.

Chapter 6: Conclusion

The final chapter concludes the research by highlighting the major findings of the study. Chapter 6 also presents the recommendations for business and other stakeholders based on the findings. Finally, chapter 6 highlights the delimitations of the study as well as suggestions for future research.

1.10 SUMMARY

This chapter introduced the purpose of this study. There is a need to understand how a willingness to cannibalise may be essential for survival in a VUCA world as the pace of change in the environment continues to accelerate because of the fourth industrial revolution and digitalisation. Incumbents who fail to respond to the discontinuous changes risk becoming irrelevant.

Decision-makers within incumbents, particularly those facing the most disruption, will need to respond strategically to a VUCA world. This study seeks to understand how firms can operationalise a willingness to cannibalise as a dynamic capability that is useful in responding adequately to a rapidly changing world.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

This chapter reviews the literature on disruptive innovation, strategic management of innovation and dynamic capabilities. The aim of the chapter is to develop a conceptual framework useful for understanding and addressing the research problem. This chapter will investigate the importance of innovation and radical innovations in firm performance, growth and survival.

Then the chapter will explore how a willingness to cannibalise is useful to enable radical innovations. The strategic management of innovation and dynamic capabilities are useful for allowing radical and discontinuous changes inside firms. Finally, the chapter will introduce a conceptual framework for understanding how willingness to cannibalise as a dynamic capability can enable firms to thrive by enabling radical innovations within incumbents.

Firm-level innovation is essential for firms to thrive in the long term. In the Schumpeterian model of economic growth, old technologies and firms are often replaced by new ones through a process of creative destruction (Levinthal, 1992; Breschi, Malerba, & Orsenigo, 2000). However, incumbent firms that can successfully exploit Schumpeter Mark II (creative accumulation) (Breschi et al., 2000) can take advantage of new technological regimes and discontinuous changes by accumulating and assimilating innovations to keep growing and surviving.

2.2.1 MOBILE NETWORKS IN A VUCA WORLD

> *"…there has been an increased awareness about the globally interconnected world of business, its complexity, and sustainability. Some would believe that it's unpredictable and situations change rapidly, which is resulting in the obsolescence of existing models to deal with complexity and uncertainty."* (Mack & Khare, 2016, p. 3)

Chapter 1 highlights a telecommunications industry (MNOs specifically) that has faced a decline in revenue growth as customers have moved from the traditional connectivity products towards more data-driven services. The digital transformation of the industry and the increased connectedness of consumers leads to increased VUCA conditions for MNOs (WEF, 2017; Dasi, Elter, Gooderham, & Pedersen, 2020).

Bennett and Lemoine (2014) proposed a model for understanding VUCA based on the predictability of the result of an action and the available knowledge about the situation:

- **Volatility** refers to situations with high levels of unpredictability whilst knowledge about them was easily available to acquire.
- **Uncertainty** refers to situations where knowledge and information are low even though the primary cause and effect are knowable.
- **Complexity** refers to situations where there are too many interconnected parts, and although information is available, there is too much of it to be easily processed and understood.
- **Ambiguity** refers to situations that are completely unclear with too many "unknown unknowns".

Discontinuous changes in the "strategic environment" in which MNOs operate have led to the need for a new normal (Mack & Khare, 2016). Increasingly, operators faced with the VUCA conditions need to respond by innovating in response to the changes.

VUCA environments are the consequence of and the cause of disruptive innovations (Millar et al., 2018). MNOs operating in VUCA conditions must enable innovation in response to the discontinuous changes because of the environment to sustain any competitive advantage (Schoemaker et al., 2018).

Traditionally, MNOs have derived their competitive advantage from their extensive investments in physical infrastructure (Dasi et al., 2020). However, as digital-first OTT services disrupt their traditional services of voice and messaging, MNOs have struggled to maintain previous levels of revenue and growth (Darji, Mkwanazi, & Njisane, 2016). The value created by the industry has been migrating at a rapid pace away from just providing connectivity towards the services users want to access (Hacklin et al., 2018).

However, MNOs still have to continue investing in managing their infrastructure and accumulated resources while responding to these VUCA conditions (Dasi et al., 2020). Dynamic capabilities and clear strategic choices can give MNOs the capabilities necessary to construct a strategic response to these discontinuous changes in a way that sustains their competitive advantage (Schoemaker et al., 2018; Dasi et al., 2020; Birkinshaw, Zimmermann, & Raisch, 2016). As the industry faces the need for digital transformation (Dasi et al., 2020), there will be a need for strategic renewal through adopting dynamic capabilities that will help with the transformation of their business model, collaboration and culture (Warner & Wäger, 2019).

This chapter seeks to explore the literature and draw out an understanding of what is required within firms, in particular MNOs, for the accumulation and assimilation of willingness to cannibalise as a dynamic capability to enable radical innovation.

2.2 INNOVATION AND THE WILLINGNESS TO CANNIBALISE

This section provides an understanding of the effect of firm-level innovation on performance, growth and survival. As stated in the WEF report, innovation and business dynamism are critical pillars of competitiveness in today's VUCA world (World Economic Forum, 2018). Understanding the link between innovation and the willingness to cannibalise must begin by contextualising the link between innovation, performance, growth and survival. The rest of the review will be on a willingness to cannibalise and its effect on radical innovation, particularly in incumbent firms.

2.2.1 FIRM-LEVEL INNOVATION, PERFORMANCE, AND SURVIVAL

Baregheh et al. (2009) defined innovation as a process where ideas are transformed into new or improved products, services or processes within organisations to compete or differentiate themselves. Indeed Crossan and Apaydin (2010) found, in their review of the literature, that innovation "might be one of the few lasting sources of competitive advantage" (p. 1174). It is not surprising that innovation has been linked to positive effects on firm-level financial performance (Cainelli, Evangelista, & Savona, 2006; Gunday, Ulusoy, Kilic, & Alpkan, 2011) and some extent, even firm growth (Coad & Rao, 2008; Audretsch, Coad, & Segarra, 2014) and also to firm survival (Zhang, Zheng, & Ning, 2018).

Gunday et al. (2011) found that innovation performance within the Turkish manufacturing sector positively and significantly impacted firm-level financial performance. In their findings, innovative firms have "higher market share, total sales and exports" (Gunday et al., 2011, p. 672). The positive impact of innovation within manufacturing was also found within the developing country context of Pakistan (Wadho & Chaudhry, 2018).

However, the effect is not only limited to manufacturing; Rajapathirana and Hui (2018, p. 47) also give a summary of studies in different industries and countries that found a positive link between innovation and firm performance using different metrics. Their study also found this strong link in the Sri Lankan insurance industry (Rajapathirana & Hui, 2018).

With such a strong link established between innovation and performance, the literature still shows mixed results between innovation and firm growth. A special issue of the *Small Business Economics* journal clarified some of the complex issues surrounding the effects of innovation on firm growth (Audretsch, Coad, & Segarra, 2014).

Coad and Rao (2008) found that although firms may grow for various reasons, there was a strong correlation between innovation and growth in the fastest-growing high-tech firms. They concluded that although there is a strong link between innovation and firm growth, there is evidence that in sectors where technological changes are happening rapidly, only those firms that can exploit their innovation capabilities can leverage them for growth (Coad & Rao, 2008).

Finally, innovation has also been shown to improve the firms' survival rate in highly competitive high-tech sectors (Zhang et al., 2018). The results of Zhang et al. (2018) confirm previous findings in the hi-tech industry by Fontana and Nesta (2009). Highly innovative firms are more likely to be acquired than to be closed even if they were faced with other challenges in their market, suggesting that they were likely to survive in some form (Børing, 2015). The more significant the firm's innovations are in the market, the more likely they are to survive, often with more radical innovations being linked to a greater chance of survival (Ortiz-Villajos & Sotoca, 2018).

In conclusion, innovation in firms is linked to greater financial performance and a higher chance of survival. High levels of innovation in fast-paced sectors have also been identified as an essential factor in firm growth. In today's VUCA world, where the

nature of innovation is changing very quickly, the types of innovation firms must be involved with will most likely need to be radical. A willingness to cannibalise will be an essential trait in enabling the exploration of radical and even transformational innovations.

2.2.2 RADICAL INNOVATION

Significant investments in radical innovations have a significant effect on firm growth and survival. Radical innovations involve the introduction of new technologies and markets and result in discontinuities at the societal (macro), industry (meso) or firm (micro) levels (Garcia & Calantone, 2002). Radical innovations also result in creating new markets and new demand from customers (Garcia & Calantone, 2002) because they offer unrivalled customer benefits and superior performance (Slater, Mohr, & Sengupta, 2014; Chandy & Tellis, 1998).

Slater et al. (2014) argue that, as a result, radical innovations offer better organisational performance than incremental innovations. As Nagji and Tuff (2012) argue, radical innovations typically produce 70% of a firm's returns from innovation.

Radical innovations tend to introduce discontinuous changes in the technological trajectory by changing the direction of future innovations (Dahlin & Behrens, 2005). Firms that introduce discontinuous changes grow faster than competitors and are more likely to survive any "creative destruction" in a dynamic and uncertain environment (Tushman & Anderson, 1986). Discontinuous changes necessitate that the firms must internally adapt to an innovation trajectory relative to their traditional path (Gilbert, 2005).

Firms faced with these radical and discontinuous changes must not only revise any previous assumptions about the business environment in which they operate, but they

must also realign their structures, processes and systems to a new reality (Birkinshaw, Zimmermann, & Raisch, 2016). This view is supported by Bergek et al. (2013), who found that creative accumulation by incumbents is only possible through the rapid concurrent evolution of existing resources, acquisition and development of new resources and integration of new and old knowledge into better products and solutions. Without the required capabilities, incumbents are in danger of failing to remain relevant or even surviving in the face of discontinuous change.

However, incumbents who have invested in their resources, competencies and capabilities are often reluctant to introduce innovations, which make their investments redundant, or they are unable to respond effectively because of organisational inertia (Henderson & Clark, 1990). Incumbents also often fall victim to *the innovator's dilemma* by failing to exploit disruptive innovations rather than focusing on sustaining innovations (Christensen C. M., 1997; Christensen, McDonald, Altman, & Palmer, 2018).

There are many reasons why firms may be unable to respond. However, one important factor is a reluctance to cannibalise on their current investments. Teece (2007), who notes that firms with established assets and technologies have a bias against cannibalisation at the expense of introducing radical innovations, shares this sentiment.

2.2.3 WILLINGNESS TO CANNIBALISE TOWARDS RADICAL INNOVATION

Chandy and Tellis (1998) first introduced willingness to cannibalise as a driving factor behind firms that are radical innovators in their industry. They identified that dominant incumbents were often reluctant to radically innovate as the resultant discontinuities often led to disruptions to their current investments (Chandy & Tellis, 1998). Indeed, radical innovations may lead to the obsolescence of firm products, which makes most decision-makers wary of supporting them (Chandy & Tellis, 1998). There is even a suggestion that incumbents will hold off from introducing radical innovations that they have developed to protect current investments and revenues until competitors introduce similar innovations (Chandy & Tellis, 2000).

A willingness to cannibalise is an "attitudinal trait of the key decision-makers" that permeates the culture and values of the organisation (Chandy & Tellis, 1998, p. 475). One of the original co-authors of the seminal paper for willingness to cannibalise, Gerard Tellis, wrote a book titled *Unrelenting Innovation: how to build a culture of market dominance, which argues for organisations building a culture that* enables innovation (Hayashi, 2013; Aithal, 2015). His book argues for three traits essential for such an innovative organisational culture, namely, a willingness to cannibalise, a risk-taking attitude and a future-focused ability (Hayashi, 2013).

A willingness to cannibalise is conceptualised as an attitude or cultural assumptions within organisations, empowering them to produce radical innovations as a result (Chandy & Tellis, 1998). Seminal work on organisational culture defines it as learned behaviours that are "invented, discovered or developed" within organisations in response to adapting to the external environment (Schein E. H., 1984; Schein E. H., 2004). According to Schein's model, there are three levels of culture that can be identified, namely, artefacts (the visible), beliefs and values (the espoused) and the underlying assumptions (the unconscious) (Schein E. H., 2004). Ultimately, it is the underlying assumptions that dictate the attitudes and behaviours ("how we do things here") which speak to our innovation orientation.

Empirical findings support the impact of organisational culture at all levels on innovation and performance (Hogan & Coote, 2014). Hogan and Coote (2014) found that value that supports innovation led to norms for innovation, which in turn led to innovations artefacts (structures/policies/systems), and finally, innovative behaviours which had an effect on firm-level performance. Organisational culture, therefore, has an effect on willingness to cannibalise towards radical forms of innovations.

Willingness to cannibalise often raises tensions within organisations because of organisational inertia (bureaucracy and internal stakeholder resistance) (Aithal, 2015). Chandy and Tellis (1998) found that internal product champions, internal markets (internal autonomy and competition of business units to compete) and a focus on the future all enable firms to be significantly more willing to cannibalise to deliver radical innovations.

In testing the willingness to cannibalise, a study on Danish firms found a willingness to cannibalise to be an important factor in the exploitation of resources for new product development (Burcharth, Lettl, & Ulhøi, 2015). Another study found the willingness to cannibalise on investments and sales was positively related to the creation of new products (Nijssen, Hillebrand, & Vermeulen, 2005). Finally, a study of radical innovation across multiple nations also found a significant effect of corporate culture (including a willingness to cannibalise) (Tellis, Prabhu, & Chandy, 2009). These studies show empirical support for the effect of willingness to cannibalise as a cultural trait within firms on radical innovation.

However, radical innovations continue to be difficult for most organisations (both incumbents and new firms). A systematic review identified unsupportive structures, lack of competencies and a restrictive mindset as internal barriers within large incumbents to radical innovation (Sandberg & Aarikka-Stenroos, 2014). It is suggested

that a strategist role within firms for exploration can help with the lack of willingness to cannibalise (Rohrbeck & Gemünden, 2011).

Given the discontinuities which result from a VUCA world, firms which can introduce radical innovations are also more likely to create greater value and increase their chances of survival. It has been argued above that a willingness to cannibalise as an organisational trait, value and culture can empower incumbents to enable radical innovations within their innovation portfolios.

The strategic management of innovation is an important consideration for decision-makers to develop the capabilities and competencies necessary to be willing to cannibalise. The next section will explore the strategic management of innovation to determine what insights there are to managing innovation in a VUCA world.

2.3 THE STRATEGIC MANAGEMENT OF INNOVATION

2.3.1 STRATEGIC MANAGEMENT IN CONTEXT

The business strategy paradigm emerged in the 1950s and 1960s from the practical needs of business leaders and not from academia (Grant, 2016). As firms grew in size and coordination of various business units became more complex, there was a need for corporate activities to be planned, coordinated and implemented with business leaders having a clear view of activities and where resources were being invested. It was also around this time that management consulting focusing on corporate strategy emerged, offering solutions to improve business performance (Kiechel, 2010). Eventually, strategic management emerged in the 1970s to respond to the increasingly competitive business environment, focusing on maximising performance to gain a competitive advantage (Grant, 2016; David & David, 2017).

This shift to strategic management also led to a focus on profitability as a measure of performance. In this era of the 1970s, business strategy doyen Michael Porter first developed his theory of competitive strategy to respond to a firm's environment (Kiechel, 2010). Porter's theory placed the industry structure as central to how firms could compete, using his now-famous five forces framework to show how profitability could be determined within a given industry (Kiechel, 2010). Porter's framework focused primarily on the external environment and its impact on firm performance.

In the 1990s, scholars such a Jay Barney and Richard Rumelt started focusing on the internal environment as a source of competitive advantage. Following Edith Penrose's footsteps, scholarship on strategy developed a resource-based view of the strategy (Kiechel, 2010).

Firstly, some empirical studies showed that firms could achieve high levels of profitability regardless of the structure of the industry (Rumelt, 1991). Barney (1991) suggested characteristics of firm resources that are essential for sustained competitive advantage. The shift to focus on internal resources and capabilities from the resource-based view of the firm meant that, regardless of the industry or market conditions, firms have to identify how they can differentiate themselves from the competition and how they can exploit their unique resources and capabilities (Grant, 2016).

Current trends are strategic management has seen a shift as firms try and cope with the fast pace of technological disruptions, increased competition and change (Grant, 2016). Christensen proposed the theory of disruption as a strategic tool for incumbents to understand the danger of not responding to disruption in their environment (Goffin & Mitchell, 2017; Christensen et al., 2018). A "blue ocean" strategic orientation was also proposed as a way for organisations to differentiate themselves in highly competitive markets (Kim & Mauborgne, 2004).

There has also been an increased focus on business models and business model innovations as a strategic management tool for this current business environment (Magretta, 2002; Johnson, Christensen, & Kagermann, 2008; Teece, 2010; Afuah, 2018). However, these new tools have not led to firms building the capabilities for radical innovations, as evidence suggests that most firms still struggle with radical innovations (Sandberg & Aarikka-Stenroos, 2014). Strategic management of innovation is an important factor in firms' ability to gain or sustain their competitive advantage (Keupp et al., 2012).

Innovation was identified as one of the emergent activities or initiatives led by decision-makers inside firms as part of the strategic management process (Nag, Hambrick, & Chen, 2007). Indeed, the fast pace of innovation has meant that strategic choices within firms are made in environments of high uncertainty (Wheelen et al., 2018). The strategic management process should enable firms to continually assess their internal and external environments to respond appropriately to changes (David & David, 2017).

Johnson et al. (2014) proposed a model for exploring a strategy that considers the external environmental view, the strategic capabilities (resources and capabilities), organisational culture and purpose as elements of the strategic position and innovation as an element of their strategic choices. Strategic management of innovation within firms enables decision-makers to use strategic management tools and manage their innovation process to enable the required radical innovation necessary to respond to fast changes and disruption in the business environment (Schilling, 2017; Crossan & Apaydin, 2010; Keupp et al., 2012).

2.3.2 MANAGING INNOVATION STRATEGICALLY

Firms need to develop a solid innovation strategy to improve their success rate from the innovation process (Schilling, 2017). These innovation strategies require the deliberate implementation of structured and systematic procedures for managing the

innovation process. Tidd and Bessant (2009, p. 44) proposed a somewhat traditional innovation funnel for understanding the innovation process within organisations by asking these six questions:

- Do we have an innovation strategy?
- How can we find opportunities for innovation?
- What are we going to do and why?
- How are we going to make it happen?
- How are we going to get the benefits from it?
- Do we have an innovative organisation?

These questions and their resulting model align strongly with the innovation pentathlon framework proposed by Goffin and Mitchell (2017). These two widely used texts in teaching innovation management confirm what the academic literature has found.

Managing innovation within firms requires that firms have a systematic process for bringing ideas into the firm, selecting innovation projects relevant to their "innovation ambitions", successfully implementing the selected innovation projects and finally capturing the resulting value of the innovation process (Crossan & Apaydin, 2010; Sheu & Hei-Kuang, 2011; Hansen & Birkinshaw, 2007; Nagji & Tuff, 2012). Both models acknowledge the importance of having an innovative organisational structure and an innovation strategy where managers within firms identify a match between internal capabilities and external opportunities or threats.

An innovation strategy ensures that innovation projects and portfolios align with the firm's organisational structure, resources, goals and core competencies to achieve its strategic objectives (Schilling, 2017; Nagji & Tuff, 2012). A good innovation strategy allows management to effectively communicate innovation's role within the firm and enables other innovation processes to be effectively designed (Goffin & Mitchell, 2017; Schilling, 2017; Cortimiglia et al., 2015).

An innovation strategy should be the central element of any corporate strategy for firms to exploit their resources and competencies and achieve sustainable competitive advantage (Smith, Busi, Ball, & Van der Meer, 2008; Pisano, 2015). Indeed research found an innovation strategy affects the performance of firms in both social, financial and environmental contexts (Ezzi & Jarboui, 2016).

Given the VUCA context in which firms operate, innovation strategy must cope with external environments that are complex and continuously changing (Pisano, 2015). The ability for firms to survive any discontinuous changes depends on their capability to adapt to changes, with the innovation strategy as the guiding policy for how innovation can be exploited to enable the firm to survive (Rumelt, 2011; Trott, 2017). In the fast-changing VUCA world, although core competencies and capabilities are essential for firms to develop and exploit, dynamic capabilities are important for making the firm more agile and responsive to change (Trott, 2017; Keupp et al., 2012; Crossan & Apaydin, 2010). Therefore, the firm's innovation strategy must also identify the dynamic capabilities that will enable the organisation to be responsive to discontinuous change.

2.4 DYNAMIC CAPABILITIES

High-level organisational capabilities are firm-specific activities and complex routines that enable firms to deploy resources towards their defined goals (Nieuwenhuizen, 2014; Winter, 2003). Routines in this context can be understood as a pattern of learned and repeated behaviours and actions directed towards specific goals that often reside primarily in the tacit knowledge of firm employees and leaders (Winter, 2003). Whilst general capabilities include any complex set of routines out of which firms produce output that contributes to their competitive advantage, dynamic capabilities enable effective and organisational changes in response to rapidly changing environments (Nieuwenhuizen, 2014; Winter, 2003).

In an era where competitive advantage is harder to sustain because of the rate of discontinuous changes (McGrath, 2013), dynamic capabilities give firms the capacity to achieve and sustain a competitive advantage (Tallman, 2003; Denrell & Powell, 2016). Dynamic capabilities arguably enable firms to sustain competitive advantage by determining the "rate of change of ordinary capabilities" (Winter, 2003, p. 992).

According to Denrell and Powell (2016), Porter attributed competitive advantage to market positioning in attractive industries or differentiation through the value chain, whilst the resource-based view (from which dynamic capabilities theory evolved) focused on competitive advantage through resources and capabilities that could not be imitated. In an evolutionary view of the firm, competitive advantage is achieved through "selection processes, learned routines, and innovative capabilities in the face of Schumpeterian creative destruction" (Denrell & Powell, 2016, p. 2).

Denrell and Powell (2016) view the dynamic capabilities view as an attempt to combine the resource-based view and the evolutionary theories of the firm in understanding how firms can create a competitive advantage in the changing environment. Dynamic capabilities allow firms to exploit their unique (cannot be imitated) resources and capabilities to create their competitive advantage (Tallman, 2003). Firms also fit their internal capabilities and routines to the external market even as the environment changes (Tallman, 2003). Dynamic capabilities are evolutionary and therefore allow capability building for sustained competitive advantage.

Most of the research on understanding dynamic capabilities have largely been conceptual, with a few empirical studies done (Laaksonen & Peltoniemi, 2016). However, some empirical studies have been done which supported the effect of dynamic capabilities on firm performance. A study on dynamic marketing capabilities found that they were critical in enhancing firm performance through their adaptation of operational capabilities (Kachouie, Mavondo, & Sands, 2018). Another study found a strong correlation between strong dynamic capabilities and knowledge transfer in Irish universities (O'Reilly, Robbins, & Scanlan, 2019). A study on established firms found

that the systematic development of dynamic capabilities improves radical innovations in firms (Chiu, Chi, Chang, & Chen, 2016). Finally, a meta-analysis by Fainshmidt, Pezeshkan, Frazier, Nair & Markowski (2016) also found a positive effect of dynamic capabilities on firm performance.

A review by Erikson (2014) found that dynamic capabilities resulted from either internal or external antecedents. Internally, the organisational structure and the capabilities of managerial and other levels are critical for firms to develop dynamic capabilities (Eriksson, 2014). Organisational design and structure are critical for firms that look to operationalise dynamic capabilities (Felin & Powell, 2016). Whilst dynamic capabilities often reside in the skills and knowledge of executive decision-makers (Teece D. J., 2012), the organisational structure and processes must empower more people with the knowledge, skills and capabilities to deal with any uncertainties as they arise from a changing environment (Felin & Powell, 2016).

As the level of uncertainty increases in the global economy, management decisions have often had to be made in conditions of "unknown unknowns" (Teece, Peteraf, & Leih, 2016). For firms to become "dynamically competitive enterprises" (p. 1395), entrepreneurial managers who simultaneously practice, improve and create new routines and competencies strategically to shape the environment and improve the firm's prospects (Teece D. J., 2012). Therefore, the role of decision-makers is critical in the creation and exploitation of dynamic capabilities.

The "distinct skills, procedures, organisational structures, decision rules and disciples" of dynamic capabilities fall into three clusters and sensing, seizing and shifting (Teece D. J., 2007, p. 1319):

- *Sensing*: through identifying, developing, co-development and assessments of opportunities in the market (Teece et al., 2016, p. 18)

- *Seizing*: "Mobilisation of resources to address needs and opportunities" (Teece et al., 2016, p. 18)

- *Shifting*: "continued renewal" or transformation (Teece et al., 2016, p. 18)

For firms to sustain a competitive advantage, they must be able to "sense" (identify) new opportunities and threats in the external environment and seize the opportunities by investing resources (Teece, 2007). They must also be continuously managing existential threats by shifting and transforming resources when necessary. However, these factors are not dynamic capabilities but are key management-driven organisational processes that allow for the development of dynamic capabilities (Ambrosini & Bowman, 2009).

Sensing, Seizing and shifting enable organisations to develop the routines and capabilities referred to as dynamic capabilities. Through these three processes, "dynamic capabilities enable business enterprises to create, deploy and protect the intangible assets that support superior long-run business performance" (Teece, 2007, p. 1319).

2.4.1 SENSING

The ability of organisations to create or discover new opportunities depends on their access to information and knowledge as well as capabilities to recognise the value of the knowledge (Teece, 2007). The ability to accumulate, filter and process information about the possible evolution in technology, customer needs, and the general market under conditions of high uncertainty before it is obvious to everyone is an important capability for firms looking to sustain their competitive advantage (Teece, 2007; Teece et al., 2016).

Sensing involves the exploration of the external environment for new opportunities by the organisation (Birkinshaw et al., 2016). The capabilities necessary to achieve this

successful exploration include generative sensing (creation and testing of hypothesis about the future based on observations), sense-making, scenario planning and acquiring of real options (Teece et al., 2016).

Sensing requires that firms develop both formal and informal networks for information processing which are able to feed into the strategic planning processes in order for accumulated knowledge to be useful in the decision-making process (Warner & Wäger, 2019).

2.4.2 SEIZING

After identifying a new opportunity through sensing routines, the organisation must develop and commercialise new and innovative products or services (Teece, 2007). Organisations need to invest consistently in maintaining and improving their resources and competencies in preparation for being ready to seize on opportunities (Teece, 2007). Managers within organisations must make decisions about the timing of investments as well as the resources and assets to invest in.

Seizing is the exploitation of current resources in pursuit of the new sensed opportunity (Birkinshaw et al., 2016). It involves the implementation of innovation projects in response to the identified opportunity even as the organisation faces uncertainty (Teece et al., 2016). Seizing requires the selection of a business model to drive the development of new products in response to the opportunity (Teece, 2010; Teece, 2007).

It involved the selection of the appropriate organisational structures, processes and systems that will enable managers to set up decision-making protocols, organisational boundaries and controls, and organisational commitments towards seizing opportunities (Teece, 2007).

2.4.3 SHIFTING

Shifting ensures that the organisation can sustain any competitive advantage resulting from the seizing opportunities through the transformation of resources, assets and competencies as the organisation evolve (Teece, 2007). Shifting allows the organisation to avoid any path dependencies that result from the changes in the environment of the business (Ambrosini & Bowman, 2009; Teece, 2007).

Shifting dynamic capabilities are arguably the most self-disruptive as, unlike seizing and shifting, which may also include incremental change, they tend to be the most transformative as they involve the costliest change to routines, often with an introduction of new structures, systems and processes (Teece, 2007). This is why shifting is also referred to as transforming or reconfiguration, as it involves the continual renewal of resources (Teece, 2007; Teece et al., 2016; Schoemaker et al., 2018). Shifting is a higher-order dynamic capability that enables the organisation to select the best way to adapt to discontinuous changes such that sensing and seizing continue and the firm's resources are always transformed and ready (Birkinshaw et al., 2016).

Shifting requires that organisational structures are decentralised, and there is autonomy closer to where the transformation is required (Teece, 2007). Continuous realignment of resources is only possible when the governance structures incentivise alignment and organisational learning is mature (Teece, 2007).

2.4.4 OSD FRAMEWORK

Ramukumba (2018) proposed a conceptual model of OSD as a dynamic capability that would enable organisations to face discontinuous change in a VUCA world to sustain their competitive advantage. As Figure 1 indicates, the study proposed that adequately ambidextrous organisations could both exploit and explore opportunities and threats in their environment by developing routines that enable them to be strategically flexible whilst also able to strategically renew their resources and investments as and when this is required.

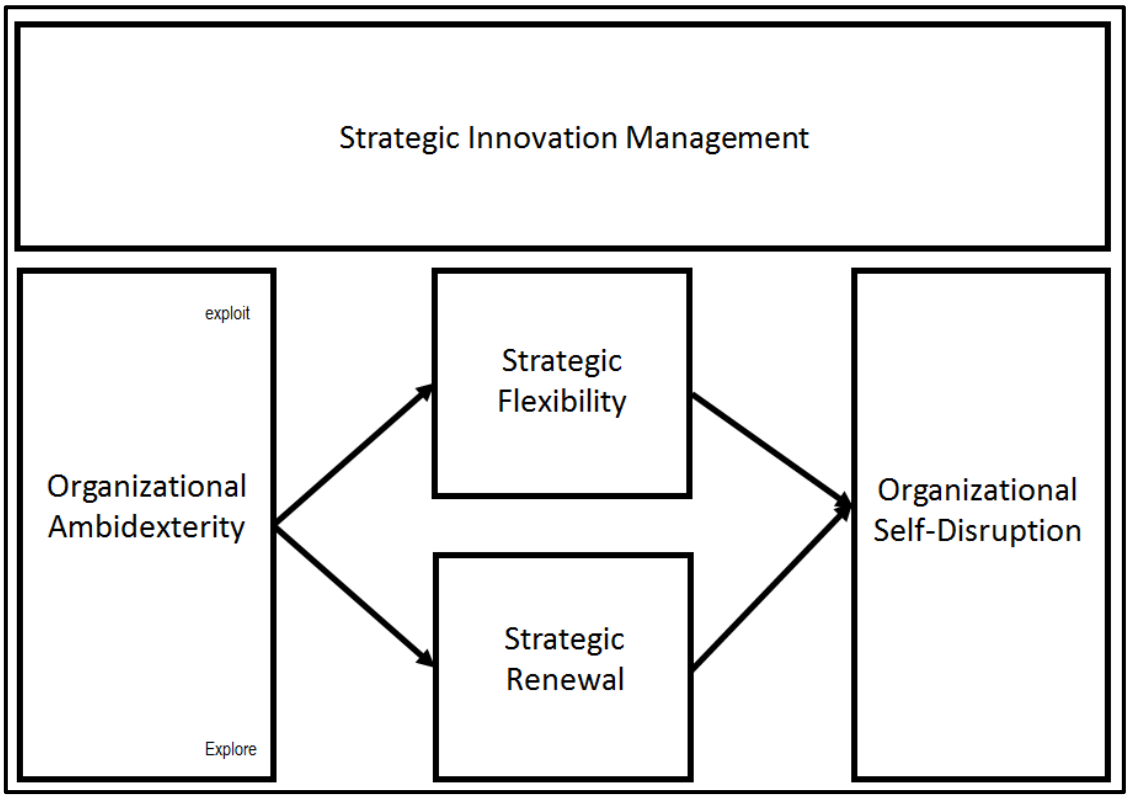


Figure 1: Conceptual model for OSD *(Ramukumba, 2018)*

Based on the organising framework proposed and tested by Birkinshaw et al. (2016), sensing (exploration) and seizing (exploitation) in this model would be low order dynamic capabilities that enable strategic flexibility, whereas shifting (reconfiguration of resources and investments) would be a high order dynamic capability that enables strategic renewal.

Birkinshaw et al. (2016) found that the kind of dynamic capabilities routines that an organisation will deploy is very much dependent on their specific context and will tend to differ depending on the strategic choices that managers make on how they will adapt. In their conclusion, they also indicated that these dynamic capabilities have to be developed at various levels of the organisation, from executive leadership, to within dedicated business units and finally across the organisation. This finding is supported by the conclusions of Ramukumba (2018), as shown in Figure 2.



Figure 2: Antecedents for enabling OSD as a Dynamic Capability *(Ramukumba, 2018)*

The findings suggest that building OSD and a dynamic capability within organisations faced with discontinuous change require an enabling organisational leadership, structure, culture and learning environment. That means individuals at all levels of the organisation will be critical in the ability of the organisation to develop the routines and

capabilities necessary to deal with change (Winter, 2003; Teece et al., 1997; Birkinshaw et al., 2016; Schoemaker et al., 2018).

2.5 ANALYTICAL FRAMEWORK

The analytical framework below (Figure 3) describes the theoretical concepts explored to understand how a willingness to cannibalise can be operationalised as a dynamic capability that will enable firms to respond effectively to a VUCA world.

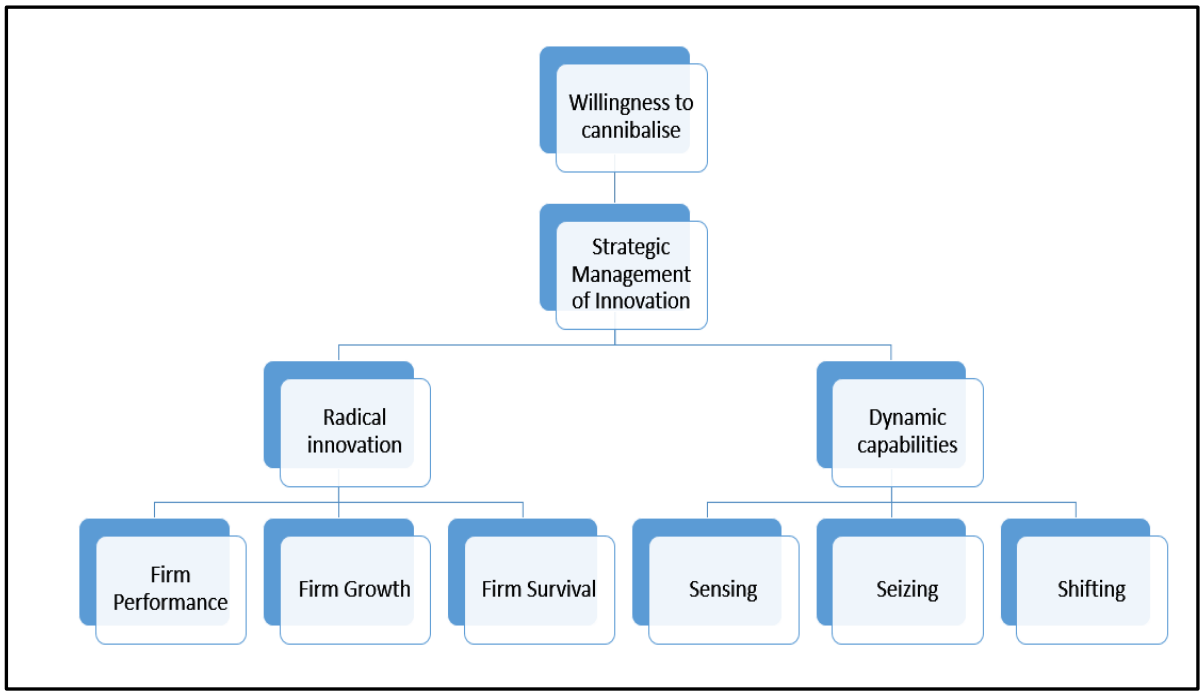


Figure 3: Analytical framework for the study based on literature

The theory used underpins the importance of firm decision-makers making strategic management decisions about the types of innovation projects they will pursue. Therefore, in the framework, radical innovations that may require cannibalisation of previous investments are only possible if they are part of the firm's innovation ambitions and innovation portfolio.

Our theoretical review has shown the significance of innovation and radical innovation in firm performance, growth and survival. Strategic Management of innovation also requires the firm and its leaders to deliberately and strategically develop the necessary dynamic capabilities of sensing, seizing and shifting.

2.6 CONCEPTUAL FRAMEWORK

Given the above analytic framework and our understanding of the theory and its significance, the following conceptual framework (Figure 4) underlines how this study plans to operationalise willingness to cannibalise as a dynamic capability that will enable the firm to perform, grow or survive in a turbulent environment.

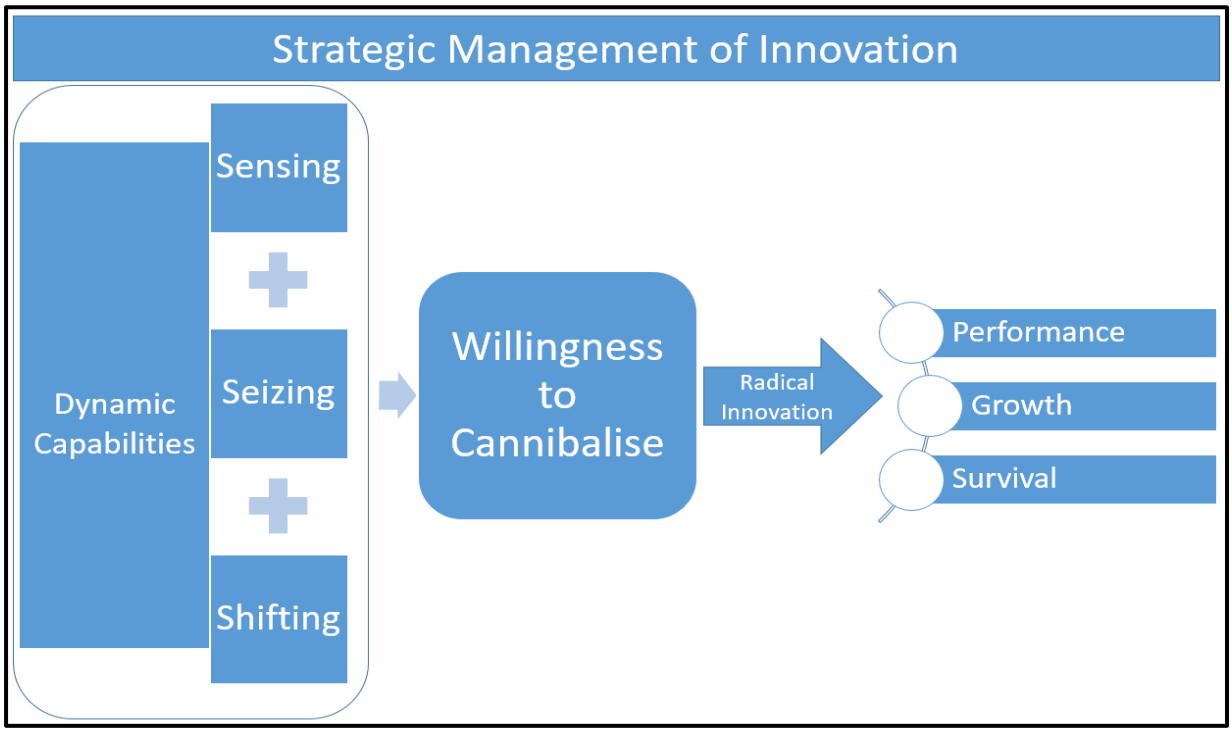


Figure 4: Conceptual framework for an enabling willingness to cannibalise as a dynamic capability

The strategic management of innovation is the broad umbrella under which firms need to craft strategies for responding to a highly complex and turbulent business environment. Firm leaders and decision-makers will need to consider the external

opportunities and threats as well as internal resources and competencies as they develop the necessary dynamic capabilities of a willingness to cannibalise. These dynamic capabilities will enable and empower them to be willing to cannibalise on their investments to develop radical innovations that will result in superior performance, growth and survival of the firm.

2.7 STATEMENT OF PROPOSITIONS

The literature review has shown the link between innovation and firm performance, growth and survival. The literature also showed a willingness to cannibalise as being a critical element for enabling radical innovations, which are critical if firms are to thrive in a rapidly changing business environment that is punctuated by discontinuous changes.

Strategic management of the innovation process was also determined to be important for firms to respond to these turbulent environments with a well-formulated innovation strategy aligned with their corporate strategy in response to disruption and competition. Finally, the literature also argues that firms need to develop necessary dynamic capabilities to adequately respond to change.

Chapter 1 proposed the main research question as:

> *"How do incumbent MNOs build, integrate or reconfigure organisational resources and capabilities to capacitate a willingness to cannibalise as a dynamic capability that would enable them to respond to discontinuous changes through the radical innovations?"*

This study seeks to explore how firms can develop a willingness to cannibalise as a dynamic capability for incumbents to respond to their VUCA environments by enabling radical innovations.

The proposition and sub-propositions of the study are:

- ***Proposition 1:*** Having a willingness to cannibalise as a dynamic capability will enable incumbent MNOs to respond to discontinuous changes in their VUCA environments by enabling radical innovations through their firm-level innovation processes

- **Sub-proposition 1.1**: A willingness to cannibalise is an important capability for MNOs to enable radical innovations in a VUCA environment

- **Sub-proposition 1.2**: MNOs can develop a willingness to cannibalise as a dynamic capability to enable the sensing and seizing of opportunities and the shifting of resources such that the outcome of their strategic innovation management processes is radical innovations in response to discontinuous change.

2.8 SUMMARY

The literature presented above highlights the importance of innovation for firm-level financial performance, growth and survival. Studies also found that radical innovations offered better organisational performance than incremental innovations in the long run (Slater et al., 2014; Garcia & Calantone, 2002). The review also explored the relationship between radical innovation and a willingness to cannibalise.

A willingness to cannibalise is a cultural trait of organisations that impact the implementation of radical innovation projects. Given that the environmental context of business is turbulent, and there is a fast pace of changes that may lead to discontinuities in technologies and markets, incumbents need to implement radical innovations. Radical innovations may require firms to cannibalise on their previous investments; therefore, a willingness to cannibalise is an essential trait for firms.

The field of strategic management has evolved over the last fifty years, responding to firms' need to respond to increased competition in their environments. Managing innovation is an emergent activity for managers in firms in strategic management. Models of managing innovation within firms have identified that the need to have a well-crafted innovation strategy is critical for successful innovation within firms. Therefore, the strategic management of innovation will be an essential factor in the contribution of innovation to firm performance, growth and survival.

Finally, dynamic capabilities enable firms to cope with changing environments and markets. As the Fourth Industrial Revolution plays out, discontinuous change is inevitable, and many firms will be faced with disruptive innovations that may threaten their survival. Dynamic capabilities embedded in the senior managers and any decision-makers they empower will enable firms to respond to turbulent changes in the environment. Through the capabilities of sensing opportunities, seizing them and shifting if there is a need, the firm will be able to exploit its resources to respond to a VUCA world effectively.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter provides a research plan for the study proposed. The aim is to expand on the research strategy and research methodology choices made to answer the research questions from Chapter 1 and explore the research propositions from Chapter 2. The research approach selected considered the type of research problem the study aimed to investigate (Cresswell, 2014).

The study aimed to understand how incumbent mobile network operations could develop a willingness to cannibalise as a dynamic capability for a VUCA world. This involved an exploration into the perspectives of decision-makers in incumbent MNOs and their understanding of how the various elements of the conceptual framework impacted the ability of their firms to perform, grow or survive in today's turbulent environments.

3.2 RESEARCH METHODOLOGY

The study used a qualitative research approach because the study aimed to interpret the subjective viewpoints of research participants (Christensen, Johnson, & Turner, 2015). In qualitative research, the researcher explores and seeks to understand meanings attributed to social problems by individuals or groups (Cresswell, 2014). To ensure methodological congruence, the research approach selected must align with the research purpose, problem and questions (Bloomberg & Volpe, 2012).

This research study explored the perspectives of decision-makers on whether a willingness to cannibalise is an essential dynamic capability for a turbulent world and how their firms managed innovation to respond to their rapidly changing context. As

such, the selected qualitative research approach allowed for deeper insights into the phenomena being studied from the participants' perspectives (Bloomberg & Volpe, 2012).

The qualitative research approach fundamentally follows an anti-positivist philosophical paradigm as it assumes that it is not possible to study human behaviours and actions from an objective, logical positivist lens (Welman, Kruger, & Mitchell, 2005). Given that this research was on socially constructed systems (firms, industries), it would not be useful to use the logical positivistic lens in that the value judgements of both the researcher and the participants will influence the research process.

Given the complexity of the human societies in which firms operate, the selected approach assumes that firm realities were constructed and adopted (Bloomberg & Volpe, 2012). Incumbent MNOs are linked to the structure of the society in which they operate through the products and services they provide in society. Their contribution to the economic system and the constructed social reality is undeniable.

This paradigm is also referred to as interpretive since the researcher will need to interpret the "subjective and socially constructed" (p. 163) viewpoints of the participants about the phenomena of interest (Saunders, Lewis, & Thornhill, 2012). AN interpretivist approach was selected as data collection would involve the social interaction between the researcher and participants and include on the interpretation of interactions by the researcher.

3.3 RESEARCH STRATEGY AND DESIGN

The research strategy and design must also be guided by the research questions as it aims to outline how the researcher will answer the stated research questions (Saunders, Lewis, & Thornhill, 2012). This study was exploratory as it sought to determine "how" a willingness to cannibalise can be developed as a dynamic capability, where "how" is to be understood in the context of its participants (Saunders, Lewis, & Thornhill, 2012). A simple interpretive study was used as it enabled the researcher to answer the research questions.

The research strategy selected for this study was to use semi-structured interviews with decision-makers within MNOs. These identified participant groups would be most responsible for managing the dynamic capabilities within firms (Teece, Peteraf, & Leih, 2016).

Semi-structured interviews are not standardised and are used to collect qualitative data, with the research having a list of crucial questions but allowing the interview context to determine the flow of the interview (Saunders, Lewis, & Thornhill, 2012).

3.4 DATA COLLECTION AND ANALYSIS

This section discusses all the activities about how data for the study was collected and analysed. This includes how participants were selected, how the data was collected and how the data was analysed. The unit of observation was the organisation, specifically the incumbent MNO, and the measurement item was an interview guide.

3.4.1 SELECTION OF PARTICIPANTS

The population of the study are incumbent MNO firms in the South African telecommunications industry. Telecommunications was identified by Grossman (2016) as one of the industries facing the most disruption. For convenience, the researcher only considered incumbents as MNOs which have been operational and providing commercially available mobile services within South Africa for more than ten years. Participants identified were junior to mid-level decision-makers in these incumbent MNO firms as more senior-level decision-makers could not be secured.

The researcher used a nonprobability convenience sampling method as it allowed the researcher to use subjective judgment in selecting the research participants (Saunders, Lewis, & Thornhill, 2012; Christensen, Johnson, & Turner, 2015).

Convenience sampling also enabled the researcher to identify participants in their network and schedule interviews based on their accessibility and availability.

The criteria used to select participants were that they had to be in a management role in their organisation with the ability and authority to make decisions that affected their organisations' innovation programmes or business units. However, the researcher also selected a participant who had left such a role in the previous six months as they still understood the environment in which MNOs operate.

3.4.2 DATA COLLECTION AND INSTRUMENT

The primary source of data was from interviews which were conducted with identified participants who agreed to be interviewed. A sample interview guide (Appendix A) was created, which was refined after a practice interview was conducted to test the schedule. Only one practice interview was conducted in order to refine the interview guide.

The semi-structured interview method was selected as this is an explanatory study that required participants to elaborate on their views and perspectives on the phenomena being studied (Saunders et al., 2012). The semi-structured interviews allowed for further probing into the answers provided by participants and allowed them to build on their responses (Saunders et al., 2012).

Fifteen participants were interviewed even though saturation (when no new insights are gleaned from interviews) was reached by the tenth interview (Guest, Bunce, & Johnson, 2006). Consent was obtained from each person before data was collected. Appendix C was the instrument used to secure written consent during in-person interviews. Two interviews were not in person, and consent was given and recorded prior to the interviews commencing. Interviews were conducted at locations that were

most convenient for participants. All care was taken to ensure that recordings were audible and the interview locations had minimal distractions.

Most of the data were collected through in-person interviews, which were recorded. Two interviews were conducted over the phone. Notes were also be taken to highlight key points as the researcher sought to understand the data even during the collection phase. Once the data was collected, it was saved in a secure cloud service. Care was taken to ensure that the confidentiality and anonymity of participants were respected.

3.4.3 DATA ANALYSIS

Once the data had been collected, it was transcribed before further analysis. An external transcription service was selected due to the time constraints of the researcher. The secure files were shared with the transcriber; however, the filenames shared did not have the names of the interview participants to ensure they remained anonymous to anyone but the interviewer.

Data analysis included coding and explicating emergent themes from the data (Saunders et al., 2012). Qualitative data is best analysed as it is being collected by the researcher (Merriam & Tisdell, 2016). Although there are disagreements about the process, thematic analysis is used extensively to analyse qualitative data (Braun & Clarke, 2006).

The researcher used the steps proposed by Braun and Clarke (2006) to create a systematic analysis procedure. The procedure consisted of five iterative steps/phases, which involved familiarising the researcher with the data, generating the initial codes, searching for themes, reviewing the themes and finally producing the report.

Data familiarisation

Once the interviews were transcribed, the researcher went through each recorded interview with a notebook and the transcript to get more familiar with the data. In this step, key insights were highlighted for further analysis and the next steps.

Generate initial codes

The researcher used MS Excel and MS Word to code and analyse the collected data. This process was largely manual, which allowed for further familiarity with the data. The researcher used copies of the transcripts to ensure that original transcripts were available later should they be required.

First, cycle coding was applied to understand the data (Saldana, 2016). These first cycle codes were coded directly on the transcripts. The researcher then copied these codes into MS Excel and any notable quotes used in presenting the findings in chapter 5.

Search for themes

Once the first cycle codes were in MS Excel, second cycle coding, which is more analytic (Saldana, 2016), was used to classify, prioritise, integrate and synthesise the codes such that themes could emerge.

Review the themes

The generated codes and themes were analysed to determine which ones would best enable the researcher to answer the research questions. Themes were triangulated with themes identified in Eriksson (2014), Teece (2007), Chandy and Tellis (1998) and Tellis et al. (2009) to determine their relevance in our ability to answer the research questions. However, themes were allowed to emerge based on the data, and no pre-determined themes were selected.

Produce the report

After coding was completed, the findings were presented in Chapter 4, and they were analysed and discussed in Chapter 5 to produce this report.

3.5 LIMITATIONS OF THE STUDY

The first identified limitation of the study is that the researcher is employed in one of the incumbent MNOs. There may have been a conflict of interest with some of the participants who were aware that the researcher worked for a competitor, which may have impacted their responses. All participants were made aware of the researcher's employment within the industry.

Another limitation was access to the relevant decision-makers willing to discuss strategic capabilities building within their firms. Dynamic capabilities and strategic management of firms form part of strategic advantages, which firms would rather keep secret. This concern may have limited access to potential participants. This risk was mitigated by securing as many participants as possible using the convenience sampling technique to conduct interviews until saturation was reached. Although this further limits the generalisability of findings, this still allowed for adequate exploration of the research questions and propositions.

Since the research aims to develop a willingness to cannibalise as a dynamic capability that enables radical innovation, the fact that different industries and even different firms may view innovation differently may mean that the understanding of innovation degrees may vary significantly. A limitation of this study is the varying degrees and magnitudes of innovations within different industries. This may make the research findings difficult to generalise outside the context of MNOs, even though the intention is that all incumbents ought to be able to develop this capability regardless

of their industry. However, given the definitions laid out in chapter one, section 1.7, the findings may still be transferable to other industries.

Another limitation is the time frame. Given that the researcher proposes that willingness to cannibalise can be developed as a dynamic capability, a longitudinal study investigating how this can be achieved would provide a more accurate picture of this process. However, given the time allocated to the research, this is not possible. Therefore, this study limited its findings to the participants' perspectives and their implications for the research propositions. No prescriptions or inferences can be drawn from the findings without being considering the context.

Given that this is a qualitative exploratory study, the results will be a highly contextual understanding of the phenomenon. The results may not be replicable outside of this context, and more studies may need to be done to strengthen the study's propositions. Studies in other industries and quantitative or mixed-method studies would be used to test the conceptual model and come up with a quantitative model.

3.6 ETHICAL CONSIDERATIONS

Given the qualitative nature of the study, it is important to note that humans operate within a paradigm of bounded rationality (Bazerman & Sezer, 2016), where both implicit and motivated biases may lead to unethical actions. However, it is important to consider the ethical implications of any research study to also increase the study’s reliability and validity (Christensen et al., 2015). When conducting qualitative research, there are two dimensions for ethical consideration, namely, procedural ethics and “ethics in practice” (Guillemin & Gillam, 2004), both of which were considered in the planning, design and execution of this research project.

Firstly, procedural ethics involved all procedures and steps followed by the researcher to ensure that the study does not violate Wits University's research ethics code, the interview schedule (interview questions), and participant letter of consent were submitted to the ethical committee for approval. No data was collected before there was a panel that determined that the study could proceed and there was minimal risk. The data collection only proceeded once a research protocol number was assigned (See Appendix D).

The second dimension of ethical considerations involved the researcher's efforts in ensuring that all aspects of the research project were conducted ethically. In particular, when it came to the data collection process, participants were informed of the intention of the researcher and consent was sought for interviews to be recorded, and anonymity of participants was considered and assured at all times as best as the researcher could. A key aspect of this was assured by ensuring that any identifying details were excluded from the final report. Participants were only interviewed after they gave their consent and were informed that they could opt out at any moment.

The results of the research were not changed to suit any motivations and biases by the researcher. However, such motivated modifications are likely given our bounded ethicality. The researcher will make all data collected available in the interest of validating the findings. The other researcher's bias to consider was that of being employed within the MNO industry, which may mean some of the researcher's contextualisation of the industry and the firms identified may have impacted the analysis.

3.7 RELIABILITY AND VALIDITY

Reliability in qualitative research is concerned with having a consistent approach to the research process (Cresswell, 2014). All the steps and procedures were documented in a research journal to ensure consistency (Saunders et al., 2012). All the steps for the research have been discussed as part of this research report to ensure that all decisions were taken and all the procedures and steps were documented.

Research validity involves determining whether the findings are accurate from the researcher's perspective (Cresswell, 2014). Cresswell (2014) recommends using several strategies to ensure that validity is built into the research process. For this study, the triangulation of the research themes was used (Cresswell, 2014). The researcher will also use self-reflection to clarify biases about study phenomena. As Cresswell (2014) states, reflectivity is a key feature of qualitative research.

3.8 TRIANGULATION

As stated above, triangulation was selected as the strategy to ensure research validity. The study used data triangulation by validating the emerging themes from the research findings with the themes from the literature on dynamic capabilities and willingness to cannibalise.

Eriksson (2014) and Teece (2007) were used to validate the findings and emerging themes on dynamic capabilities. Chandy and Tellis (1998) and Tellis et al. (2009) were useful for emerging themes in willingness to cannibalise. After conducting the interviews and coding for emerging themes, these papers were used to validate

whether these themes were consistent with what previous literature had found in an iterative process.

3.9 GENERALISATION

In qualitative research, the study of a particular context is the aim of the project (Cresswell, 2014). As such, the generalisation of qualitative studies is often not the aim and is very limited. A generalisation of research findings is often only possible once more cases and contexts are studied by researchers using the same research approach and investigating the same research problems and proposition in other contexts (other industries, countries, etc.).

3.10 SUMMARY

This chapter detailed the research approach and methodology, which was used to answer the research questions and problems from Chapter 1 and analyse the data and findings to validate the propositions from Chapter 2.

A qualitative research design was selected as it provides the best tools for answering the research questions. The chapter also outlined the data collection and analysis procedures and steps used in the research project. This included the identification of a research population as well as the sampling techniques used to identify participants for the research study. The procedure used for data analysis was also explained in this chapter.

This study is described as an explanatory study in which the purpose is to determine what a willingness to cannibalise as a dynamic capability will look like and how the capability can be operationalised. The perspectives of the participants were used to explain the phenomena of the study, and analysis of the results of the finding was used to show how willingness to cannibalise as a dynamic capability may be useful in enabling radical innovation for a turbulent environment.

The next chapter will present the findings from data collection and analysis.

CHAPTER 4: PRESENTATION OF FINDINGS

4.1 INTRODUCTION

Chapter 4 presents the data collected from the semi-structured interviews conducted between February 2020 and April 2020. The purpose of the study was to explore how MNOs facing turbulent external business environments and disruption to their core products could develop a willingness to cannibalise as a dynamic capability.

This chapter firstly gives an overview of the process used to collect the data and a brief profile of the participants. The chapter then discusses the results guided by the interview schedule and propositions of the study and based on the insights gained from the participants.

4.1.1 THE PROCESS

Twenty-seven individuals were requested to participate in the study. All requests were sent via email along with the interview guide (Appendix A) and consent letter (Appendix C) explaining the context of the study. Fifteen agreed and were interviewed for the study. Thirteen interviews were conducted in person, and two were conducted telephonically (during the national lockdown).

All participants interviewed were asked to consent to the study and sign a consent form (Appendix B) before conducting and recording interviews. All in-person interviews were arranged at separate locations and times with each participant and were privately conducted without input from any other party to the interview.

The two telephonic participants were requested to consent to the recording as signatures could not be secured. All interviews were recorded using the interviewer's smartphone to record. All interviews were then uploaded to a secured google drive folder immediately after being recorded.

4.1.2 PARTICIPANT PROFILES

Table 1 below lists all the participants who participated, the length of each interview, their role, and the business unit on which their role focuses. Thirteen of the participants (86%) were from the same organisation (MNO1), with two interviews secured with a different MNO (MNO2). This was largely due to difficulty in securing other interviews outside of the researcher's personal network. This limitation should have a limited impact on the findings as saturation was reached by the tenth interview.

Table 1: List of participants, including role and business unit of participant

Participants	Length (min)	Role	MNO	Business Unit
Interviewee-1	60:22	Executive Head of Department	MNO1	Enterprise
Interviewee-2	38:18	Managing Executive	MNO1	Consumer
Interviewee-3	42:23	Head of Department	MNO2	Enterprise
Interviewee-4	48:18	Executive Head of Department	MNO1	Consumer
Interviewee-5	45:57	Manager	MNO1	Group Technology
Interviewee-6	40:03	Executive Head of Department	MNO1	Consumer
Interviewee-7	23:06	Head of Department	MNO2	Enterprise
Interviewee-8	23:45	Managing Executive	MNO1	Consumer
Interviewee-9	52:42	Managing Executive	MNO1	Consumer
Interviewee-10	23:41	Executive Head of Department	MNO1	Enterprise

Interviewee-11	27:14	Executive Head of Department	MNO1	Group Strategy
Interviewee-12	31:08	Product Owner	MNO1	Financial Services
Interviewee-13	23:28	Executive Head of Department	MNO1	Enterprise
Interviewee-14	58:44	Executive Head of Department	MNO1	Group Technology
Interviewee-15	30:40	Managing Executive	MNO1	Financial Services

The fifteen participants were junior to mid-level decision-makers within their organisations. Only Interviewee-5, an innovation manager, did not have an executive role; however, they were decision-makers in their organisation's innovation function. As a decision-maker in the management of innovation within their organisation, they provided a greater context of the organisation’s innovation management processes.

4.2 RESULTS

The aim of presenting the results and findings was to enable emerging themes analysed to be analysed. As proposed in Chapter 3 (Data analysis process), this process was iterative, which required the researcher to spend much time with the data to gain insights into the interviewees' understanding. Below are the results to answer the research question and the sub-questions as proposed in the Introduction chapter.

4.2.1 RESEARCH QUESTION 1: STRATEGIC MANAGEMENT OF INNOVATION IN A DISRUPTED MNO INDUSTRY

How do incumbent MNOs build, integrate or reconfigure organisational resources and capabilities to capacitate a willingness to cannibalise as a dynamic capability that would enable them to respond to discontinuous changes in their industry through radical innovations?

Understanding the context in which the mobile operators find themselves was explored with interviewees to explore how MNOs saw the value of strategically managing the innovation process. The findings here suggest that although MNOs acknowledge that their industry is being disrupted in the broader sense of the word, there is relatively little strategic effort or investment towards managing innovation in the core product offering. MNOs are opting to diversify into other industries where they can exploit their competencies and capabilities, thus being the disruptors. The core products have largely seen incremental innovation, and there has also been a hesitation to cannibalise on them. Therefore there has been little to no radical innovations.

4.2.1.1 INDUSTRY CONTEXT

The first question explored the understanding of the business environment context of the MNO industry in which incumbents operate. Figure 5 highlights the themes that emerged when participants were asked about their understanding of the industry context.

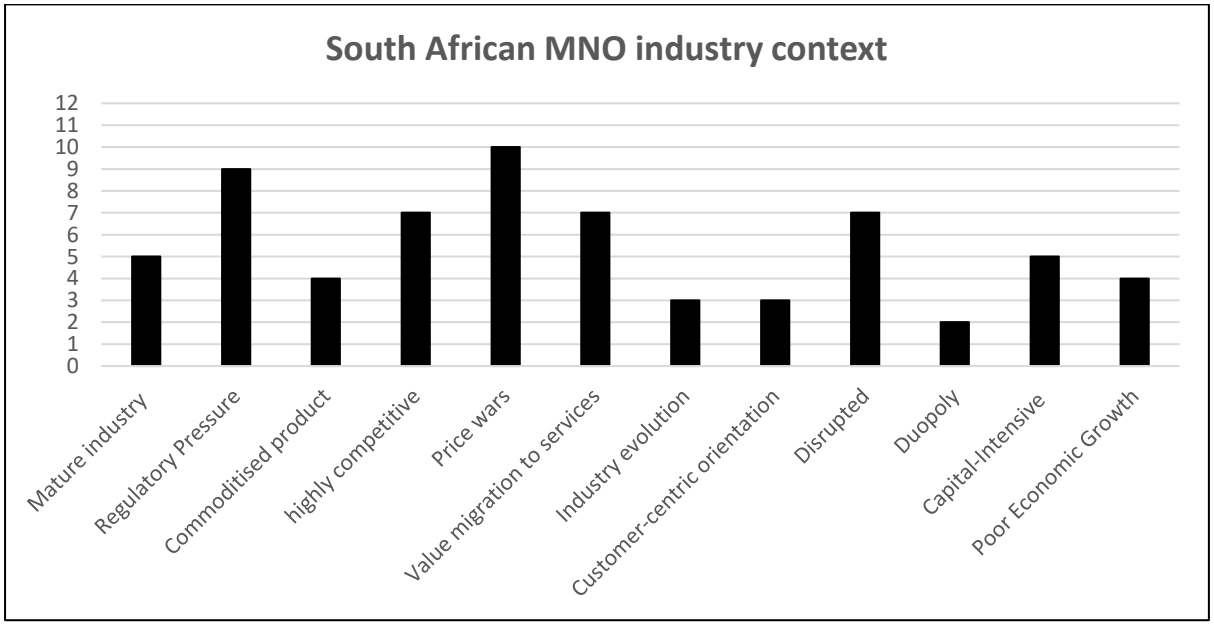


Figure 5: South African MNO industry context

The core value propositions for the MNO industry are mobility, connectivity and communications.

> "*...an industry develops to deliver a specific function. The mobile network operators... they specifically developed the solution that allow people to communicate both with voice and data while they are moving. They are a mobile network company, so their customers are always mobile... so that is the core proposition, is that they deliver a mobile network communication service.*" – Interviewee-14

Traditionally, the core product for MNOs is the delivery of mobile access to voice and data services. Over the last twenty-eight years, the South African MNO industry has grown into a mature industry, providing almost universal connectivity and services for most of the country's population.

> *"The mobile industry, in my opinion, is mature, and it is highly saturated. If you think about our population in a country of 58 odd million people, I would almost hesitate to assume that pretty much everyone, no matter what LSM layer you're in, is connected with a mobile device."* – Interviewee-1

The success of delivering on this value proposition has not been without challenges. Customers' demands and technological advancements have shifted such that every one of the participants acknowledged that the industry is faced with major discontinuous changes, with Interviewee-9 describing the industry as being in "structured chaos". Because of the almost ubiquitous access provided and South Africa's poor economic growth, there has been pressure on the industry to reduce the cost to customers.

"*So there are multiple challenges in the industry right now creating downward pressure and then overlaid with global lower economic growth*" – Interviewee-13

"…customers are squeezing us. Their businesses are taking strain from the economic situation in South Africa, so they are looking to cut costs everywhere." – Interviewee-10

Most of the participants identified their industry as facing regulatory pressure with various stakeholders and interest groups as well as government bodies pushing for the industry to reduce the prices they charge their customers for services. Nine of our participants commented on the growing pressure from various regulatory bodies on the industry. Some of the key points highlighted were:

"…*the government has put through strong regulations and even coming out of SONA speech from Cyril Ramaphosa last week, we are going to be forced as a mobile operator to constantly reduce our cost of data…"* – Interviewee-1

"*Probably our biggest issue at the moment is the regulator; obviously the Competition Commission is the primary issue, trying to force down prices… the government is trying to force us to bring prices down.*" – Interviewee-8

"*…on the back of intense competition you also then have consumer interest groups as well as regulators and government who want to see pricing reduced massively.*" – Interviewee-9

Secondly, industry disruption also emerged as a concern during the interviews, with seven participants highlighting it as one of the reasons for the discontinuous changes.

The MNO industry is being disrupted through the introduction of new technologies and substitute products (such as fibre and fixed wireless broadband connectivity) competing with the MNO industry's core product offerings.

> "*We are seeing substitution suddenly out of nowhere, for example, fibre have come up with more than 500 000 connected customers from nowhere within four, five years suddenly fibre is connecting a lot of customers, and those customers are reducing their mobile spend because they have a gluttony of data at home. We are starting to see the impact of competing technologies. Suddenly there are new players on the block that are providing fixed wireless access….*" Interviewee-6

> "*I would say, the external business environment in which telcos operate is one that is seriously being disrupted. There is a lot of non-traditional players, and the normal consumer has multiple options to use their telecommunication services, and I don't think telcos are responding timeously to this issue.*" Interviewee-7

> "*Fibre is becoming a real problem... massive dilution on the base revenue on mobile. Because a lot of that traffic is moving to fibre, you see the pre-dominant mobile use now happening while guys are on the road and on the weekend because most companies now have free Wi-Fi in the office and guys have Wi-Fi at home, free Wi-Fi at malls, and free Wi-Fi at restaurants….*" Interviewee-8

> "*We are a lucrative business our revenues now is nearly a hundred billion Rand a year… we must look and say who are the guys coming for us and now it becomes interesting because there are a few people coming for us and the main ones are the people trying to get to our services, those are the same OTT players. Google, Facebook, Apple and Amazon are the ones that sell services to their customers over our network... they want in the long term the MNOs out*

of the way, they will be building their own networks to try and disrupt the mobile operators so that the cost to connect is zero for consumers and all the revenue goes to them." – Interviewee 14

A third reason for the discontinuous changes was the increased competition as a result of new entrants as well as more competitors coming into the market. As Interviewee-8 stated, "…we have competitors now that we didn't have five or six years ago". These competitors are creating value propositions that are directly impacting core value propositions and products from MNOs:

"…*we have become the core rails for which other businesses have built businesses on top of ours and compete with us. A classic example is like WhatsApp that competes with our core SMS business. There have been a number of these over the top players that have built businesses on top of our network that we now compete with, so from that side, it is quite competitive.*" – Interviewee-15

As a result of all the increased competition, regulatory pressures and disruption, price wars emerged as the most frequent theme from the interviews with ten of the participants highlighting it as a primary concern for MNOs. Some of the key insights on price wars were:

"…the industry is extremely price sensitive at the moment there is a lot of competition around price" – Interviewee-10

"There are only four operators they are competing increasingly on price." – Interviewee-2

"*There is a lot pressure coming in the industry as a whole… there is a lot of pressure, and there is competition out there. It's a price war as well, and we need to actually lower our prices, but at the same time, we have to still manage our costs. You still have costs, but there's pressure to reduce prices which puts more pressure in terms of your bottom line. There's pressure from competition, customers are very sensitive now about price and product, and we have differentiated ourselves on quality, but now people are more sensitive about price*." – Interviewee-11

Interviewee-10 summarised it as "…aggressive competition, intense price pressure, customers are squeezing us…." This pressure on profit margins and revenue is particularly concerning, given the capital intensity of the industry.

"*There has been a lot of pressure in the market around value and price is being eroded at a significant rate ...also understanding how the CAPEX and OPEX cost goes into a network to run that would be detrimental to our own ability to refund the network, further expansion and further technology innovation*." – Interviewee-9

"*If you look at Telco network, it's really about CAPEX investment and the ability to leverage that…*" – Interviewee-13

The regulatory pressures, increased competition, and resulting price wars within the industry have resulted in reduced profit margins from traditional core services. The industry has seen value migrate from its core competencies as customers' preferences have changed.

"The industry is changing with a lot of global partners like Google taking the essence of customer ownership. The operators have now lost customer

ownership have now been reduced down to connectivity service providers….The demand will keep evolving from voice to data, from data to value-added services, and the winner is going to lie in the one that best understands all of that." – Interviewee-2

Hence, the industry's move into disrupting other industries was seen as an imperative if they are to continue growing.

"… the industry realises that it has to grow in terms of its value-added services of the over the top services and products that we provide […] offering financial services, offering content services and offering a whole host of additional benefits services, which they aim to use to grow revenue into the future and to grow a bigger share of customer wallet because, there is no longer growth in pure connectivity, the growth is going to come from these addition services that we sell to customers." – Interviewee-6

"In my view, if we are to future proof the organisation itself, we can't rely on the core revenue streams. We have to figure out a way of still being profitable going into the future, and that means we can't be doing the normal stuff that we used to do. It means we need to find new revenue streams and that talks to the investment into the financial services." – Interviewee-12

"…we can move our unique selling features and move into the OTT space and start delivering services, and the reason we want to do that is because the margins on the network business is under pressure all the time[…]This is why all MNOs going out to disrupt other businesses so that we can generate new revenue streams that is high up in the value chain so that we can make more money there." – Interviewee-14

4.2.1.2 MOBILE NETWORK OPERATOR UNDERSTANDING OF INNOVATION

Participants were also asked about their understanding of innovation in their industry as well. Two questions were used to get emergent themes and their implications for discontinuous change. The first question asked them for their understanding of innovation within the industry, and the second question asked them for examples of innovations within their organisations. None of the examples that were given by the participants will be discussed in detail or name to maintain the anonymity of the participants. This question was used to code for whether the innovations were incremental or radical, as well as to get an idea of how the innovation process is understood by the participants. Figure 6 shows the themes which emerged from the interviews.

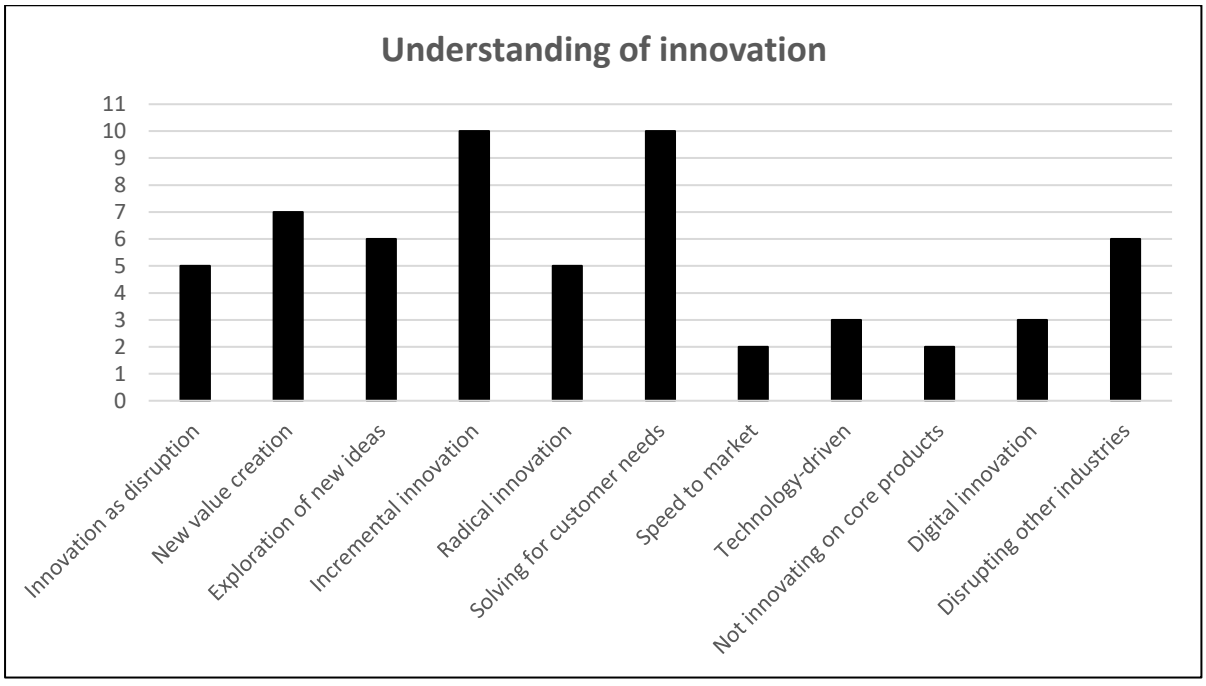


Figure 6: Understanding of innovation by MNOs

There is a general understanding that innovation involves bringing new ideas that solve customer problems and add value to the organisation. Six participants highlighted that innovation involved the exploration of new ideas, whilst seven mentioned that innovation had to result in new value creation. There was also a view

that innovation within the MNO industry tends to primarily focus on getting customers to consume more of the traditional voice and data services.

> *"It is a new idea that creates value. So let me unpack that for you, so when I say new, I mean something that is novel, so something that doesn't exist. When I say idea, I mean anything a system, a process, a technology, literally anything. When I say value, I mean anything new that creates value. The value portion is something that could either fit into one of the three buckets. It either increase our revenue, it decreases our costs, or it improves our NPS, which is our customer satisfaction."* – Interviewee-5

> "*Innovation is chiefly in the industry, around what new consumer products can you launch that sort of forces the consumer to consume more of the traditional services, be it voice SMS or data.*" – Interviewee-7

> "*Adding value to our customers in ways that is meaningful to them which is not necessarily on their mobile products may be adjacent or value-adding*" – Interviewee-10

> *"On average, a decent operator launches between a hundred, two hundred products a year. That is change, evolution, understanding customers, adding value and all of that is highly innovative."* – Interviewee-2

The theme of "solving for customer needs" emerged from ten interviews. This demonstrated a concern about delivering value to the customer, as is evident in the quote from Interviewee-2 above. There was a view that the MNOs are more innovative than other industries. However, there were was concern that although the industry was faced with so much discontinuous change, most of the innovation was largely incremental. Incremental innovation emerged from ten of the participants, whilst

radical innovation only emerged in five interviews. Even when radical or disruptive innovation emerged, it was as an acknowledgement that most operators focused on incremental innovations on the core products.

> *"…when it comes to innovation there is a whole continuum of innovation that people look at and that companies look at now and on the one end of the scale, we have sustaining innovation, which is incremental changes and innovation and on the other end of the scale is disruptive innovation, and I think for you, you're playing more of a disruptive and radical innovation. What is important, and I think most of our revenue as a company comes from sustaining innovation. I think it is incremental changes and existing processes, systems or processes, which result in innovation.[...] I think in the industry; we do a lot of sustaining innovation."* – Interviewee-5

> *"…core innovation talks about is how do I do my day business a little bit better [...] large corporations and Telco's in this specific case tend to focus their effort on core innovation, in other words, doing better things, building better products, […] getting more customers and they are all relatively core innovation elements. The industry mostly focus on core innovations, and that is the nature of the industry, so most of the innovation that happens is in core innovation."* – Interviewee-14

Incremental innovation allows incumbent mobile network operators to focus on solving the needs of the customer in providing improved versions of their core products. However, given the realisation that the industry is facing "headwinds", a lot of the participants expressed concern for the lack of radical innovation in the core product offering by the industry.

> *"It is like you connecting the world you bringing something like 5G into an industry that is going to allow people to like do self-driving cars, but the core*

product that you sell which is that access is like you are not innovative in any shape or form. So we do massive stuff when we talk about it externally about what we do, but internally our way of giving people access to the stuff that enables so many cool things we don't do a lot of the basics well." – Interviewee-4

"…at a product level […] with the utmost respect to the individuals they only understand how to sell minutes and megabytes, there is very little innovation there, as a matter of fact, a single biggest competitive factor in the industry right now is pricing. So everyone is trying to out-price everyone else, and this is just a race to the bottom. so where there are innovative products being developed in the industry, they are being developed here and there by people that either have a passion to drive it or a business unit that is trying to get their business off the ground" – Interviewee-14

Where MNOs have tended to be disruptive is when they are disrupting other industries, such as the move into financial services and other digital services. So although "innovation as disruption" emerged as a theme in five interviews, most participants saw the opportunity only to disrupt other industries, which emerged as a theme in six of the interviews.

"I think more and more important innovation for telcos will be outside of its core business things like […] in the financial services and payments space" – Interviewee-15

"To answer your question, historically, innovation was product lead where it goes forward […] is where partnerships with OTTs and effectively open up new opportunities for you because product network and product is at core […] but subscribers as you would have seen as well, most of your life on your device is not only on the calling but it is on different apps, and different OTT plays it's

how your lifestyle is managed whether Uber or Uber Eats or Google Maps or Waze or any of the shopping type of service or utility that you provide and it is managed through those OTTs based platforms. That is where the pivot now […] how do we shift from there, and it is not something that we shifting now, it's been part of the strategy, including financial services side…" – Interviewee-11

"If we look at the more disruptive ideas that we have come up with, you will look at how we implemented financial services, and now as a telco, we went out and disrupted the financial industry, so that is an example" – Interviewee-5

This shift towards disrupting other industries is seen as the growth area for the MNO industry, with a recognition that core product offering is being disrupted with value migrating from away to services offered on top of the network. There is also recognition that although there has been and continue to be massive investments into the network infrastructure, innovation will require exploration of new revenue opportunities as the technology was not a differentiator or competitive advantage.

"In my opinion, most people in the market have access to the same technologies to a degree [...] It's only innovative if you can deploy it in such a way that it disrupts the market because everyone has got access to that same technology. It's about how do we [...] deploy a technology that you can disrupt in the market and open new revenue streams that you never had before. If it's just a matter of just introducing the new technology of innovation or an innovative idea just to be the same as everyone else that innovation doesn't help you, in my opinion, to truly innovate is to develop something in the market that disrupts and provides you additional revenue streams and more opportunities." – Interviewee-1

These investments into new technologies are often mistaken for how innovative the industry is. The technological evolution from second-generation voice-driven networks

to the current rollout of fifth-generation data-driven networks is often taken as evidence of the industry's innovativeness, even by those who work in the industry. Most people assume that these evolutions are evidence of radical innovations. However, it is worth highlighting that the standardisation of communications technologies means that most operators have access to the same technologies, and therefore most innovations in the network are often incremental enhancements on what is available and is often a result of enhancements by selected equipment vendors.

> *"…at a network level, the MNOs can't innovate, which is an interesting point which is the same thing that made the networks very successful highly standardised network and have got very little issues. From the time you got your first-hand 2G handset to your latest enabled 4G smartphone that you have, you could switch between those handsets and network barriers and didn't realise that it happened as a consumer. It just works seamlessly. Your cell phone number just worked from day one till today. You now know the nuts and bolts of how many network refreshers we have done, switching of vendors and replacing of equipment. We went from 2G to 5G without the customer ever once being disrupted, not having a service and the reason that all worked was because everything is so well set in standards. You buy a piece of kit from Huawei, and you plug it in, it will work. You can buy from Ericson, ZTE or Nokia. It will work because they all understand it. You have to do a little bit of work to get it working, but it is insignificant. The downside of that is there is no opportunity at the network level to innovate, what we innovate is how are we doing things most efficiently within those standards […] what we are doing in the network isn't giving us a substantial competitive advantage over […] because they do exactly the same stuff because of the standards. The very things that make the industry successful is the highly standardised systems expose it to being disrupted.*"

The concerning thing is that incumbent MNOs are largely not innovating on the core product enough to respond to the disruption and discontinuous changes faced by the industry. As Interviewee-3 highlights below, most of the innovation has seemingly

been in response to the industry being disrupted and even then, it has largely been incremental product and efficiency improvements.

> *"We haven't innovated in a long time, and we always pretend as if we do; it's so sad. I don't consider fast speed as an innovation, […] It's been mostly to respond to what's been happening in the industry […] It's been mostly to respond to what's been happening in the industry […]. It has always been a knee jerk reaction […], So it is innovations that are brought on by necessity more than innovation in the real sense. It is innovation in response of what the customer is asking for. Yes, it is literally giving the customers what they want. It wasn't really innovation."* – Interviewee-3

Interview sentiments were that although there is a recognition that discontinuous changes are negatively impacting the industry, there has largely been a failure to respond through radical innovation by incumbents as most of the innovation has focused on incremental improvement of the core product offering and some investments by organisations into disrupting other industries. However, even this disruption of other industries has struggled as investments have largely focused on protecting the core.

> *"We do innovative things, but those are small things in the bigger scale of things. If you want to survive as an industry, you need to innovate at an industry level, and that is where you build those outgoing disruptive things and also innovate in your core business and that innovation in core business we don't see, so short answer to your question is innovation is happening, it is just not happening at the rate that we would like to see it. You should do your innovation whilst you still have money, always see this when the going is good, and everyone is making money, no one is thinking about innovation, but when the going gets tough, and people start losing money, they want to start being innovative, now you don't have the luxury of time and money anymore, so your innovations don't work. When the going is good, you go into the new areas, and*

you are going to lose a lot of money doing it when you start ten initiatives, and two will be successful, and eight will fail, but that's the price that you pay […], but you don't see it in the telecom industry because it is a conservative industry it comes out from a telco space" – Interviewee-15

4.2.1.3 STRATEGIC MANAGEMENT OF INNOVATION WITHIN MOBILE NETWORK OPERATORS

A reason for the poor rate of innovation within MNOs may be the poor focus on the strategic management of innovation. Two questions were used to gain insights into how innovation is managed within the MNOs. Participants were asked how their organisations understand and manage innovation. They were also asked for the metric used to measure the impact of innovations.

These questions sought to understand the organisational level considerations by MNOs for which innovation projects to pursue and what they were hoping to achieve by pursuing those projects. The other key insight was to understand if there the innovation process was managed in a way in which decision-makers understood. Figure 7 shows the emerging themes for how participants understood the management of innovation within the organisation.

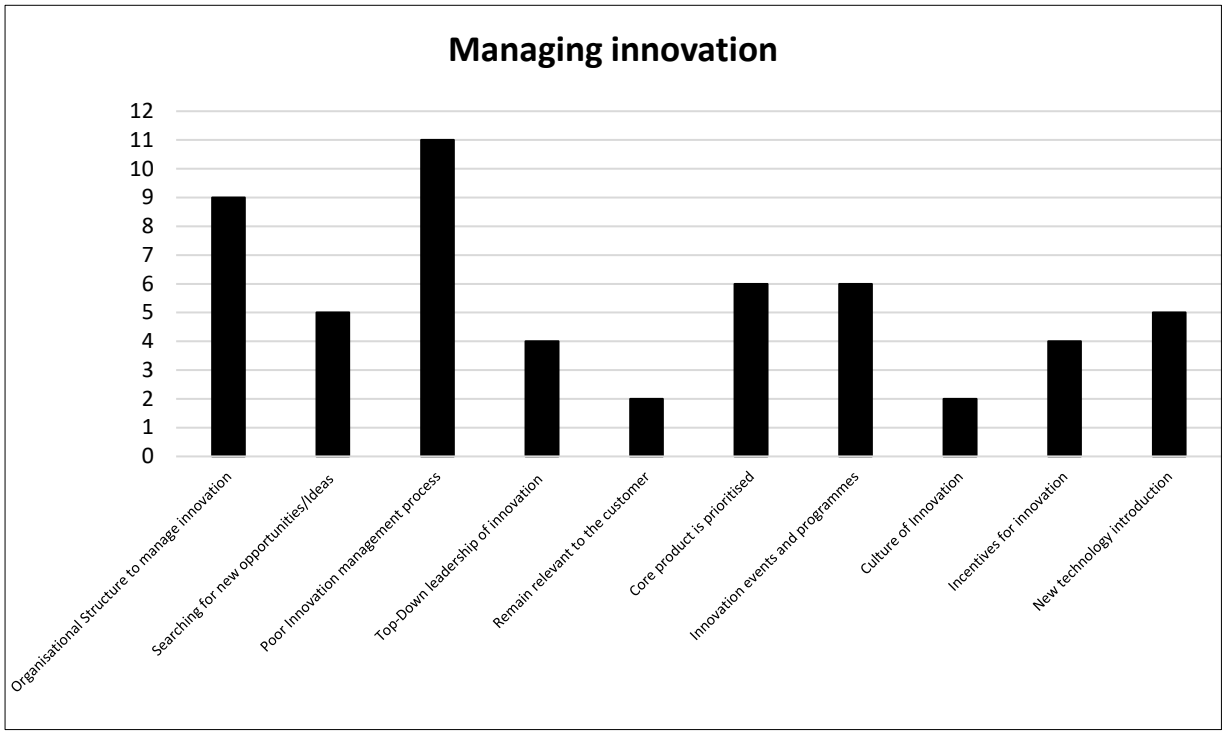


Figure 7: MNO understanding of Managing Innovation

Most of the participants indicated that MNOs have very poor to non-existent innovation management processes. Although nine of the participants knew of organisational structures and departments which were responsible for managing innovation, most acknowledged that the process was largely poor at producing innovation results. Most innovations on the products were largely driven as part of business as usual which explains the bias towards incremental innovations and the fact that protecting the core product is prioritised. Interviewee-2 felt that his organisation managed innovation pathetically, and it was at the expense of innovation:

> *"Pathetically, there is a lot of talk and very little doing. […]'s understanding of innovation is pretty bad. Innovation requires people to do it, not to process itself. […] itself as an entity it has too many bottlenecks, too many old people, people who are willing to be functional and not responsive to the industry and to protect themselves. The entire financial model is wrong; it is designed to incentivise the prioritisation of existing businesses."*

Whilst in a competing MNO, Interviewee-3 said there was no innovation process at all since senior management viewed innovation as everyone's responsibility:

> *"There has never been a business unit dedicated to innovation, within all the organisations I've worked in, there is management, i.e. the guys that are very high up, always say innovation is going to come from everywhere and anywhere, so that it meets your needs and whatever your responsibilities are, you're going to come up with your innovation to make your life easier or you're going to think of an innovation that is going to make my life easier."*

This lack of a strong and effective innovation process managed as a strategic pillar often resulted in decision-makers also feeling that they had no role to play in the innovation process or that even the processes they were aware of did not mean anything to them since what they were measured on and what was prioritised was business as usual projects:

> *"They don't, in a very simplistic way, you pay lip service to it. You will put up the strategy documents and assign resources, but ultimately the innovation gets sort of steamrolled by business as usual. Where you have got 260 projects, your innovation ones will be sitting in the last quarter of that. There aren't any processes that have been built to accommodate it. Everything has to be forced into the existing processes, and sometimes that's where things fall apart. …because innovation fundamentally asks you to rethink how you are approaching it."* – Interviewee-7

> *"Me at this level, I'm just focused on my day to day world because I have to deliver things. I don't know what is happening in financial services, I don't have that big view, so I can't make the connection between my world and their world. It is very difficult for me because I don't have time to do it, but they have time to do it."* – Interviewee-6

The innovation departments often end up being more focused on ideation and collection of new ideas, but given the lack of prioritisation of innovation and resources not being invested towards innovation projects, there is poor to low execution of innovation projects. This is especially the case with radical innovation projects that are seen as disruptive to the current core products.

The result of this poor strategic innovation management is that incumbent MNOs are not able to quantify the value of innovation beyond current revenue objectives, and innovation is not being measured as a strategic output for organisations. A question on the metrics used to measure the impact of innovation projects explored and the expectations of MNOs for the innovation process. The aim was to understand how MNOs measure the success of innovation projects and if they had a systematic process for measuring their innovation process's success and outcomes.

The question on metrics specific to innovation aimed to understand if any measures were put in place within MNOs that would measure the success of the innovation process beyond how non-innovation projects were measured. As interviewee-14 stated:

> "*You can measure the programme itself if it's successful and does the programme actually produce an output. It may sound like it's the same thing, but it's two different things. So the first one measures the programme itself. In innovation, we take an idea from ideation to incubation to acceleration to commercialization. We take the idea through those stages, so we can measure the number of ideas that go through those stages but the number that is successful from stage to stage...*"

Figure 8 shows the metrics used to measure the impact of innovation as understood by decision-makers within incumbent MNOs. As the figure highlights, innovation projects and the innovation process

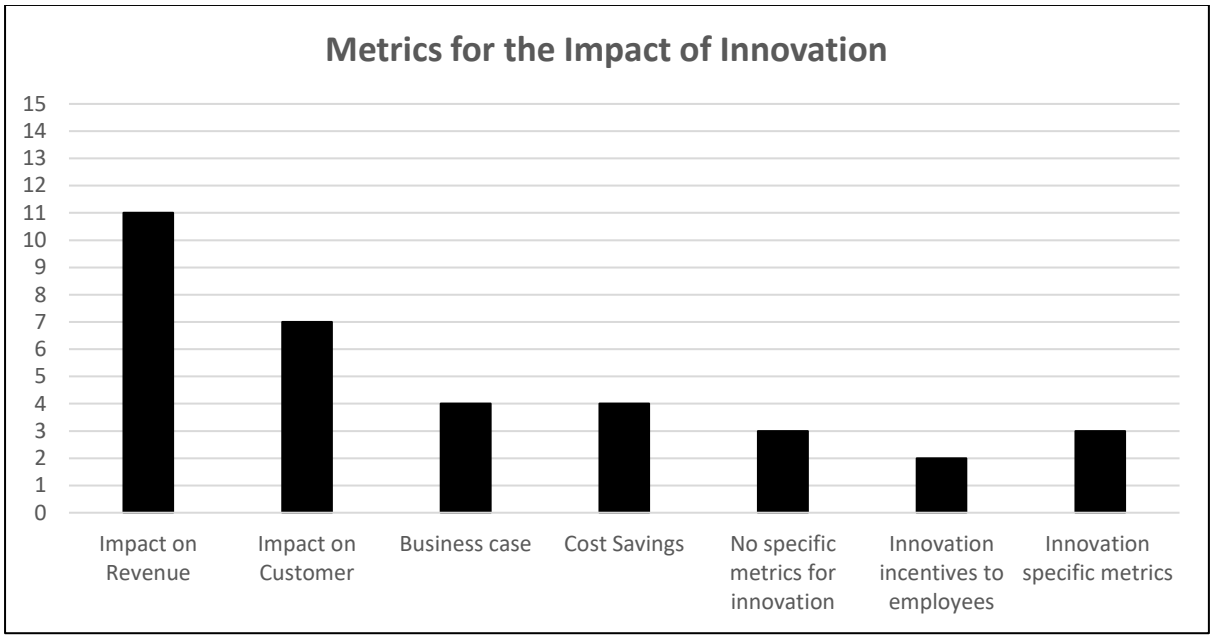


Figure 8: Metrics for the impact of innovation

As some respondents highlighted, innovation was is not being measured and rewarded outside of the innovation department, with only three participants discussing innovation specific metrics being used and only two mentioning incentives for innovation as part of metrics for the impact of innovation. As Interviewee-13 highlighted, innovation projects are often not treated any differently from other projects and are also required to adhere to traditional return on investment metrics:

> *"I think it's a hard one because projects are not just coined innovation projects, so we don't measure it as an innovation, but we measure it based on impact, so any programme or any initiative we look at it from an impact perspective. So is the impact. An impact could be different for different programmes in a customer service programme. The impact would be the reduction in improved NPS, reduction in calls, more proactive services, happy customers and so forth for the non-financial metrics. Where else if you look at it from another space where the impact could be lower in cost, it is all about the return on investment, what was the intended value where we are able to deliver that value and what was the lessons learnt on that."*

Most of the participants highlighted that the metrics for the impact of innovation which was a key consideration, was largely on the impact on revenues, with “impact on revenue’ emerging in eleven of the interviews. Cost-saving also emerged from four participants as far as it impacts on the cost to deliver a service and therefore generate revenues and produce a financial return on investments. Some points highlighted by participants were:

> *“We use traditional metrics, to be perfectly honest. What that means from revenues as in this new product or this new service is bringing us a certain amount of money. The typical business case, this is my input cost, this is my output cost, and I will pay back a certain amount of money within a certain number of years.*” Interviewee-3

> *“Very simple, revenue, customer retention and in prepaid it would be customer activity. On prepaid market, customers are active on our network 20 days a month. How do I move customers from being active for 20 days a month to 23, 24, 25, 30 days a month? The longer the customer is active on our network, the more revenue we make. It’s all about these financial business case metrics. What we are innovating? What is it doing to these metrics? Do we provide a better customer service? But in the background, it is all about the business case metrics. Are we saving money? Are we making more money? Are we selling more units? Are we reducing costs? Those are the things that determine how successful we have been innovative.*” – Interviewee-6

> *“Traditionally, the metrics doesn’t single out innovation; it’s always about what is the potential impact in terms of revenue. Usually, what they will measure is the number of connections and the average revenue per subscriber. That is really the metrics that they use; those will apply to innovation and non-innovation, which kind of makes it quite difficult […] for you to fit into the existing*

metrics and as a result to get priority resources then it becomes quite challenging." – Interviewee-7

The impact on the customer also emerged as a key theme. However, this impact was largely about keeping customers happy so that MNOs could extract more revenue for their core product offering.

"…we use business case approval, number of new connections it could bring in, how much of churn it could reduce, so how will it be helping us to retain customers, how will it be helping us to bring in customers at a higher output, how will it help us with our existing base to develop them and get more out of the same customer, so what we always usually looking for in innovation is we know our customer is spending a certain amount on Telco services and do we get a bigger share of that wallet" – Interviewee-10

"Well, if you look at our net promoter score, if you we look at whether our customers are happy or not, it's a vast way to keep keen of whether we doing things right or wrong. Obviously, that was been quite positive over the last couple of years; we have seen positive trends. The way we have transformed the business and the way we stay relevant, and the way we meet customer expectations, we see that in our KPIs, we see it in our financials again, again innovating and having good systems and processes and staff in place, you see customer retention in your financials, and it's your net promoter score where your customers actually you do samples with them and check if they are still happy with…" – Interviewee-11

There is a worry from MNOs that innovations may cannibalise current product offerings. So, although there was a recognition that innovation often involves disruption, incumbents seem to only be happy with disruption when they are disrupting other industries and are often uncomfortable with having to disrupt or cannibalise on

their core product offerings. Some participants expressed this concern with Interviewee-9 stating that:

> "*Revenue is the key KPI, so at the end of the day, this business is measured on revenue, EBIT, cash flow, and NPS that is at the end of the day the products need to deliver is meeting those KPIs without cannibalising any other revenue line. You can grow a product easily from zero to billion rand without any problem in a year, but if you do that at the expense of reducing value on another business line or product and take ten billion rand out of the value, I look great, but it needs to work in an ecosystem of your total revenue, EBIT, and cash flow is as a company, and how to continue to grow that and that is fundamental in how a product, innovation or new idea or enhancement is measured, so you have post-investment reviews that product was launched and meets again those primary targets."*

This highlights the desire of incumbents to protect their current investments and revenues and to prevent the cannibalisation of core products. Whilst this might have suited the MNOs during times of high growth and low disruption, the risk of focusing on revenue generation and cost savings as the drivers for innovation means that disruption to the core product will not come from the industry but will come from new entrants and substitute offerings that serve the need of the customer better.

4.2.1.4 SUMMARY OF FINDINGS FOR RESEARCH QUESTION 1

The South African telecommunications industry in which the incumbent MNOs operate is a rapidly changing and mature industry. Regulatory pressure increasingly drives prices that MNOs can charge for their core products of voice and data down. Customer preferences are also changing with the adoption of smartphones leading to the migration of value from the connectivity to the services carried on top. OTT players have taken advantage of this to be the preferred provider to serve the needs of the

customer. Since services are connectivity agnostic, MNOs are also seeing increased competition from fibre and Wi-Fi providers in the provision of data connectivity.

MNOs will need to be innovative if they are to stop being a “dumb pipe” providing increasingly commoditised products. Whilst they acknowledge the need to solve the customer problems, the need to protect their core product has meant that most MNO innovations are largely incremental, and although they recognise that discontinuous changes are happening, which negatively impact their core product offerings in the long run, MNOs often choose to prioritise innovation projects which leads to incremental enhancements on their product offerings.

MNOs have often only prioritised introducing radical and disruptive innovations in other industries where they are the disruptors. This is done through investments in accelerator units such as financial, digital content and enterprise services in which all incumbents have investments as these have been identified as areas in which they have the capabilities to disrupt without the need to disrupt their core product offerings. However, even in this disruption, incumbent MNOs continue to copy each other by going for the same industries and not radically transforming their core products and value propositions even though there is a recognition that the industry is being disrupted.

This is because there is a poor process to manage innovation strategically within MNOs. Part of this is because there has been a lack of senior leadership on how innovation can be managed strategically within MNOs. So, although there are innovation functions within the incumbents, the lack of coherence on how innovation is managed suggests that there is a poor understanding of how innovation can be managed. This leads to a lack of a pipeline of innovation projects within MNOs and the dearth of radical innovations coming out from the industry.

Therefore to build, integrate or reconfigure organisational resources and capabilities to capacitate a willingness to cannibalise as a dynamic capability that would enable them to respond to discontinuous changes in their industry, firms must understand how a willingness to cannibalise and the antecedents required to enable this as a dynamic capability.

4.2.2 RESEARCH SUB-QUESTION 1.1: WILLINGNESS TO CANNIBALISE

How do decision-makers within MNOs view the significance of a willingness to cannibalise current investments in enabling radical innovations?

This question sought to explore the willingness of MNOs to cannibalise on their current investments, given their stated recognition of a need to respond to discontinuous changes through innovation. As highlighted above, MNOs tend to pursue disruptive innovation where they are the disruptors in other industries and are often reluctant to disrupt their own industry.

Incumbents seem to only adopt disruptive innovations when there is a market push towards new technologies or products, which leads to them continuing to compete in the same markets and even disrupting the same industries with the same product offerings.

The findings below will explore the impact of how decisions are made within MNOs on which innovation opportunities to pursue. There was also an exploration of whether MNOs recognised the role of innovation champions in the innovation process as well as their view of future customers. The section closes with a discussion of the overall willingness of MNOs to cannibalise and an exploration into whether there was a consensus on the view that incumbent MNOs should be willing to cannibalise by introducing radical innovation as well as the innovations which may be disruptive to their industry.

4.2.2.1 DECISIONS ABOUT INNOVATION PROJECTS

The first question was about how decisions were made about which innovation projects were pursued. These decisions about which innovations projects to pursue have an impact on the level, dimension and types of innovations pursued by organisations. The aim was to explore how resources were allocated for innovation projects within the MNOs and whether any innovation measures were taken into consideration.

As Figure 9 below indicate, emerging themes suggest although there was in the internal market, i.e. competition for organisational resources on which innovations to pursue, the largest contributor to which innovations would be pursued were largely driven by the business case and their potential return on investment (ROI). There was, however, cases the senior leadership would drive innovation projects, with some participants also indicating this as another key way in which innovations were pursued.

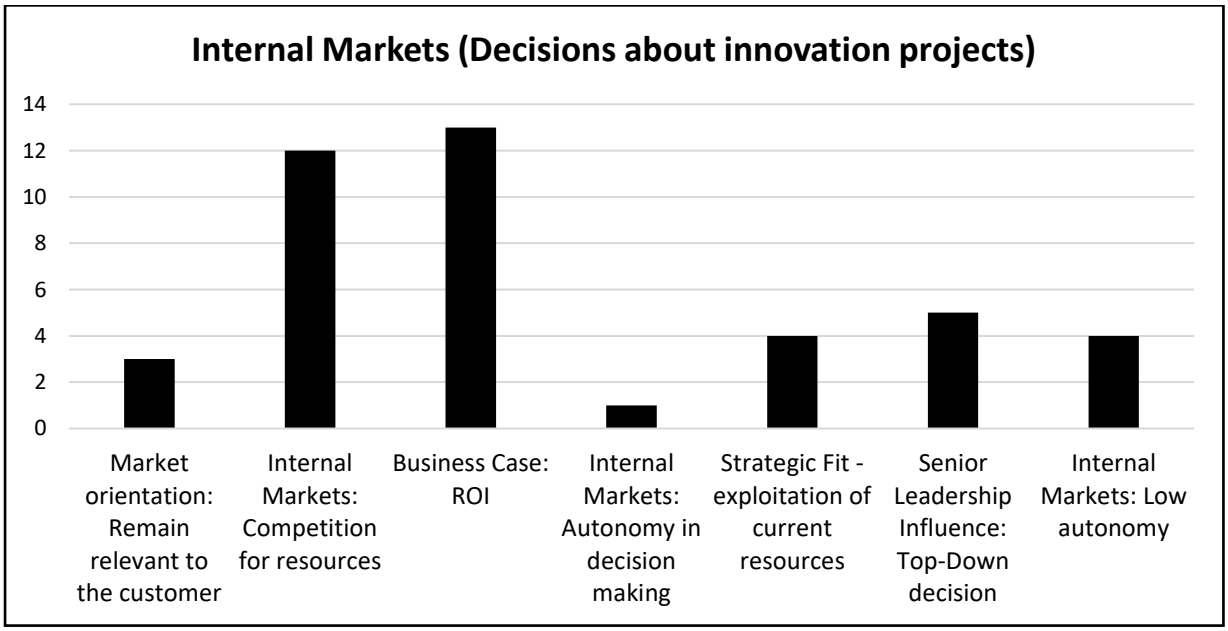


Figure 9: Internal Markets (Decisions about innovation projects)

Almost all the participants highlighted the importance of some kind of business case before any innovation could be pursued. Innovation projects often fight for resources along with other opportunities and therefore did not get any special attention within the MNOs. As Interviewee-6 stated:

"*It's really simple. How much money do we save? How much money do we make? What is the impact on the bottom line?*

…So my opinion is innovation, money will go to the innovation that will bring us the biggest return, simple as that, it's part of our DNA, how we do business. We focus on those things that will bring us more money…"

This suggests that MNOs tend to focus on the delivery of immediate financial value above any other considerations. This view is supported by Interviewee-7, who stated that:

"*Again, it's ARPU or connections. How much revenue is it going to bring, and how is it going to increase our profitability. So there was nothing specific to innovation… There was no spend allocated to things that caused efficiencies, for example, like a self-service portal, because it wasn't revenue-generating, so it never got any priority.*"

The view of MNOs leaders was that since they are primarily businesses, there was a need for governance structures in the decision-making process which have resulted in very bureaucratic processes that meant only those innovation projects with the best ROI and lower risk of failure were pursued.

"So it is actually a bureaucratic process. *There are a lot of checks and balances to the process there is speed, complexity and scale that you need to consider a lot, and no single person has a full view of what everyone else does; that is why you need different eyes to understand that this product, what commission will it be sold and impact it will have on another line to be sold through credit vetting channels or through wholesalers is a lot of complexities that you need to factor into the build, which is why you need oversight to say this a product*

and these ones go into the system and people will be aware that it is being built." – Interviewee-9

"*There is a committee that actually looks at these things and reviews it, and you get to present your idea to them... It goes through very stringent screening process. It looks at the business needs, the financials, the business need, the costs, the complexity, and there is a lot of criteria that people would use to evaluate that, and then depending on the value to the business then they obviously rank these ideas and execute on them.*" – Interviewee-11

As a result of these governance processes, although there are internal markets as competition for resources between different business units, there was very little autonomy on which projects these business units could pursue. The interviewed decision-makers highlighted the frustration of having no real autonomy on which innovation projects to pursue, with only one of the participants claiming to have full autonomy in innovation decisions. Although Interviewee-2 indicated that they had full autonomy, "*…My team and I sit together, and we make a decision*", they still looked at traditional ROI as the driver for innovation projects.

The other drivers which emerged for decisions about which innovation projects to pursue were the need to remain relevant to the customer (three participants), the strategic fit of the project to current resources (four participants), and the influence of senior leadership on organisational decisions (five participants).

Interviewee-1 highlighted that although ROI and the business case were the most significant drivers for investment decisions, there were times when drivers of customer delight such as the projects with a positive impact on the Net Promoter Score (NPS) were also often approved even if they did not have the best ROI.

"*…as a caveat, it's not every decision of what we innovate or deploy will be based on the return, sometimes a certain element will be prioritised even though the return in revenue is low, but the return in NPS is high we will prioritise it. We know that by doing something that it will give the customer a better experience or a better quality of a product that even if the return in revenue is small, we might decide to do it because customer delight and customer obsession sits in the middle of everything that we do. It is no good in trying to make money without retaining the customer because then you're gonna shoot yourself in the foot.*" – Interviewee-1

The need to delight customers is critical as participants highlighted the importance of innovation decisions to focus on the "jobs to be done" and what problem MNOs were looking to solve for the customer.

"*We prioritise as best we can based on jobs that need to be done. A lot of the time the jobs that need to be done to bring in the revenue are super important*" Interviewee-4

"*We have a format that we measure it against a lot of it goes down to firstly understanding what problem we are solving for innovation, not for innovation sake. We are all guilty of that where we think something is cool, it's a great idea but you not sure what customer problem you solving for. So, the first gate is we need to understand what customer problem we solving, and we need to understand is that a big part of it is can we win…."* Interviewee-14

The other key theme that emerged was on the strategic fit of innovation opportunities to organisational resources and capabilities on innovating. Participants highlighted the importance of understanding what capabilities and resources incumbent MNOs had before they made decisions on how to innovate. Interviewee-14 argued that this was the most crucial consideration for pursuing any innovation, as innovation in an area

where organisations don't have capabilities meant expending time and energy towards building new capabilities.

> "*…do we have capabilities to develop the product or the innovation that we intending to… [this] is the most important because… if you dig deep, you actually realise and acknowledge that you don't have the knowledge and resources to solve it, and you better passing it up than to waste a lot of time and energy doing it*" – Interviewee-14

As Interviewee-13 stated, the availability and prioritisation of organisational resources was the second most important thing to consider when deciding to pursue innovation projects after ROI.

> "*It is based on the return on the impact of the business; the second would be the availability of the resources and prioritisation. Resources can be capital, people, contracting and also what is our core competencies and we are able to deliver in a short, medium or long term against this and that is possibly we would evaluate that.*"

The reason for strategic fit is that given how capital intensive the industry is, incumbent MNOs were looking to maximise their ability to exploit their current resources as much as possible and are often reluctant to invest in areas where they may have to develop new capabilities. However, this reluctance seems to depend largely on who was deciding on innovation projects, with five participants stating the senior leaders with MNOs has a huge influence on which innovation projects to pursue. Senior leadership influence on innovation projects often trumps even the business case as highlighted by Interviewee-3:

"*Most of the cases, it is two streams, majority goes through the business case conversation. This is what I see, and this is what I think is the problem; I think I will solve it like this, and I need these resources. Your business case goes through the necessary governance channels and goes for approval, then you prototype it and do a deeper business dive in terms of your business case. Others it's an executive call, whereby someone in senior position is going to say, we are going to do it. Whether you do a business case and spend a month doing your research for the business case, or you can write an email, but that is how we decide on which innovation project we are going to pursue.*"

This aligns with the governance process discussed above, which were often led by senior leadership teams, such that even as business unit heads competed for resources, their leadership teams had the ability to overrule the process and decide on the innovations the organisation would invest in.

In summary, the way to understand how decisions are made within MNOs is that often innovation projects have to pass the traditional business case process and contribute to the bottom line. However, exceptions are made at the discretion of senior business leaders or when there is a market pull. Senior leaders within MNOs are constantly reviewing how they define and manage the value they deliver to their customers and how they can exploit resources to deliver on new innovation projects

"*The decision could come from senior leadership. The way in which we track it is whether it comprises or it can contribute to value. Remember, as I explained in the beginning. Value can be in one of the three ways, either it increases revenue, decreases our cost, or it improves our (NPS) customer satisfaction. So basically, that is how we assess whether or not an idea should be implemented. We have got various criteria in place, so when an idea comes through, then we score it based on how innovative the idea is, how cool the idea is, how relevant it is, and we score it based on our strategic pillars as a company, and there is also that scoring that has to take place and only if it has*

a high score then will it go to the next round, I think that is in place. I think a big portion is the fact that a value can contribute to the company" – Interviewee-6

4.2.2.2 INNOVATION CHAMPIONS

The second question explored whether or not MNOs had innovation champions within the organisation who would advocate for innovation opportunities. Figure 10 highlights the themes which emerged when participants were asked about the presence of innovation champions and whether there were incentives and rewards for being an innovation champion.

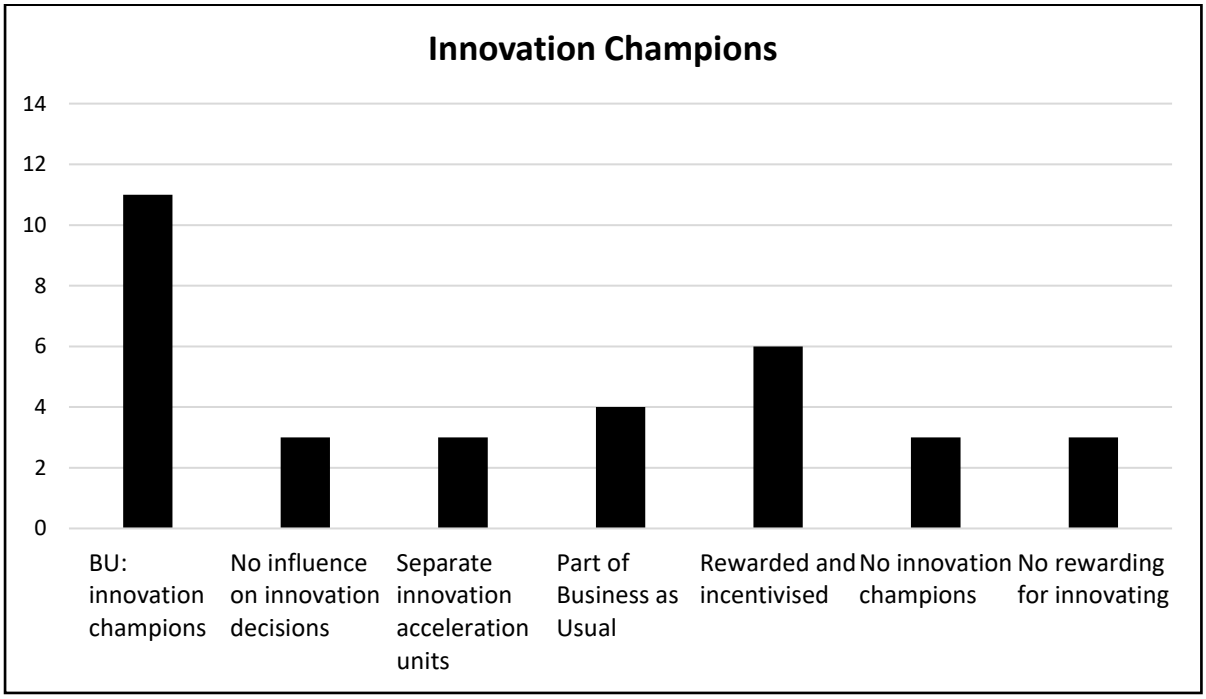


Figure 10: Innovation Champions

Most participants acknowledged that their organisation had an innovation champion programme which was run by the innovation function, with each business unit having an innovation champion.

"*Yes, so how it works[…] is there is an innovation facility anyone[…] no matter what background[…] in internal and external there is a[…] central conduit[…] where you can submit your innovative idea there[…] What happens is when an idea come through from the central hub, the people there will allocate that this idea or possible innovation needs to go[…] to the champion they then work with different colleagues within their team, and that is this something that is truly innovative, truly new[…] so is there a channel yes, does each of the divisions have an innovation champions yes. When an idea comes in, they work with their colleagues and quickly work out if it is something that they have; that innovation champion has to report back to the hub and say if this is something that the team will work on, or it is something that team is not going to work on because it is something that they are already working on or it is not a good idea.*" – Interviewee-1

However, participants also highlighted that most innovation champions were often only during the ideation process, with three participants indicating that these innovation champions had no impact or influence on innovation decisions within the business units.

"*Yes, I'm officially one of them for our area, but it goes as far as getting an email. There's a mailing list that I have been added to, but I don't know; maybe it's because I'm still pretty new to it because it is about a month or two old. I have seen random emails about why innovation fails and all those kinds of things, but there are meetings or at least one thing that gets mobilised at least once a month to say how are we actually going to solve for this challenge we got in this space. So have a lot of ideas, but nothing or not many materialise into something good. So how do we get a lot more of these things validated because a good idea sounds like a great idea, but when you have to think about it could shape or evolve into something different, so it actually solves a need if you have a lot more context about what are some of the limitations you have to cater for. I just don't see enough of that happening with collaboration across the business so that we can get to the next level; here are the ideas which are now*

viable, and from the ideas that are viable, how are we going to prioritise the ones that will move the needle within the various spaces so that we can get the capacity and support so that we can get these things implemented. It is not translating into that." – Interviewee-4

This view was supported by how innovation champions were managed within the innovation function.

"*There are, whenever an innovation champion comes on board and want to be part of the system, or we identify one part of the programme, we would onboard them. They will have a proper formal onboarding programme, so they would be taken through the proper innovation processes, the way in which innovation works in the company and the governance structure etc. and then they would be able to liaise with the innovation team at any point in time regarding having any issues. We have somebody who coaches and mentors. People who come up with ideas, so an idea originator will come up with ideas and also the innovation champions if they need assistance.*" – Interviewee-5

One of the consequences of this lack of support for innovation champions beyond bringing an idea from the innovation departments is that although participants acknowledged that innovations were rewarded and incentivised, there is no reward or incentive for the innovation champions themselves. These innovation champions often end up being primarily measured against traditional organisational Key Performance Indicators (KPIs).

"*It is old school KPIs. You are going to sit with your boss, and you are going to have your KPI, which is predictable. It is the predictable KPI that is linked with your job description; if you meet your KPI, you get a met, or you get an "exceed" as per normal. If it turns out during your year you did something really great, then maybe you're going get an "exceed", so your bonus will be slightly better.*

There are no award ceremonies, and there is no formal award structure." – Interviewee-3

"*… no we pay people to come here to come up with ideas; the reward is their job.*" – Interviewee-9

To the extent that innovation champions were not seen as having any impact on innovation decisions, some of the participants highlighted that innovation was seen as part of business as usual with no special focus on innovation beyond a requirement that product owners and product managers must be innovators.

"*Each of my product owners are designed to be innovators, each one of them maintain their road maps, each of them look for combinations of core product, core enhancements, user experience, user enhancements and innovation. Every quarter they try and build that. It's not separate innovation, it's not outside their jobs, and it is built into their job. We have completely restructured on our product owner sentence; product owner knows he must design innovation into it, every time we sit in a planning session for long term planning, it's in there.*" – Interviewee-2

"*There is no department of innovation, there is no innovation champion, and that is meant to be permanently wearing the innovator hat. Similarly, everybody should always be wearing the customer care hat. When you care about the customer, you care about how it impacts the customer, so everything you do is how the customer going to experience it. Everybody wears a customer experience hat, and everybody wears the innovation champion's hat. Everybody and anybody is an innovator, from the security guard to the CEO. You come up with I think this would work better if, and you see how far you can take it through the whole organisation or through your department first.*" – Interviewee-3

"*So, as a product owner, you are also a product innovation champion. So yes they do.*" – Interviewee-12

This lack of consistent and coherent views from our decision-makers indicates that although MNOs recognise the need for innovation and for innovation to be championed within their organisations, they do not have a strategic focus on developing, mentoring and rewarding innovation champions. As one participant suggested, the innovation champions programmes often seemed like the organisation was "paying lip service' to the need for innovation champions.

"*We have champions, we've got a champion's email address, and there are people sending emails, interesting information. Has anyone ever won the one-million-rand innovation price that has been put up? I don't think anyone has ever won it. So are we paying lip service to innovation? Maybe.*" – Interviewee-6

4.2.2.3 ORGANISATIONAL VIEW OF FUTURE CUSTOMERS

Participants were also asked about their organisational view of their future customers. The aim of this was to determine to what extent MNOs were focused on their future customers and what their needs would be. Figure 11 highlights the themes which emerged when participants were asked about their view of future customers.

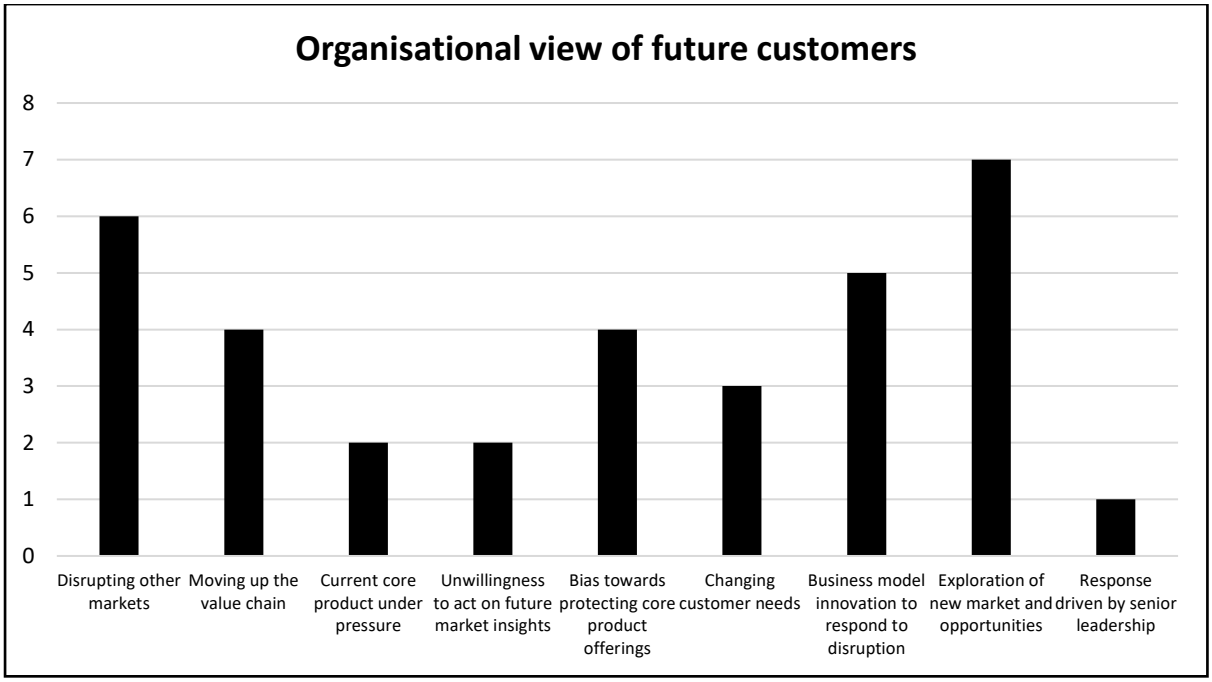


Figure 11: Organisational view of future customers

Almost half the participants (47%) recognised the need for MNOs to explore new markets, and new opportunities have given the declines and challenges in their current traditional markets.

> "*We are finding that we have to be a lot humble than we were probably ten to fifteen years ago when cellular and mobile technology were still not mature as they are today. I think we are realising that customers have a lot more access to information; they also have a lot more places of holding us accountable that doesn't allow us to hide. There's social platforms; there is movements happening that make the news; there's legislation that gets interpreted the interested society. So those kind of things shows that we have a full deck of cards that we can call on whichever one that we want to. I think it's rewarding in a way that we are acknowledging the fact that our customer profile is changing and how we going to show up for customers is changing. Now we need to mobilise what that means from a plan perspective about how we going to show up differently and how going to get a lot more competitive and how we going to be a lot more customer-centric, and how we are not going to put it as*

lip service and also how we are going to make sure we hold ourselves accountable for these things. I'm starting to see a whole lot more of these types of discussions take place." – Interviewee-4

The reason for the need to explore new markets is that customer needs and preferences have changed.

"*The customer has already decided, the customer decided after three days after Facebook launched, they just want to be connected, and as long as you give them low prices and a lot of data and it works then, they will stay with you. If you want the customer back, you have to go out and find them, just like everyone else in the world is trying to do. You have to understand them, react to them.*" – Interviewee-2

This view suggests that the need to explore new markets is often driven by the need to remain relevant to customers whose needs have changed and is not because of MNOs' willingness to take risks on their core product offerings.

"…it's going to be tough. We know that gone are the days where you just have loyalty for the sake of it. I mean, customers now are a lot more educated in terms of the products and services they want and need. Ideally, customers would like a one-stop-shop, we also we also very wary of that and that is why we try to look at converged services…" – interviewee-11

Whilst there was a recognition that the core product offering was under pressure, there was still a bias towards protecting the core product offering. For example, some participants highlighted that their organisation's future market or customer was seen as expanding the core products to new markets outside of South Africa.

"*In South Africa, we are still going to do our thing here, but there's big opportunities in Africa… hundred million customers unbanked, they don't have cell phones, and they are very little data usage, there is a massive opportunity. Where we going, we are going Africa. We are picking opportunities in Africa. In Africa, there is still a long way to go on data…*" – Interviewee-6

This is a concern for incumbents with a large share of the market not willing to risk losing any of their protected revenues and not sure how to respond to an "unknown" future customer given their current investments.

"…it is difficult to peg the future markets down, and it is difficult to peg the customers down. Right now, the organisation I work for is trying so far as possible to be nimble. My organisation is in this re-evaluation, and how do we switch this off, so it doesn't hold us back; I mentioned earlier that legacy systems are a pain, so right now, my organisation is re-evaluating and how do we switch this off so that it doesn't hold us back or how do we switch this on, so that it makes life easier? How do we change this process? For instance, you will find a situation where the product develop process was for mobile, and yet the organisation now has moved onto enterprise, but it took the entire process and replicated it in enterprise, and it doesn't work as well. So we are getting a lot of, let's revisit, does what we have in place still work the way we want it to work? Or should we change it so that we are nimble and we can react quickly? They are aware that there are too many unknowns, and they will never know where the next hit is going to come from or when the next big thing is going to come from, so we need to be able to respond. That is our current state. We don't know who our new customer is going it be and what they are going to want or who our competitor is. So, whatever happens, we need to always be in shape that is the current state of affairs so that tomorrow should we need to run a marathon then run a marathon that is where our organisation is." – Interviewee-3

This uncertainty had led to innovation being largely driven towards disrupting other industries such as financial services and content delivery. These are in areas where incumbents feel they have capabilities and resources they can exploit to sell more of the traditional product offerings or to add a new product offering without risking any of the traditional revenues.

> "*The future customer is not someone who is currently consuming our telco space, but we should be playing in the space where we are able to solve for a customer pain points across all the needs of the customer, not necessarily for them to consume the telco products.*" – Interviewee-12

Another theme that emerged in support of this was recognising the need to move up the value chain as the value derived from MNOs' services has migrated.

> "*…we can't do business as we have been doing it for the past 20 – 30 years. We have to change; we don't want to be the pipes that everyone builds their businesses on top.*" – Interviewee-15

This has often meant very little differentiation between offerings of incumbents.

> "*So, they have a 5 tier strategy, which is the core services, enterprise, fibre, mobile money and digital products, i.e. games, music etc. I think that is all of them. So that's how they view their future market? The core is still there, so they are just adding adjacent things like finance and fibre. So it's very similar to what everyone in the market has.*" – Interviewee-7

This lack of differentiation suggests that although there is a recognition of disruption that is happening in the MNO industry, there is no strategic focus on how incumbents

can enable radical innovations. As figure 12 below highlights, when participants were asked about their understanding of disruption in the MNO industry, although nine participants (60%) acknowledged that the core product was being disrupted, there was also a hesitation for incumbents to be willing to disrupt themselves.

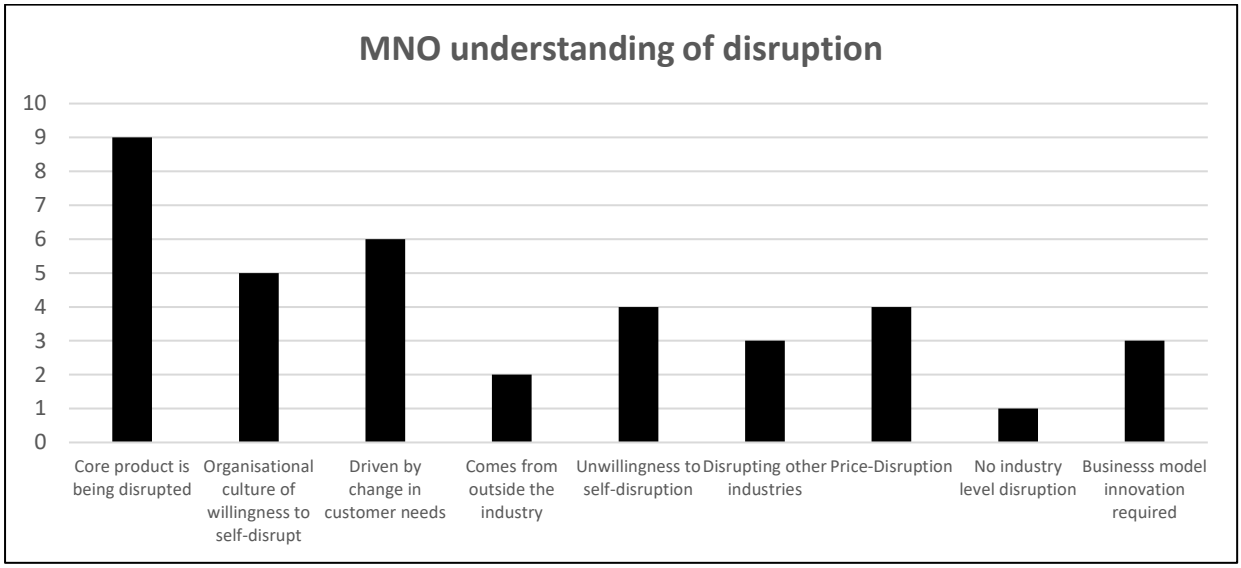


Figure 62: MNO understanding of disruption

The understanding of disruption in the MNO industry confirmed the need for incumbents to focus on the needs of the customer and that disruption in the industry is largely being driven by changing customer needs. Participants found that disruption was a net positive is as far as it allowed MNOs to respond to the needs of the customer, even if there may be a negative impact on the organisation itself.

> "*My understanding of disruption in the market is finding a particular organisation, service provider or company that was leading providing a service in a particular way and all of a sudden somebody comes and meets that customer need in a better way, whichever better way it is. It could be quicker, cheaper or more convenient and in more practical way. Disruption is you are meeting the customer needs in a way that is better. In whichever way better it is, it could be cheaper, faster or more convenient.*" – Interviewee-3

"*When I talk about disruption is you would welcome anyone that comes up with an idea or a product or a service that is going to transform the market and in that way disrupt the market. That is a positive thing for customers; it keeps us on our toes…*" – Interviewee-11

These changes in customer needs have led to changes in what they are willing to pay, and the issue of price disruption was again identified as having a major impact on core products and the ability of MNOs to generate the revenues they have been previously used to.

"…but if you looking at disruption where it just becomes a price war, people are not looking at the value of the offering; it's just who is offering the cheapest. Some competitors would be willing to sell products and services at a loss just to get market share. That type of disruption is not good for the industry because that is not sustainable. All you do is force people to change prices and sacrifice on quality of service, and that disruption is not good." – Interviewee-11

"*Disruption in the market has only really been on value from the current incumbents' nothing more than price disruption. It has been a race to the bottom, all the other MVNO's that have tried to go into that space, FNB is an example that uses Telco's as a way to subsidise their core offerings and not dilute their core offerings or business which is banking they use Telco's so they are not looking to make revenue it is just additional value add. So I don't see a lot of disruptions in terms of innovation space in a way that communication can be put out into play.*" – Interviewee-9

Despite the recognition of the disruption to the core product and the pressure from price disruption, four participants recognised an unwillingness to self-disrupt on the part of incumbent MNOs. A culture of a willingness to self-disrupt emerged as a theme

where some participants recognised that MNOs would have to disrupt themselves or they would risk being disrupted.

> "*I completely support disruption... In the mobile, we ourselves are being disrupted, which is very difficult. Let's use WhatsApp as an example. WhatsApp as an over the top application is disrupting the mobile operators... so the point is disruption can be good on one side and be very horrible on the other side. The last statement I want to say on disruption is, and it's something I'm passionate about, I will say rather disrupt yourself than be disrupted by someone else, and these are some of the hard decisions… to take and will continually take is rather disrupt yourself.*" – Interviewee-1

> "*One of the big things I see is that telcos themselves are trying to stay ahead of the curve, and they are trying to reinvent themselves...*" Interviewee-5

4.2.2.4 WILLINGNESS TO CANNIBALISE

Given the recognition that the MNOs are being disrupted, the final question explored the willingness of decision-makers to cannibalise their current investments. Figure 13 shows the themes which emerged from the interviews on whether there was a willingness to cannibalise. Similar themes emerged again of an MNO industry where the core product is being disrupted and where there is a need for MNOs to explore new markets and opportunities.

This exploration and the need to move up the value chain for incumbent MNOs to extract more value from the value chain is primarily driven by the need to remain relevant to the customer. Another reason participants considered the reason they were willing to cannibalise was that the fast pace of technological change in the industry

was driving rapid industry evolution. Thus, organisations would have to be willing to give up on older investments to take advantage of the evolution.

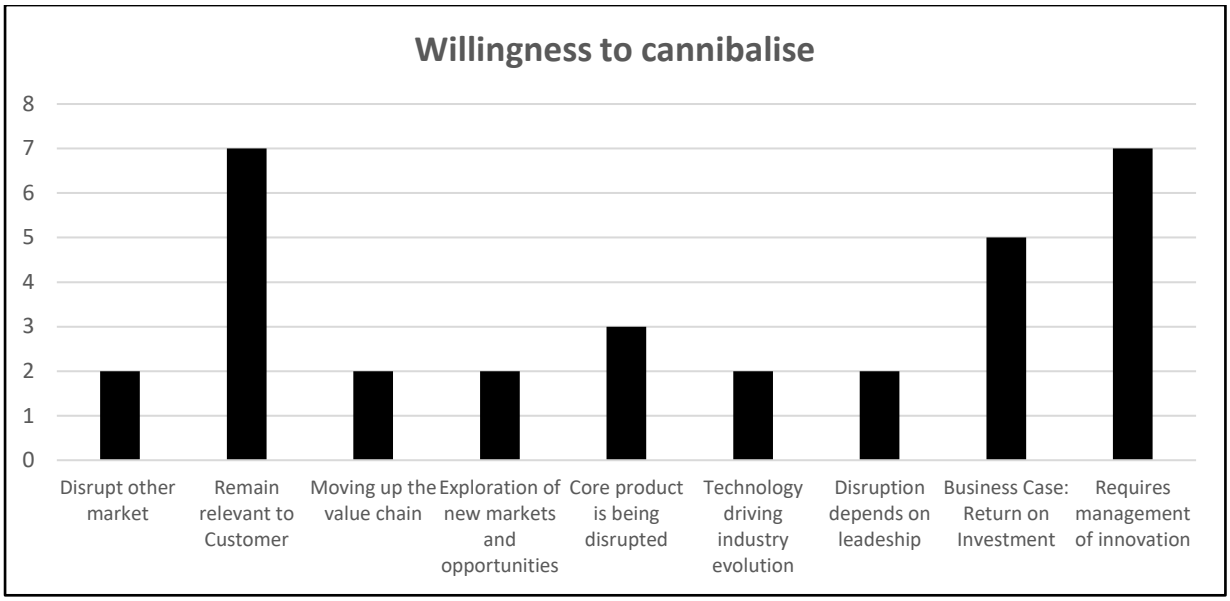


Figure 73: Willingness to cannibalise

Customer orientation and remaining relevant to the customer again emerged strongly around the need to cannibalise on current investments. Decision-makers were willing to cannibalise as far as they could secure the long-term customer and therefore continue to generate revenue from them.

> "*It always goes back to what is the customer need and what are you meeting? If you meet a customer at the point of their need, then you are relevant. If you don't, then you are irrelevant. An organisation, in the most basic definitions, is you want to create an organisation because you are seeing a gap in the market for a need that is not met. Whether you've been in the industry for 10, 20 or a 100 years, the reason an organisation must exist is because there is a need, it's identifiable and quantifiable, and they are meeting it. The fact that all of a sudden, I can make a WhatsApp call that is digging mercilessly into the revenues of normal voice calls. The disruption came from outside, then respond and think of ways to get new resources of revenue and finding a new problem*

that you need to meet and solve but whatever it is, staying stagnant because we made a 100 million investment, only to realise that this thing could have been done in a spreadsheet, that is your fault as an organisation, and it is your fault as management within that organisation, and you deserve what is coming to you because the customer needs are not going to stop and wait till you feel comfortable, till you have gotten your return on investment or your three years, five-year plan. If it is going to reduce, then that is the consequence that you live in. it is your responsibility as in organisation to stay relevant, it is your responsibility as an organisation to always know your customer and try and pre-empt as far as possible but as far as possible make yourself nimble as an organisation if you can't predict the future make yourself nimble so that out of these three possible futures is true, you are can to respond to it." – Interviewee-1

"*Yes, I think it is important to cannibalise some of your business. It is important because otherwise, someone will eat your lunch. Most organisations like Coca-Cola have cannibalised their businesses to make sure they still participate in a space where they find that they are being disrupted, so if you don't cannibalise yourself, then you may totally lose out in that space*." – Interviewee-12

Another theme that emerged strongly was that cannibalisation needs to be managed carefully. Participants discouraged cannibalisation for its own sake and were more favoured of cannibalisation with a view for the organisation's long-term sustainability.

"*The aim is to just get market share and not worry about costs, making things at a loss, coming up with something that you do at a loss just to acquire market share is actually not good, but if you come up with an innovative product or service that adds value to the customers and forces your competitors to also reduce, it's actually a good thing. There is also elasticity because if you can get customers on board, you may end up reducing your prices, but if you can get volumes on board and get more usage out of it, then at the end of the day, be*

positive. So there's positive innovation and negative. Negative is where you all out to get market share and not really worried about customer value or long-term sustainability, but I think it's actually good if you come up with something that adds value to customers, forces competitors to reduce prices and at the same time stimulate growth in the market then that is actually good, and you may connect people than you would've connected before, and that brings it to the whole digital inclusion and getting people into the network and get services they could not afford before." – Interviewee-11

"*…as long as it brings in value and it can be justified in terms of revenue because we are running a business, then I think it would be fine to take a cut in the existing business to pursue external opportunities. Is that basically what you are asking? Yes. I would think that it should make sense to do something like that. This is why we do incubate an idea, and we do accelerate an idea; we look at building proper business cases surrounding that. So we need to be able to judge the numbers correctly and make informed decisions about it, so if we know in our business case, if we take away 20% of an existing products revenue, then we going to bring in more than four times that amount with a new product, then yes, let's go ahead with it. So I'm all for taking a risk, but I think it should be a calculated risk as well.*" – Interviewee-5

Therefore, it is essential for MNOs to manage their innovation portfolios and to understand where cannibalisation will be necessary to respond to a new market or new opportunity. Understanding what risks there are and why you are cannibalising a specific investment requires careful management of innovation.

Although there was broad agreement on the need to be willing to cannibalise, this was not a universal agreement. Some participants highlighted the challenge for incumbents and their justified need to protect their core offerings as much and as long as possible.

"*I think it's something your competitors have or your competition is about to launch. You have to launch it. You have to cannibalise yourself. As the market leader, if no one is doing it, then you obviously hold on to that for as long as possible. You can only cannibalise yourself if you have to… That is traditionally how we behave. If we were a challenger brand, it would be different, but we have … market share, so we are very careful when we have that market share to disrupt ourselves… The level of innovation is dependent on your share of market and share of wallet.*" – Interviewee-8

"*You need to play the hand that you dealt so If you are a large incumbent also defending while you trying to grow it's a different position as opposed to a person that is a challenger who has no revenue base to start, maybe that innovation would be suited to a challenger company that would look to disrupt the market with it. So it depends on where the position is. You can't do it for the sake of just doing it. That's the biggest challenge that companies have is to re-invent themselves and stay relevant while having a legacy behind them.*" – Interviewee-13

As an example of this, Interviewee-6 highlighted that MNOs only went into the fibre business when they realised that they would lose revenue to whoever provided fibre anyway. The aim of this cannibalisation, in that case, is to disrupt yourself only to protect yourself from being disrupted.

"*I think, not innovation, but it is the next logical step. We knew that fibre was coming; if we knew that if we don't play in fibre, somebody else will sell fibre service to mobile customers, then mobile customers revenue will decrease because they are using less mobile data, so I will have impact. We knew that if we didn't provide fibre service, then we would lose revenue, so we launched fibre, and this fibre impacted our mobile business because with these fibres, as soon as a customer has it, they spend less on data here but overall, we lost a hundred rand of revenue a year, but we gained five hundred rands revenue a*

year. Overall we were better off. So yes, we knew that we are going to take a hit here on the mobile data revenue, but we are going to replace it with much more money because we knew and we understood why we were doing that." – Interviewee-6

Incumbents were willing to protect their core mobile revenues until it became clear from market trends that subscribers would migrate to fibre offers as and when they come online. This led to moving into the fibre market by incumbent MNOs. This type of cannibalisation is often due to a pull by the market and not a push by the company.

4.2.2.5 SUMMARY OF FINDINGS FOR SUB-RESEARCH QUESTION 1.1

Decision-makers within MNOs recognised the tension between a need to enable innovation to respond to the disruption in their industry and the need to continue contributing to the bottom line as part of business as usual. Participants highlighted the fact that innovation projects are often not prioritised because they are competing with other projects for scarce organisational resources, with firms prioritising return on investment through traditional business case analysis. Often the only way radical innovations may be able to proceed is to support senior managers. So whilst there are internal markets for resources by business units, there is a low level of autonomy with decisions on where resources will be deployed largely centralised on the most senior leadership teams

Although there are innovation champions and product managers or owners who are meant to drive innovation projects within MNOs, the fact is that there are no rewards or incentives for these individuals, and often they lack the authority or autonomy to drive innovation projects. Some leaders even felt that employees were paid to be innovative and were therefore required to innovate as part of their daily work. Whilst this may lead to incremental innovation output, it is doubtful whether it would result in radical innovations being pursued.

There was an agreement that there is a need for MNOs to remain relevant to a customer with rapidly changing markets. As a result of these changing needs, MNOs have seen that their core product offerings are being disrupted. Given that there remains a bias towards protecting this core, MNOs are opting to disrupt other markets such as financial services.

Finally, MNOs expressed a willingness to cannibalise on their current investment to respond to their future customer. There is some argument as to what extent this should be enabled within incumbents, with those incumbents with large shares of the market reluctant to pursue any actions that lead to cannibalisation unless there is a clear signal from the customer is what they prefer.

4.2.3 RESEARCH SUB-QUESTION 1.2: WILLINGNESS TO CANNIBALISE AS A DYNAMIC CAPABILITY

How can MNOs develop a willingness to cannibalise as a dynamic capability to empower radical innovations?

The final research question aimed to explore how a willingness to cannibalise could be developed as a dynamic capability within incumbent MNOs to enable more radical innovations. Research participants were asked what they considered essential considerations when enabling the dynamic capabilities elements of sensing, seizing, and shifting to enable a willingness to cannibalise.

The themes that emerged from the interviews suggest that organisational leadership, structure, and culture are the essential antecedents that need to be in place for organisations to be willing to cannibalise. Whilst other themes emerged, these three seem to be the most critical to empowering organisations to embrace systems, processes and routines, which enable a willingness to cannibalise.

4.2.3.1 SENSING AND WILLINGNESS TO CANNIBALISE

Sensing in the study context refers to how incumbents gather and process information on opportunities and threats that may lead to cannibalisation. Radical innovation as a response to discontinuous change requires organisations to be curious and knowledgeable about trends and changes in their markets and industry context. Figure 14 shows the themes that emerged when participants were asked how the information was collected and handled, leading to cannibalisation.

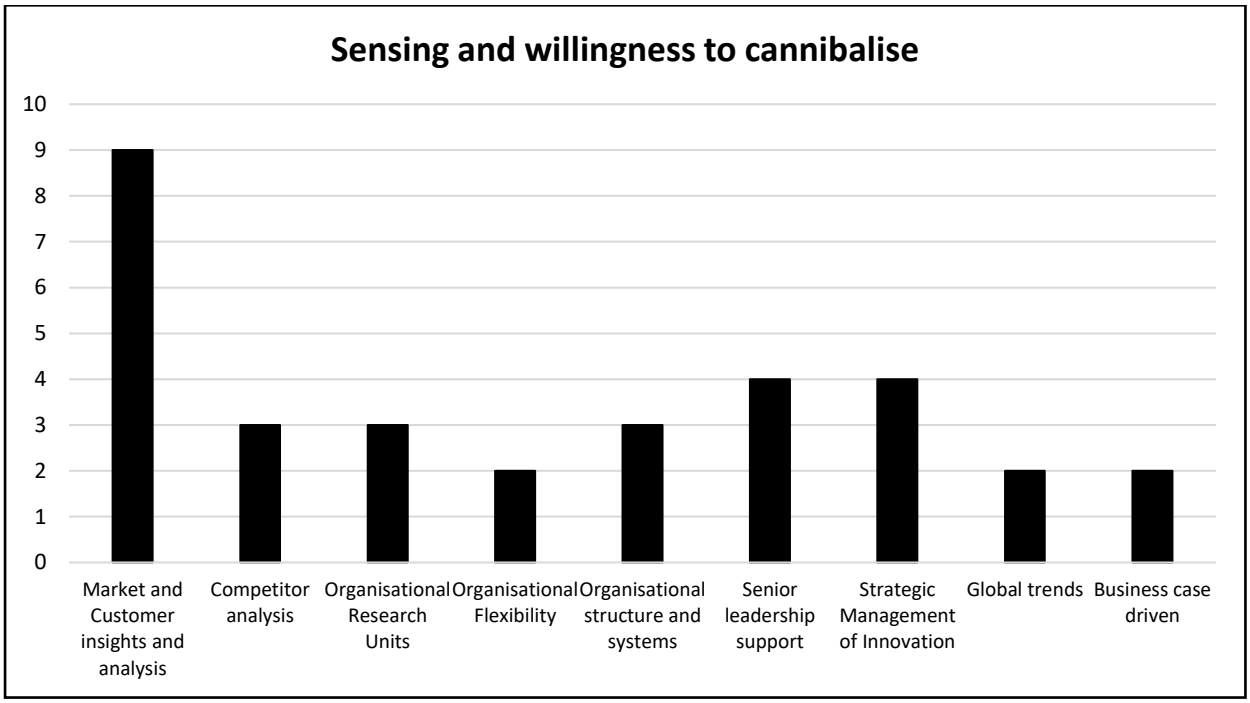


Figure 84: Sensing and willingness to cannibalise

Nine of the participants indicated that their organisations collected market and customer insights and analyses information. Information was either collected directly from customers through focus groups or surveys, from research firms or internally through various customer touchpoints. Two participants also mentioned that research and information gathering was done as part of preparing any business case. Three

participants also mentioned that there were teams and departments dedicated to gathering, analysing and disseminating information about opportunities and threats.

"*Yes, we so certainly for a product point of view, we get our market insights from many different places and understand the threats, so the one is obviously normal above the line. We know what is happening in the market… so there is all that market insight and research we just gather for ourselves, kind of above the line. Then we also work extensively with our central research and insights team…*" – Interviewee-1

"*We definitely do gather information, so I think that is an important point. We do a lot of research and analysis when it comes to developing new ideas. We write papers on it; we'd put together a proper analysis.*" – Interviewee-5

"*… we run a lot of customer focus groups to get feedback and input from customers on our products and the products we want to build.*" – Interviewee-15

"…we do that all the time, what we would do in any business case in any product and services that we develop there is a business case behind it, and looking at the whole cannibalisation sort of analysis is what we would do in all our products and services, and again that's how we manage it, if it is a big threat how do we manage it so that this product or services help compensate for the losses that we have on the other side and how do you structure it, how do you price it, how do you develop it, how do you market it, so it is something we look at all the time for all our products and services." – Interviewee-11

Incumbents also use data generated internally from their customers and have developed greater capabilities into converting this data into useful information that can be used to innovate.

> "*It's one of our strengths. Seven, eight years ago, we didn't understand our customers, but today nobody can touch us when it comes to understanding our customers. We know in detail because your life revolves around this device, so we know everything that you do on your device. We know when you do it, where you do it and for how long you do it. We are more increasingly building our business around understanding the segment of one; that is how our in-depth we are driving our understanding, that's the one thing that this company is going very well.*" – Interviewee-6

Information on global trends (two participants) that may impact the industry in the future is also collected and competitor activities (three participants). This highlight some areas where trends were happening in the environment and are external to the incumbent may lead to disruption opportunities. Although the market insights may highlight some of this, it was worth highlighting how few decision-makers saw these two specific examples of information on options and threats that may lead to disruption.

> "*We do research as to what is happening, trends globally, and you make that part of your strategy for the following year.*" – Interviewee-7

> *"We do, at kind of an immediate level we monitor what competitors are doing on a monthly, quarterly and annual basis to say this is what's coming in from market point of view then we constantly scanning international markets and getting feedback from [parent company name redacted] around best practice internationally so markets which may be more advanced than us and what kind*

of the innovations in mobile that are coming in there that would have to land here as well." – Interviewee-10

Although it is clear from the interviews that MNOs gather the information that may lead to cannibalisation, the decision-makers also highlighted some concerns about how that data is processed within their organisations. Some participants raised concerns that although the information is collected, it did not necessarily mean a willingness to cannibalise within their organisations. Interviewee-2 highlighted this concern by highlighting that although there are plenty of "signals" for opportunities, there seemed to be a poor capability in deciding what to do with it:

"*The question is how you respond to the signal in a way that maximises response. There are too many signals and too many people that are happy to have opinions of what signals they see and what they amplify and believe. Very few of those people in this organisation have clarity and thought to sit down and say, which signals do I listen to and which ones do I amplify.*" – Interviewee-2

This sentiment was shared by Interviewee-3, who highlighted that although their organisation understood the future which the information analysed was pointing to, there were constraints on what to do about it because of the lack of organisational structures capable of responding adequately to disruption.

"…*the information gets collected, and the intel is collected, and maybe the interpretation is done on point, so what you interpreted as certain thing is definitely that and the future you interpreted is going to come. The data collection is there, but their actioning is not well done, and I think that is where the shortfall is. The weights that are around our ankles that I mentioned earlier, it is almost like you can see an iceberg as a ship, but if you try and turn away, but because we are such a big ship, it takes forever to turn away so we might hit the iceberg either way. We tend to be in that similar situation so we take*

information and it can be in your laptop till the day you leave organisation because we don't have any formal structure." – Interviewee-3

One reason for organisational structures not being set up to support adequate exploitation of the collected information is that there often is a lack of senior leadership support for building the kind of organisational capabilities required. As Interviewee-3 continues further expanded:

"…because of the lack of the formal structure… it's going to go through the product development life cycle management and the governance structures that are in place, and in the innovation, it won't fall into like we expect it; it's going to be a challenge. As I previously mentioned, we are going to need executive sponsorship, or you are going to need your boss to enable you along." – Interviewee-3

The importance of senior leadership is also supported by Interviewee-9, who mentions that this type of information and decision around what the organisation would do about it is driven by the executive leadership (EXCO) and the board:

"*That is a very much Board based decision; it is outside our limit, so that would be anything that is driven from the strategy team at an EXCO level, and we working with business units identifying opportunities into the field… Similarly, with new ideas that are available, it is the strategy team as the gatekeepers of where we need to direct the business and gets signed off at a board level…*" – Interviewee-9

This suggests the important role of leadership in ensuring that the organisation develops adequate routines for collecting and analysing information. A key way senior leaders can do this, as suggested by Interviewee-9, is through the organisation's

strategic management framework. Hence, the emergence of strategic management of innovation is a key theme in sensing. Strategy management is critical to integrating all the collected information and converting it into key knowledge that senior managers can use to make decisions about where to allocate the organisation's resources:

> "*A very clearly defined process that sits under the strategy team and that is done on a monthly basis. So competitor activities are plotted monthly, competitor market share movements are plotted monthly, and any changes to technology, regulatory space are tracked monthly and discussed monthly at an EXCO level.*" – Interviewee-8

The concern is that there does not seem to be any autonomy given to business units about which innovations to pursue. Given that there are centralised processes for research, as evidenced by organisational research units, and decisions about which innovations to pursue are also centralised, there may be a limit on the ability of the interviewed decision-makers to pursue disruptive and potentially cannibalistic innovations. This already suggests that business unit leaders may not be empowered to seize on opportunities which may lead to cannibalisation.

4.2.3.2 SEIZING AND WILLINGNESS TO CANNIBALISE

Participants were asked if they would seize on opportunities to cannibalise and how they would setup up their organisations to enable this dynamic capability. Figure 15 shows the themes which emerged from participants based on the two questions asked. Unsurprisingly, based on the definition of cannibalisation (leading to short-term loss with a view on the long-term gain), most of our participants (80%) stated that they would be willing to cannibalise. Only three participants (20%) said it was more important for incumbents to protect their core product than cannibalise.

Although there was largely agreement that MNOs should be willing to seize opportunities to cannibalise and should have the capabilities to do so, there were also concerns raised about whether incumbents had the requisite capabilities and competencies to do so the prerequisite antecedents which could enable this. After all, it is in seizing opportunities where the work leading to radical innovations should occur.

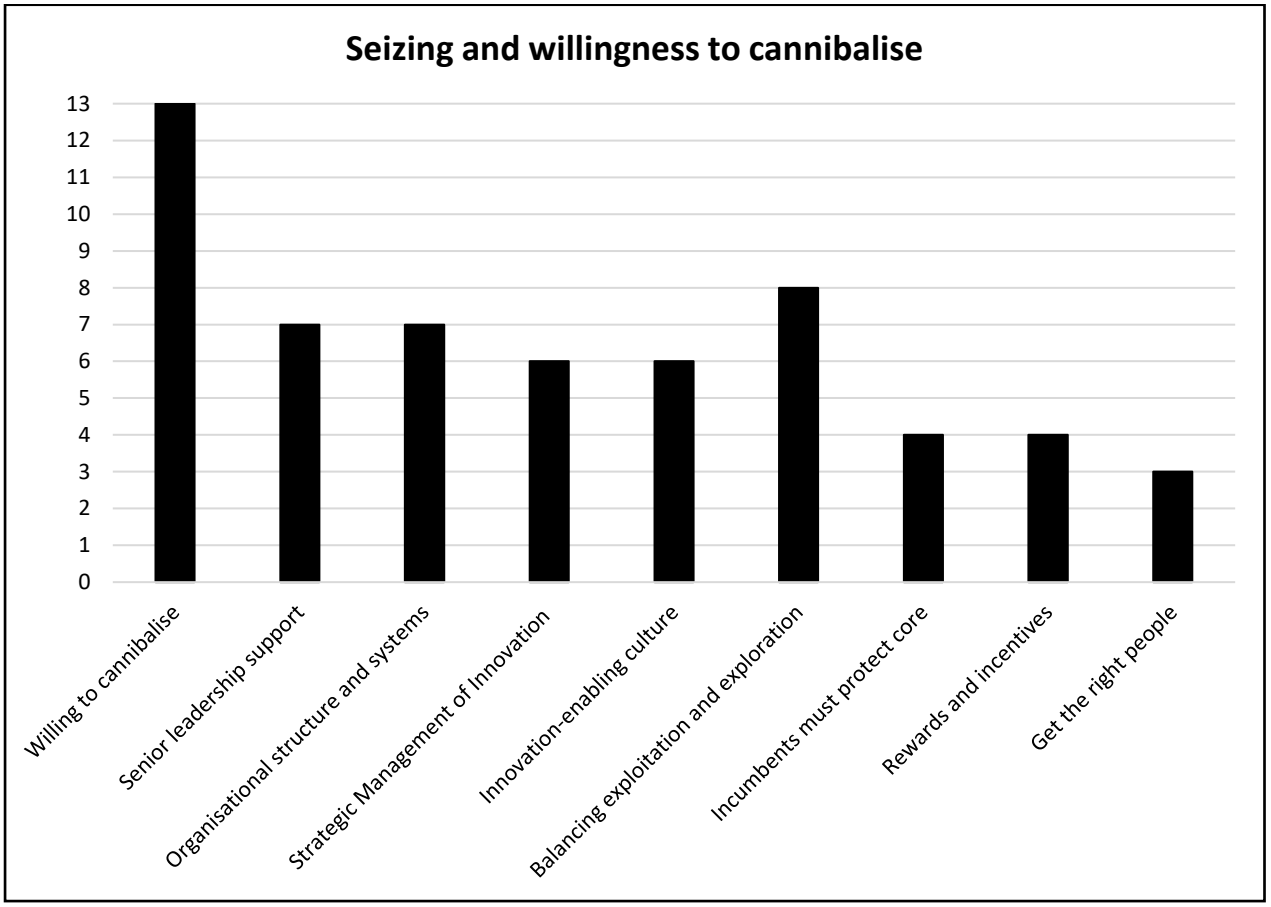


Figure 95: Seizing and willingness to cannibalise

Eight participants felt that although they would be willing to cannibalise, it was important to balance the required exploration with effective exploitation of current investments and resources. Therefore the capabilities and routines needed to be willing to cannibalise had to consider the timing and return on assets (i.e. the business case) for opportunities that would lead to cannibalisation.

"*Different decision-makers that have different influence or levers that they can pull within the process are a little bit more gradual because you have to do it very responsibly, you can't just overnight disintermediate the entire ecosystem that we have built, and we need to understand any implications of effecting our ecosystem and distribution channels in a particular way that doesn't give us short-term again but at the expense of long-term… so yes the appetite is there, but we also need to make sure the stuff that is an inhibitor now for our core line of business with the new things we are getting into shouldn't be something that is at the expense of that growing in the future.*" – Interviewee-4

"*We always look at it* **[cannibalisation]** *in a measured way, and there are trade-offs, so it's not to say if we doing ten projects in a quarter that we would ever allow all ten projects to be dilutive or assign all of our investments to things that would cannibalise or dilute revenue but definitely there is a balancing act that and we do to prioritize innovation even when it may cannibalise existing revenue.*" – Interviewee-10 [

"*… those are decisions made almost every day in the business; some decisions are harder than others, so when you are cannibalising a core revenue stream, that is making a lot of money for the business. It's a much harder decision to make; obviously, it is an easier decision to make if the cannibalisations are of a less intense nature, but daily from the senior executive, down to the junior executives we are making decisions daily of, are we willing to cannibalise? Yes, or no? If we are willing to cannibalise, how? Because, even with making a decision to cannibalise or dilute something, it's more about the how and the when. Therefore, sometimes the when is actually more important than the how? If you know you need to cannibalise a certain thing, timing is critical, but you don't want to cannibalise something before you have to. Therefore, cannibalising something at the right time is very important, but also the how. How do you do it in a way that you maximise and hopefully see that revenue in a different revenue stream?"* – Interviewee-1

As Interviewee-1 above states, MNOs must look at opportunities to cannibalise to support all levels of leadership for enabling innovations, even if the innovations may result in cannibalisation. Senior leadership support emerged as a key requirement for the ability of organisations to seize opportunities to cannibalise.

> "*Seeing that I am only a cog in a big machine, the previous answer still impacts me, so I'm going to need that executive sponsorship; I'm going to need that lobbying. In my case, I will lobby and say, guys, this is the problem, and I think this is the solution, do the necessary lobbying, but then again, lobbying is just a fancy word for getting an executive sponsor. As much as it doesn't fit into the normal and ordinary defined process, let it be that special project that we are working on, you will find that the CEO has a special project, you will find that the CIO has a special project so you lobby.*" – Interviewee-3

> "*As an executive, depending where you're sitting firstly, there is no delegation of authority, so you're unable to make decisions that are in isolation that you are then held accountable for. You often need to get 20 people to buy in, and if one person doesn't buy-in, then it doesn't move, and that's part of the challenge…"* - Interviewee-7

Leadership support for empowering people to take risks and be willing to cannibalise was viewed as an essential factor in organisations' ability to seize opportunities. The other themes that emerged largely stem from the kind of organisational environment that senior leaders enable. Participants spoke about the importance of organisational structure (seven participants), strategic management (six participants), innovation-enabling culture (six participants), rewards and incentives (four participants) and getting the right people (three participants) as important antecedents for the ability of organisations to seize on opportunities and being willing to cannibalise.

The three antecedents which emerged as most important were organisational structure, culture and strategy, as these three will lead to other aspects falling into place and were the direct result of senior leadership decisions. As Interviewee-12 highlighted:

> "*As a decision-maker you have to create that autonomy in terms of people, trusting the people that whatever information that they give you is correct and is been vetted such that people are able to then quickly to respond to the market and such cannibalisation.*" – Interviewee-12

The organisation needs to create the kind of structures and systems that give people the autonomy to even explore opportunities that may lead to cannibalisation. One way to do this is by ensuring that innovation projects have direct access to senior leadership.

> *"We have learnt now not to put innovation or incubation projects in the business because the existing business will just strangle it, so we have learnt to put those entities outside the business… give it its own structure it reports directly to the CEO and doesn't have to go through the normal process, and that's how manage and handle that."* – Interviewee-8

However, this does not always happen because the organisational structures in place require the same people responsible for core products also being required to disrupt, leading to MNOs only responding to disruptions when it is late:

> "…*in the industry, you see a very small percentage of funds if any being siphoned off cannibalising the existing core business to fund new initiatives, so… even though we know we should go build platforms, we don't form a platform business that is ring-fenced with its own budget to build platforms, we*

say to the existing people that's got a day job… that we know you are already busy most of day, please see if you can find time to see if you can build these platform businesses for us… So the short answer is yes the company should cannibalise themselves for the future either to disrupt someone or protecting against being disrupted practically this doesn't happen, it only happens when those disruptions become really obvious and often times it's too late." – Interviewee-14

MNOs have largely failed to respond to the uncertainties in their business environment by failing to create the right systems and structures that would allow them to respond adequately:

"Firstly, they don't have policies and frameworks to accommodate anything that is outside of the traditional services. Secondly, networks want to own everything, which is traditional business model, wherein this new economy of Fourth Industrial Revolution, it's about use, not ownership. How do we partner, how do we create models where I maybe fund the infrastructure, and you may pay it over time and so forth? There is not that level of dynamism within the telco. There is also a traditional problem that your infrastructure was built to service SMS, data and voice. Once you start playing with all of these things, you have limitations on how to configure the systems, how to build the services etc., so you often get into almost a theoretical discussion, where a telco thinks I need to invest in a more dynamic capability within my IT structure, but for argument's sake, it's going to cost half a billion Rands to put down. What is the upside? And trying to quantify the upside is quite difficult" – Interviewee-7

The other reason that emerged from the interviews was the impact of the organisation's culture on innovation. Participants highlighted the importance of creating an innovative culture and mindset to enable the routines required to self-disrupt. Interviewee-13 argued that an innovation-enabling culture was more important

than a structure in enabling the kind of capabilities necessary for seizing on cannibalising opportunities:

> "*It is a mindset thing; it is not a structural thing. Innovation is a mindset thing; it is not a structural thing because you can't create a structure for it. It's like saying you need to be innovative in this box; it's not that. Innovation is about a culture and a mindset. So how do you drive an innovative mindset, culture within an organisation and then how do you embrace that culture and create the mechanisms in which to do that and you reward that.*" – Interviewee-13

This view of culture is integral is supported by Interviewee-2 and Interviewee-5, who indicated that enabling the willingness to cannibalise required an organisational innovation culture with the right mindset created to enable the long-term view.

> "*The system is culture; you just do it. If somebody cares about the market, you just need somebody who cares. Can you get people to believe you want to be number one in the market? And to have a longer-term view… that takes time*" – Interviewee-2

> "*It's going to be a culture change as well. I think that a large part of it is about inspiring people so that they are aware that they can do this. And then I think it's about changing the culture to be one where we would be more forward with these ideas… basically, you're asking me how would we create this movement towards implementing ideas or implementing radical innovation and embracing cannibalisation, like not being afraid to cannibalise. It's a mindset change, and it definitely corresponds to culture. It's about showing the advantages of being able to do something like that because innovation has sometimes got a very fluffy aspect of the company, it's about how we attached numbers and measures to it, to make it appeal to certain people."* – Interviewee-5

One participant who felt that their organisations should not cannibalise indicated that the organisational culture and the incentives were the reason for their reluctance to cannibalise. They also argued that one way to change this would have to be a change in the culture of the organisation. When asked if they would ever seize on opportunities to cannibalise and how they would enable that willingness to cannibalise, Interviewee-9 responded that:

> "*No, not with the existing remuneration targets that exist, so you have a five-year plan, but your performance incentive is every twelve months. You are geared on your short term decisions and not long term growth, and we are a dividend-paying company, so the market is unapologetic for failure. You hit your guidance and not what you said you would deliver; the share price will drop by fifteen percent, and [you] lose confidence to put investments in your company. I don't believe that any corporate that is dividend-paying and has short term incentive programme management is geared towards long term investment… You create a start-up culture and forget about being corporate, and you just live and breathe start-up…*" – Interviewee-9

This sentiment highlights the importance of creating a culture and structure which can empower decision-makers at all levels to invest for the long-term even if there may be cannibalisation in the short term.

4.2.3.3 SHIFTING AND WILLINGNESS TO CANNIBALISE

MNOs need to shift or transform their resources and investments to respond to uncertain changes in their industry. Participants were asked about realigning resources to respond to opportunities that may lead to cannibalisation. Figure 16 highlights the themes that emerged from the participants.

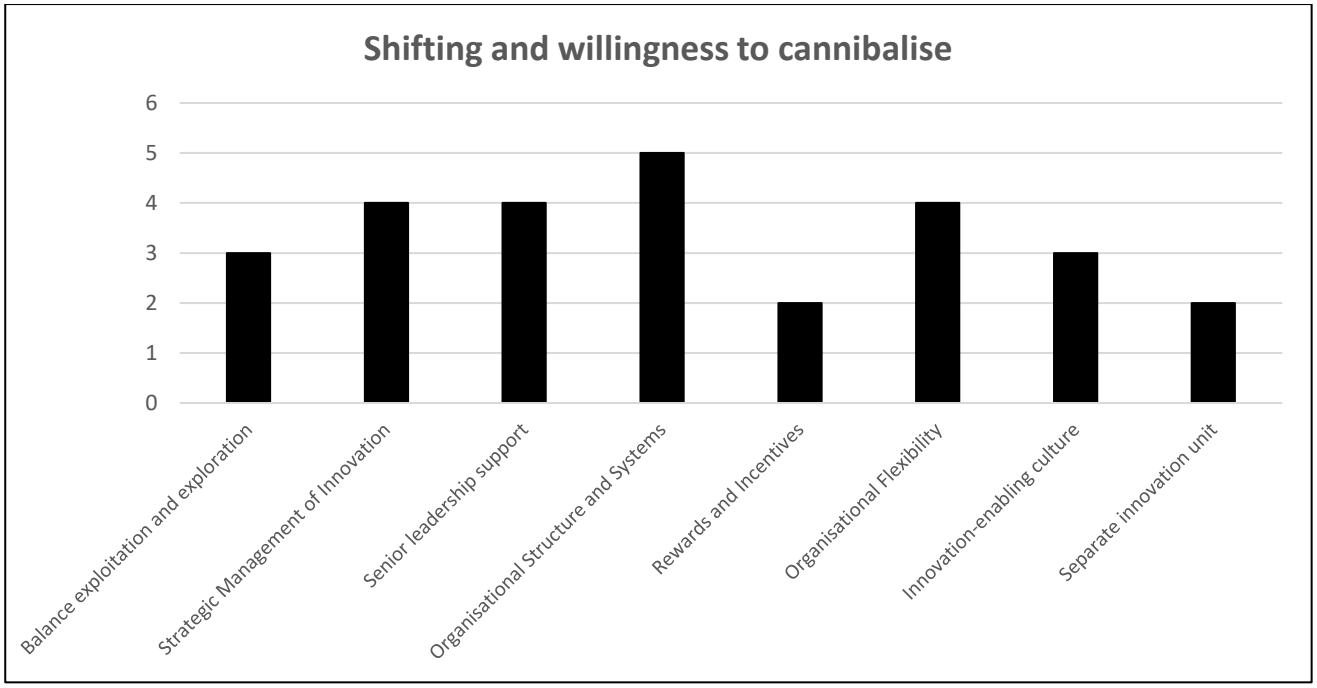


Figure 106: Shifting and willingness to cannibalise

Most participants' sentiment was that although MNOs should be willing to realign or shift their resources towards disrupting opportunities, their sizes, structures, and systems often made this very difficult.

> "*The reality is, smaller organisations are able to do this. They are able to; when they have gone in a direction, and something pops up here, they can stop and pivot and go that direction. In this company, it's difficult. This is like an oil tanker, it takes a long time to get up to speed, and it takes a long time to stop, and it takes a very long time to change direction, but if it gets going in a direction, then nothing stops it. This is the reality about this company; we are too big to be flexible to pivot. So, very rarely would you see us making a very quick decision to re-align? We would rather go through it, take the pain and then re-align.*" – Interviewee-6

> "*They should; that is not even up for debate. The question is, do they do it? That is another question. How difficult is it to realign, and where is it difficult to*

realign? The problem that usually arises is that an organisation is built to do what they are doing. It's almost like telling a washing machine that get ready to be a dishwasher, so we may be aware, and we may even have the theory of it, but to execute is very difficult because the organisation is meant to do a certain thing and It is difficult in our world in terms of the big Vodacom's and MTN's of the world. It is relatively easier for start-ups because start-ups do not have all these investments, processes and governance and they haven't made crazy investments" – Interviewee-3

Some participants also highlighted the difficulty in having to use the same limited resources to explore new products whilst still ensuring core products and services were being exploited.

"*Yes, but with that said, in as much as you should be innovating and should be allocating resources to the innovation but you shouldn't forget your core business because it is what is keeping the lights on. If it is possible to get additional resources to focus on the new things, then do that, but I am of the view that you shouldn't remove all the resources that are focusing on your core just to work on the stuff that is going to cannibalise the business."* – Interviewee-12

There was also a sense that incumbents are too comfortable with "business as usual", and even though they could see disruption coming for them, there was a lack of leadership and will to realign in response. As Interviewee-2 stated of their organisation:

"*It will realign automatically; you can't say realign your resources, you either believe that is what you strategically want to be then you build to be that. Resources will realign to what you believe. The problem is not the realignment of resources; it is the realignment of strategies, intent, leadership and the people. When the people at the top believe they want change and they are want*

a different platform, but until then, it requires people to be lone rangers and make sure the organisation has a stepping stone and that it doesn't become a little too late, that is the only challenge we all have as an organisation is realignment of resources is a now what? Not where is the core of your next step…" – Interviewee-2

The support of senior leadership was again identified as a key driver for the abilities of MNOs to realign their resources, with four participants highlighting it as a critical requirement to enable and empower the shifting of resources. As Interviewee-2 mentions above, when senior leaders believed a need to change, they would realign organisational resources towards the changes.

Senior leadership is ultimately responsible for the same antecedents which were identified for seizing were highlighted, namely, organisational structure and systems (five participants), strategic management of innovation (four participants) and innovation-enabling culture (three participants). In fact, the one new theme that emerged as essential for organisations' ability to shift resources was the need for organisational flexibility (four participants).

The strategic management of innovation determines when the realignment of resources should be undertaken. As Interviewee-13 states, cannibalisation should not be the strategy, and it should be action firms are willing to take to respond to changes in their environment.

"*I don't think cannibalisation should be a strategy. It should be one of the options on the table; it's not a primary part of the strategy. It's like a feature, not the product. It may be a consequence of something, but it shouldn't be a primary strategy because you will put yourself out of business if you do that because if you just have I'm going to cannibalise to this to that, then that is not a strategy. It's just a function of a strategy.*" – Interviewee-13

Therefore, it is crucial for MNOs to use their strategic management frameworks to determine what innovations will be pursued and where resources will be allocated. This aligns with a need to have organisational structures and culture which supports the realignment of resources towards new opportunities.

> "*Usually the big problem is, I am going to make a big investment as an organisation, and in order for me to get that money, I am going to have to go through different committees and remember the committee already has a template, chances are it is going to be weighted averages in this form that you are going to fill in. The investments that we have made are the ones we want to make the most out of, and remember, some of these business cases were for a ten year period, and if that ten year period is not finished, then I am not going to rock the boat. You have an eco-system now as I have mentioned earlier, organisations are currently built to function and do a certain thing, they are not built to change, they are built to work the same and stay the same."* – Interviewee-3

> *"… expertise could be re-purposed and make sure that you are adaptable enough to be able to be that. It is easier said than done because it is a big ship but I think if you have a culture of mobilising behind an objective an outcome and people get used to the fact that I'm outside a fixed structure I think if you had that kind of underlying culture it would make it easier so that organisations can set themselves up and change often depending on the market dynamics because you're a culture used to the change and you know the change is being applied in support of being the most competitive version of a company to be able to go after those , but if you a lead and you are used to having 50 people reporting to you and you hear that you have to lose 20 people of your team members to a different lead who is leading a different stream be OK with those kind of things but it's where people dynamics also come in not just necessarily resistance from a company but a company understanding the people drive the*

culture of the company, I mean organisations don't run themselves but people run organisations. I think that for me, is more from what I have experienced about the culture this far is probably the biggest inhibitor rather than the business or the organisation not wanting to do it; it's the implications of those changes are on a culture that is not used to being set up that way and not responding in that way to now suddenly start operating in that way." – Interviewee-4

"*…if we want to be radically innovative, then it is something that we need to be able to do. Not necessarily open to the entire company, a ring-fence a few employees, a division, for example, that is willing to do something like this, and they would have them operate away from the policies and regulations, that they can do things quickly and we can see whether or not an idea will work in the business.*" – Interviewee-5

Once the culture and structure are in place, organisational flexibility will be necessary for allowing the organisation to respond to the identified changes by realigning its resources quickly. One way organisations are doing this is through programmes that introduce agile methods to how teams work.

"*The thing we promote now it is something you can expand is this whole agile spirit, and there is a lot of programmes out there. The whole idea with those things* ***[agile]*** *is to be ready and quick to react, to pursue, and to get things out, and that's what we do. Agile is a classic example of having these stand-ups and scrum teams and things like that, having virtual teams assemble very quickly together to get products and services out there to do things, so we have adopted this whole agile concept, and the idea is to react quickly to changing situations, to deployment of resources, optimisation of resources and stuff, so that is how we do it. We have those processes in place.*" – Interviewee-12

> "*We set up squads for very specific development opportunities, and often we involve different people from different areas in the business in those squads. Once we deliver, the squad is disbanded, and we start a new one*." – Interviewee-15

Agile methodology and agile ways of working enable even large incumbents to be flexible in assigning resources for the project and new opportunities as they allow organisations to build smaller teams that can quickly respond to changes iteratively. However, the problem remains the level of autonomy teams have to pursue innovations which may lead to cannibalisation. From what interviewees highlighted, shifting resources was a problem for most incumbents.

4.2.3.4 WILLINGNESS TO CANNIBALISE AS A DYNAMIC CAPABILITY

The ability of MNOs to enable willingness to cannibalise as a dynamic capability by being able to sense, seize and shift investments and resources in response to discontinuous changes in their business environment is crucial for their ability to introduce radical innovations. Participants were asked if they saw any value in being willing to cannibalise in the context of their organisations and their response to discontinuous change. This question aimed to also link with research sub-questions 1.1 and 1.2 to understand what needed to be considered by organisations when seeking to enable a willingness to cannibalise as a dynamic capability. Figure 17 highlights the themes which emerged based on the responses from the participants.

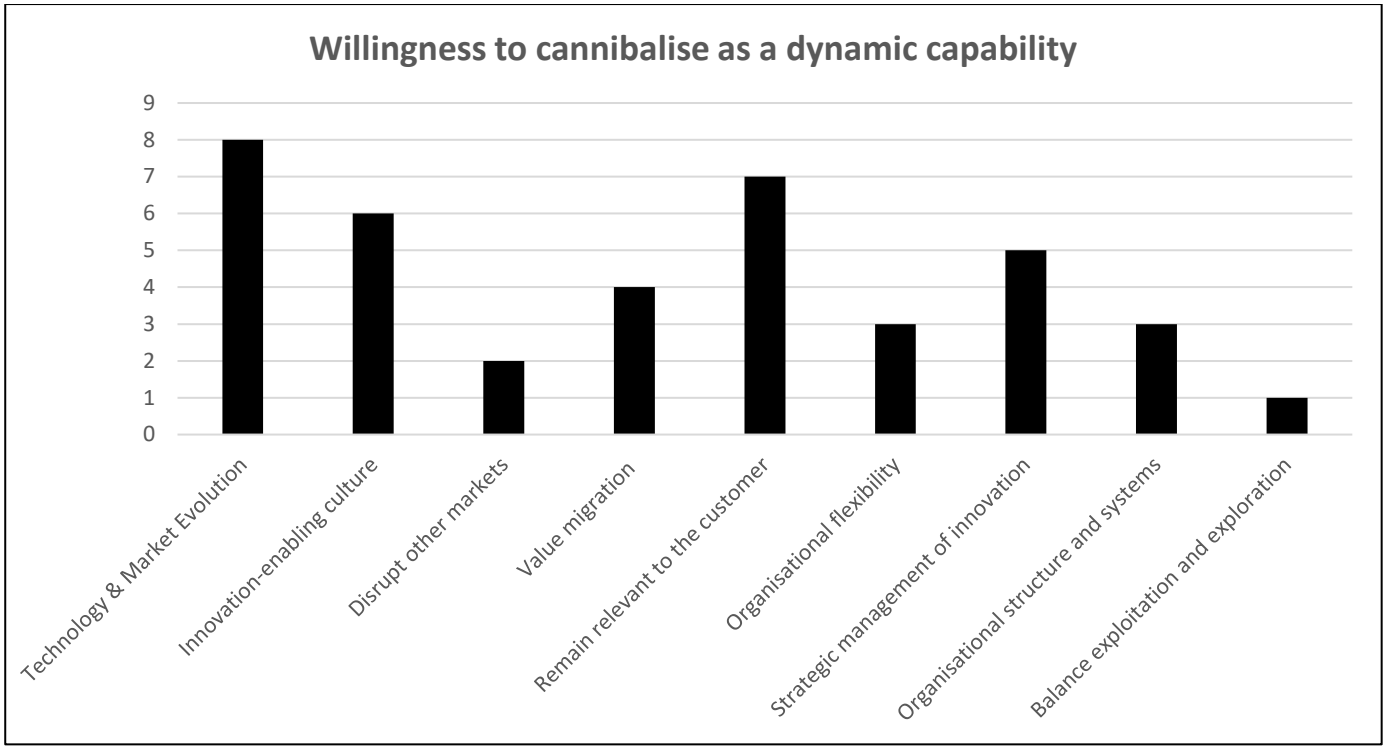


Figure 117: Willingness to cannibalise as a dynamic capability

Participants expressed the view that the telecommunications market was changing rapidly. There is an evolution in technology and marketing leading to customer needs changing and the migration of value along the Telco/MNO value chain. Eight participants mentioned market or technological evolution as a driver for the need of MNOs to be willing to cannibalise themselves, whilst four participants said the migration of value up the value chain.

> *"…we understand that the market is putting pressure and say you can no longer charge these prices that you charge, you have to charge lesser price but in having said that we have baked in stretch so that when you think you spending less because of the pure price that you are seeing in this bundle. We are cannibalising ourselves because we making sure that our learning algorithms are so effective now in making sure that we upsell you at the right time, we expand on your stretch and increase your reasons to consume; we doing all those things. I think the business is in support of it and applying it, just not in the traditional way of what cannibalisation would mean in other spaces by*

replacing one with the other starting to migrate or attract people to a new thing as this one starts to reduce, we doing it on that same product just we distributing it in a different way, pricing it in a different way and that is leading to cannibalisation for the success down the line." – Interviewee-4

"*As you evolve technologies, cannibalisation is inevitable; for example, if we want to roll out 5G and we will obviously have certain bundle packages. We know that is going to cannibalise your mobile data, and that could be seen as negative, but at the same time, if it is done productively that get you more elasticity, you get more usage and consumption because if you giving people superior services, they are going to consume more data, yes you are going to cannibalise your primary source, but you make it up for innovative products and solutions by stimulating consumption, so it's that balance. What we are trying to do in [company name redacted] as well is we very wary of cannibalisation, but it is inevitable as you evolve technologies, and I think the question is how do you actually stimulate growth and consumption and usage in your new products and services such that you end up in a net positive at the end of the day."* – Interviewee-11

"*I think it's imminent. It's unsustainable if they don't. If you think about the fact that a cost of a megabyte started at two Rands, and now we are down to fifteen cents per megabyte, depending if you are buying a small bundle or a massive bundle, you can get it down to two cents. How are you going to run a business like that? If you don't cannibalise yourself, the market will. Look at Nokia, Kodak[..]. History has proven to us that sticking to your guns doesn't yield good results. If you don't adapt to what is happening in the market*." – Interviewee-7

This disruption means that for MNOs to remain relevant to the customer, they will need to respond in ways that may lead them to disrupt themselves.

"It is preferable that you disrupt yourself before somebody else does. We have found especially in the enterprise organisations. It is easier to keep a customer than to go get a new customer, so it is better to keep that relationship, keep understanding the needs of the customer and keep meeting the needs of the customer. If you take that view, if needs be, then you will cannibalise yourself because you are constantly keeping your eye on the customer. That is your reality." – Interviewee-3

"*I think we have to be willing to cannibalise if one wants to stay alive. If we want to maintain our relevance. We have to know that the market and our customers are changing so we can stay here and say we need to maintain the revenue we are on today at all costs, or we need to take a pragmatic view of it and say this is what it kind of looks like in 12, 18, 24 months and how do we manage that. We also need to put innovation in place that could become growth streams for future revenue, and it is painful to take that hit at times, that's why it is important to have a good balance between developing your existing product lines to give more value so you can keep charging today's prices than saying with this percentage of my resources I'm going to invest in innovation and though it may have a longer kind of payback period this is where we could get to.*" – Interviewee-10

The antecedents identified in the sensing, seizing and shifting of resources again emerged from the participants as important considerations for developing a willingness to cannibalise as a capability. Innovation-enabling culture (six participants), strategic management of innovation (five participants), organisational structure and systems (three participants), and organisational flexibility (three participants) were identified as important for organisations looking to develop a willingness to cannibalise as a dynamic capability.

An organisational culture that encourages a willingness to try new things even if they may fail was highlighted as an important ability in a quickly changing world. This

"*… the business is trying to change a bit of culture, in that unfortunately in life to be innovative you have to try a lot of things, you are never going to be successful in everything that you try but, you have got to be able to learn quickly and learn fast and if your innovation is not working abandon and try something else. Another thing is if you cannot do something because you are too scared to failure. You are going to fail; out of the ten innovations you do, you are potentially going to fail on five of them, but hopefully, the other five you do not fail on are the ones that will drive the business for the future… I think across all industries in business; you have to move into the culture of be happy to fail, be ready to fail but fail fast, and say, look, we tried it, and we failed fast. I certainly think bigger companies… has been often too scared to fail, and I think that culture is changing every day. We see a change which is the right culture. The world is changing so quickly, and if we don't try, we won't know. That's about it.*" – Interviewee-1

"*It is a difficult situation to be in if you are a large organisation to cannibalise yourself, but you always want to be the one cannibalising. You want to disrupt yourself, you don't want to be disrupted, and you almost want to see it coming. I think my parting shot would be; it is very important that organisations unlearn the lessons that they have learnt, and do a deliberate exercise of detaching from the old … we were mobile or landline and now we are trying to be this type of organisation, unlearn that behaviour and unlearn those processes, pretend as if it's a new organisation and say how are we going to work faster, change faster, fail quickly. I think that is very important; you need an organisation with an ecosystem and processes that will allow you to fail quickly, get to the problem quickly so that you can change, and say this was a bad decision; let us change that decision. It's extremely important to be nimble in order to respond to the markets so that you are able to respond to your customer needs and cannibalise yourself.*" – Interviewee-3

Organisational culture drives the mindset and behaviours of individuals within organisations and is an important component in creating the organisational structures, processes and systems that will empower decision-makers and employees to be willing to take risks to ready the organisation for long-term competitive advantage. Once an innovation-enabled culture is in place, one of the critical things MNOs will need to have in place will be a framework for innovation's strategic management.

Strategic management allows decision-makers to understand and link the environmental context and the organisation's internal competencies and capabilities to create a competitive advantage for themselves. Organisations can then allocate resources towards innovation projects with a clearer understanding of the cannibalisation potential and a plan on how they will respond.

> "*So, I think the one problem we have… if I start identifying these innovative concepts and ideas and new business streams. The reality is, in order for them to work, I have to fund them. I need to push CAPEX (capital expenditure) into those projects to build them up and to make them successful. The reality is that we only have so much capital, so as soon as you start to seeing this thing grow, then CAPEX will have to be pulled from somewhere else. So the problem with doing too many things at the same time is that you're spreading your layer of butter very thin, then you might not get the impact that you really want. Sometimes you've got to pick your battles and say you know what, this is a good idea, but I would rather put all my capital expenditure behind this project to make it work properly than into it to make it successful.*" – Interviewee-6

> *"If the strategy is clear that you either grow your revenue drivers and future revenues to have legs to stand on, then 100% yes. Cannibalise it and go, look at Amazon, for example, their core focus is how to generate profit like you make sure that your distribution lines run at a loss, but it's funded through story-telling and shareholder loans and very cheap capital, and they basically killing the entire industry downstream industries like DHL and FedEx, so they are*

intentionally destroying an entire industry that they are leading. They are putting their foothold in, and that is Amazon has container ships and balloons, planes and cargo and trucks, so that is a good example of cannibalising your own existing revenue stream and delivery and processing and move it that way in terms of focusing on other revenue lines as long as long as the strategy is clear and everyone has bought into it with it then yes." - Interviewee-9

Having an innovation-enabling culture and a strategic management framework for innovation allows decision-makers at all levels of the organisation to create organisational structures and systems that can respond to cannibalisation and manage resources and investments to develop organisational flexibility. MNOs embracing agile and lean methodologies by structuring product development in squads and creating a minimum viable product (MVP) are just examples of how they respond.

"*I think we need to take away any barriers to thinking of projects that could potentially dilute revenue so that someone who has an idea that could potentially cannibalise revenue is not afraid to bring it to a forum. I think we have good culture around that here. It's not like people will laugh you out of the room because your project shows a minus line on the net revenue. So we're quite open to looking at things that are good for retaining customers, minimising churn, so I think it's about being open to ideas, and I think it's about being able to incubate ideas in a quick way and kind of allow MVPs to go out and test that with small cohorts of customers so to kind of set ourselves up to be agile in regards to innovation and then scale if something works[…]So we have shifted about a year or 18 months ago to working in an agile way. We work in squads where we get out an MVP, and we often do soft launches of things below the line, so we can test what will happen with cohorts of customers. We often would whitelist a group of customers we want to test a concept with before we take it to market."* – Interviewee-10

"…innovation is not just innovating in terms of having a physical product you can touch. It is having the right culture in place, the right skills in place, the resources in place, the experience in place, you can't ignore all of those foundations and think you are going to sustain yourself, and yes, you could have people that are good at coming up with ideas, and we call it innovation, but it is actually executing that innovation having your systems, your processes, your resources in place that actually helps you to succeed and there is a strong link to cannibalisation that you looking at. Like I said, it is something that is inevitable, but you can't be reckless about it because you can destroy value. So how do you take all of those that you have, your foundations, your resources, your people, your skills, the ability to react very quickly, work agile, how do you actually optimise all of that to at the end of the day, be successful." – Interviewee-11

4.2.3.5 SUMMARY OF FINDINGS FOR SUB-RESEARCH QUESTION 1.2

The rapidly changing business environment that MNOs find themselves in has led to a need to develop capabilities that enable them to respond in ways that can generate innovations and sustain a competitive advantage. Both the market and technology evolution means that incumbent MNOs are now faced with discontinuous changes that are putting their sustainability at risk. They will need to be innovative to create new offerings and remain relevant to their customers or attract new ones.

Some innovations may lead to cannibalisation of their current core products of voice, data and SMS. A willingness to cannibalise enables an organisation to enable radical innovations that may cannibalise on existing investment in the short-term to benefit in the long term. Therefore, a willingness to cannibalise is an essential dynamic capability for MNOs to develop as they respond to discontinuous and rapid changes in their industry.

MNOs currently have capabilities and routines that enable them to collect information about opportunities that may lead to cannibalisation. Most participants identified that there is generally no strategic management framework to convert this information into helpful knowledge, nor are there organisational structures and systems to optimally exploit the collected information.

Although most participants were willing to cannibalise on their current products and investments, there was concern that MNOs are not good at this as the organisations are not set up for it. There needs to be an innovation-enabling culture that is willing to take risks and is tolerant of failures if individuals are to be willing to cannibalise. The targets and incentives often drive decision-makers towards protecting the core product and, therefore, towards incremental innovations with minimal cannibalisation.

Another key challenge is that the organisational size of incumbents and how the level of investments already made often make the realignment of resources towards new opportunities very difficult. There is a low level of organisational flexibility because there are no organisational structures and systems for responding to cannibalisation. Again, this is a result of there being no systematic, strategic way in which innovation is being managed within MNOs. Although there seems to be a recognition that strategic intent is an essential aspect of what the organisation will align resources to, there were mixed views on whether incumbents would be able to.

A key consideration for the ability to sense, seize and shift toward opportunities that may lead to cannibalisation is the support of senior leaders within MNOs. There is a need to have leaders (CEOs and MDs in particular) who can see the importance of radical innovations to their organisational competitive advantage. EXCOs will need to give autonomy to decision-makers at the business unit level and empower them to take risks if organisations are to create the kind of culture that leads to a willingness to cannibalise.

4.3 SUMMARY OF FINDINGS

4.3.1 DISRUPTED MNO INDUSTRY

The findings highlight an MNO industry that is being disrupted from many angles. Firstly, regulators are demanding cheaper connectivity from incumbents as subscribers feel the pressure of slow economic growth. There is also a feeling that given the duopolistic nature of the industry, there will need to be pressure through regulations to reduce prices.

Another way in which the industry is being disrupted is through the migration of value from connectivity to the services on top of that connectivity. This has means that even as more data connectivity providers come online through the proliferation of fibre and Wi-Fi connectivity leading to revenue pressure for incumbents, new OTT providers are providing services and owning more of the customer relationship.

Incumbents have had to look at other industries such as financial services and content distribution to maintain revenue growth opportunities. However, even this is often a result of opportunities that have arisen as technological evolution has taken place. Almost all incumbents are often disrupting the same industries with very similar products, evidence this. This suggests that incumbents often do not have a real and sustainable competitive advantage.

4.3.2 STRATEGIC MANAGEMENT OF INNOVATION

Although there are innovation departments and innovation exists as a function within MNOs, there seem to be poor processes and systems for managing innovation strategically. This means there are poor measures for innovation impact on the organisation, with the focus being on financial KPIs for increased revenues and

reduced costs. Although there is a recognition that the core product is being disrupted, there has so far been very little strategic intent shown towards better understanding innovation and how it can be managed to respond.

4.3.3 INNOVATION DECISIONS

Participants highlighted that those decisions about which innovations to pursue are largely driven by a demonstration of return on investment. Whilst this is good for incremental innovations, which often are easily quantifiable, this often means that more radical innovations whose returns are harder to quantify risk falling on the wayside. The impact is also that projects, which may lead to cannibalisation, may also fail to get support.

Although there are internal markets where projects and business units fight for resources, findings suggest that business units do not have autonomy on which innovations to pursue. This is because most decisions are centralised, with the senior leadership having the final say in which innovations to pursue. The findings suggest that the only way for more radical and risky innovations projects to get any support requires executive sponsorship. This means that senior leaders largely drive decisions within MNOs, and their attitude towards cannibalising opportunities can sway the willingness of the organisation to cannibalise.

4.3.4 INNOVATION CHAMPIONS

The view on innovation champions was also mixed. Even when there are innovations champions, they often serve as the interface with the innovation department and have no influence on which innovations to pursue. Therefore, the innovation champions are often just an exercise to ensure that ideas that come into the innovation department in the ideation phase are sent to the relevant business units and have no further input into ensuring which innovations must be pursued.

Whilst innovation in some organisations and business units is rewarded, some participants felt that this was part of what employees were hired for, and there was no need to incentivise them. Innovation champions also do not have targets and KPIs related to innovation and are measures on their business as usual work. This lack of incentives likely discourages innovation champions from coming up with opportunities that are high risk and may lead to cannibalisation.

4.3.5 FUTURE CUSTOMERS

MNOs have an understanding that their future customer is rapidly changing. There is a recognition that customer needs and preferences are changing which is leading to migration of value and disruption. Participants highlighted that MNOs are exploring new opportunities as well as looking at disrupting other industries to serve the needs of their future customers. There still is a bias toward protecting the core product and investments, which hinders the ability of radical innovation towards the best way to serve the future customer.

4.3.6 SENSING FOR OPPORTUNITIES

Findings suggest that most incumbents have multiple points where they collect information on opportunities and threats. Incumbents also have research units collecting, analysing and reporting on the competitor, global and customer trends, leading to disruption. However, most participants felt that their organisations could not translate this into activities with cannibalisation of current investments as a possibility.

Participants highlighted strategic management of innovation, organisational structure and systems and senior leadership support as some of the limitations on the ability of

MNOs to take action on some of the recommendations and analysis, which would lead to cannibalisation.

4.3.7 SEIZING FOR OPPORTUNITIES

Most participants were happy to seize opportunities that would lead to cannibalisation, with only two participants being unwilling to cannibalise and asserting that incumbents with large market shares are best served by protecting this core market. Whilst the decision-makers would be willing to cannibalise, and there was concern that their current organisation often failed in seizing opportunities to introduce radical innovations.

Strategic management of innovation, organisational structures and systems, senior leadership support and innovation-enabling culture were highlighted as necessary elements to have in place for organisations to pursue innovations that may lead to cannibalisation.

4.3.8 SHIFTING FOR OPPORTUNITIES

Realignment of resources was also well supported if organisations are to be willing to cannibalise. Again, the elements of strategic management of innovation, organisational structure and systems, senior leadership support and innovation-enabling culture emerged strongly from the findings as important elements for organisations to consider when looking to shift resources and investments towards opportunities that may lead to cannibalisation.

4.3.9 ANTECEDENTS OF WILLINGNESS TO CANNIBALISE AS A DYNAMIC CAPABILITY

How do incumbent MNO firms build, integrate or reconfigure organisational resources and capabilities to capacitate a willingness to cannibalise as a dynamic capability that would enable them to respond to discontinuous changes in their industry through the radical innovations?

The participants highlighted some critical elements to consider to enable a willingness to cannibalise as a dynamic capability. Findings suggest that these four elements are required to be in place for MNOs to build, integrate or configure their resources and capabilities to enable a willingness to cannibalise as a dynamic capability.

Table 2 below summarises the findings of which elements need to be in place for MNOs to enable a willingness to cannibalise as a dynamic capability that would enable them to respond to the disruption and discontinuous changes in their industry through innovation.

Table 2: Antecedents for willingness to cannibalise as a dynamic capability

Dynamic capability	Strategic Management of Innovation	Organisational Structure and Systems	Senior Leadership Support	Innovation-enabling Culture	Organisational Flexibility
Sensing	X	X	X		X
Seizing	X	X	X	X	
Shifting	X	X	X	X	X

The next chapter will analyse and discuss the findings to answer the propositions from Chapter 2. Chapter 5 will link the research findings to the theory to better understand the themes that emerged from the interviews with the participants.

CHAPTER 5: ANALYSIS AND DISCUSSION

5.1 INTRODUCTION

This chapter aims to link the data presented in Chapter 4 to the literature reviewed in Chapter 2. Chapter 4's presented the findings and the themes that emerged to answer the research question and two research sub-questions. This chapter aims to link the research questions and the propositions that emerged from the literature review on the strategic management of the innovation process, a willingness to cannibalise and dynamic capabilities theories.

Chapter 2 proposed a conceptual framework for understanding how a willingness to cannibalise is a useful dynamic capability for enabling radical innovation by organisations facing a VUCA world. Based on this conceptual framework, a proposition and two sub-propositions emerged. This chapter seeks to explore the research findings from Chapter 4 by discussing how these are linked to the sub-propositions and, therefore, how they ultimately link to the main proposition from the literature.

5.2 BACKGROUND

The researcher interviewed fifteen participants who are managers and decision-makers within the MNO industry in South Africa. The interviews aimed to collect data on the understanding of the strategic management of innovation within the industry and explore the impact of the discontinuous changes and disruption on the industry and its response.

The purpose of the data collection was to gather the data needed to explore further the research proposition:

Having a willingness to cannibalise as a dynamic capability will enable incumbent MNOs to respond to discontinuous changes in their VUCA environments by enabling radical innovations through their firm-level innovation processes

To this end, the following two sections discuss the research findings and link them to the literature review.

5.3 DISCUSSION OF SUB-PROPOSITION 1.1

A willingness to cannibalise is an important capability for MNOs to enable radical innovations in a VUCA environment

5.3.1 A VUCA ENVIRONMENT

MNOs face high levels of uncertainty and discontinuous changes driven by changing customer preferences and behaviours and the digital transformation of the industry (Dasi et al., 2020; WEF, 2017). The changes in the strategic environment in which MNOs operate have resulted in facing a VUCA environment where they must respond to a new normal (Mack & Khare, 2016). This VUCA environment was the consequence and the cause of disruption on the industry, with value migrating from traditional MNO products to data-driven services (Hacklin et al., 2018; Millar et al., 2018).

Most participants indicated that their industry faces disruption with technological evolution and new technologies seeking to substitute the connectivity products that MNOs have traditionally provided. This disruption has reduced competitive advantage as their networks are increasingly seen as “dumb pipes” by customers, with the most value being extracted by digital OTT service providers (Dasi et al., 2020; Hacklin et al., 2018).

According to participants, disruption has led to increased competition for MNOs as customers now have alternatives for their traditional core products. Disruptive technologies and innovations of the new digital economy have resulted in the need for MNOs to respond through unique value propositions and innovation (GSMA, 2019; Darji et al., 2016; Schoemaker et al., 2018).

Participants also highlighted that the traditional products of MNOs are viewed as a commodity, with stakeholders in the industry increasingly demanding that prices must be lowered. As a result, there is increased volatility and uncertainly brought about by regulators, governments and consumer interest groups seeking to reduce the prices even as competition from new technologies increases and puts pressure on revenues.

Therefore, even as MNOs must innovate, multiple discontinuous changes make for a VUCA environment that will require innovation enabled by creating new dynamic capabilities in response (Schoemaker et al., 2018).

5.3.2 INNOVATION AND MNOS

Innovation as a process enables organisations to transform ideas, information and knowledge into new products or services to sustain their competitive advantage (Baregheh et al., 2009; Crossan & Apaydin, 2010). In VUCA environments facing discontinuous change, radical innovations are required for firms to respond adequately (Birkinshaw et al., 2016; Schoemaker et al., 2018). Through radical innovations, firms can create new markets and new demands from customers (Garcia & Calantone, 2002).

Participants were asked about the state of innovation in the MNO industry. Although there was recognition that the industry was innovative, most participants acknowledged that industry innovation was primarily incremental. Only 5 of the 15

participants could identify radical innovations within their firm. The innovation process within MNOs is mainly about protecting their base and does not encourage radical new ideas.

The radical innovations within the industry are primarily about disrupting other industries such as financial services. This means that even as they migrate up the value chain (Hacklin et al., 2018), MNOs are still looking to protect the investments they have already made in network infrastructure (Dasi et al., 2020). MNOs show no appetite for innovations that cannibalise traditional core products, even as most participants acknowledged that innovation should solve customer needs. Radical innovations benefit long-run performance exactly because of unrivalled customer benefits (Slater et al., 2014; Chandy & Tellis, 1998).

Participants were concerned with the state of innovations within their organisations, and there seems to be a lack of consensus about how their organisations manage innovation. Although most participants acknowledged that there was an innovation management process, a majority also felt that innovation is managed poorly. Innovation management requires a systematic process for ideation, selection and implementation of innovation projects if organisations are to fully capture the value from innovation (Crossan & Apaydin, 2010; Sheu & Hei-Kuang, 2011; Hansen & Birkinshaw, 2007; Nagji & Tuff, 2012). Sentiments from participants suggest that innovation is not managed systematically and often relies on the “feelings” of senior managers and reluctant responses to disruptive technologies.

The strategic management of innovation is important in a VUCA environment with its “new normal” of discontinuous changes and disruption (Pisano, 2015; Mack & Khare, 2016). This would enable an alignment of innovation projects to the organisation’s resources, goals and capabilities (Schilling, 2017; Nagji & Tuff, 2012). Strategic management of innovation would also give managers and decision-makers at all levels of the organisation the ability to understand and effectively communicate the role of innovation and the innovation process (Goffin & Mitchell, 2017; Schilling, 2017;

Cortimiglia et al., 2015). Participants indicated a lack of leadership within their organisations for how innovations are managed as a strategic objective.

This poor strategic management of innovation, in turn, led to low levels of radical innovation, which often requires shifts in mindset, strategic focus and often resources for organisations (Crossan & Apaydin, 2010; Garcia & Calantone, 2002). The result was that MNOs are unwilling or unable to generate radical innovations that would disrupt their core products even though 13 of the 15 participants saw this as critical for future survival.

The need for radical innovation in the face of disruptive technologies and digital transformation (Darji et al., 2016; WEF, 2017) requires that MNOs fundamentally revise all previous assumptions about the VUCA environment they operate in and realign their structures, processes and systems (Birkinshaw et al., 2016).

Therefore, whilst participants admitted to seeing the importance of a willingness to cannibalise, MNOs in protecting their investments are often reluctant to shift resources away from core products and are only willing to innovate where their initial investments are protected.

5.3.3 WILLINGNESS TO CANNIBALISE WITHIN MNOS

In a bid to protect their investments, MNOs have fallen into the *innovator's dilemma* by being unwilling to respond to discontinuous changes in their increasingly VUCA environment through radical innovations which may disrupt their core products (Dasi et al., 2020; Christensen C. M., 1997). As Chandy and Tellis (1998) first proposed, a willingness to cannibalise your investments is critical in firms' ability to introduce radical innovations.

Some participants highlighted the fact that the MNO industry is capital intensive with considerable investments in network infrastructure. MNOs require these investments in network equipment and operational licenses as part of their operations, and often, their business models mean a reluctance to diversify revenue streams too far from these investments (Dasi et al., 2020). Thus, participants recognised the tension between the need to enable radical innovations and the need to fully exploit the investments made on the network infrastructure to generate maximum return on investments. These specialised investments are one of the factors that result in firms often being unwilling to cannibalise (Chandy & Tellis, 1998).

Findings of the research indicate that radical innovations are rare within MNOs and that there is a strong focus on return on investments from any projects undertaken. This focus often meant that only incremental innovations with demonstrable returns through traditional business cases and financial measurements are priorities. Participants again highlighted that poor management of innovation was one of the reasons for this unwillingness to cannibalise. The strategic management of innovation gives organisations the capabilities to adapt and respond to discontinuous changes by enabling firms to manage a portfolio of innovation projects of different dimensions (from incremental to radical) effectively and strategically (Nagji & Tuff, 2012; Rumelt, 2011; Trott, 2017; Schilling, 2017).

Participants identified a culture of innovation as being an essential factor in how MNOs could strategically manage innovation. Culture is one of the levers managers have for driving organisational innovation, and the type of values, norms, and behaviours that are encouraged often drive the types of innovations the organisation will pursue (Crossan & Apaydin, 2010; Hogan & Coote, 2014).

The willingness to cannibalise is a mindset of organisational leaders within firms that feeds into the organisation's culture (Chandy & Tellis, 1998). A culture that is willing to cannibalise is enabled by creating strategic and systematic processes for managing innovation (Chandy & Tellis, 1998; Nijssen et al., 2005) as artefacts of the culture

driving norms and behaviours that support it (Schein E. H., 2004). MNOs are often not willing to cannibalise because the culture that is in place focuses on protecting current investments and is driven by the business case as an artefact. This means that leaders and decision-makers within MNOs concentrate on protecting their existing investments above other concerns.

Chandy and Tellis (1998) found that three identified three variables as having a positive impact on the willingness to cannibalise by firms. These were having strong internal markets for resources, a strong influence of product champions and a future-market focus. Participants were asked about their views on these three to explore the current preparedness of MNOs to enable a culture of willingness to cannibalise.

5.3.3.1 INTERNAL MARKETS

Internal markets refer to internal autonomy and internal competition inside organisations (Chandy & Tellis, 1998). With high levels of autonomy, business unit managers can make decisions about their units and pursue the projects they want without too much input from executive managers, i.e., the business unit manager has the final say on which projects to pursue and invest in (Chandy & Tellis, 1998). With high internal competition, business units were empowered and allowed to compete for resources and markets (Chandy & Tellis, 1998).

The findings suggest that there are no strong internal markets within MNOs. There was some internal competition to some extent in that business units competed for resources. Although there was internal competition for resources, rivalry in the market was often discouraged. Participants indicated that business units heads have to coordinate and reach a consensus when opportunities could be cannibalising. This would make rivalry between business units low as they would steer away from radical and potentially disruptive opportunities.

There was also a low level of internal autonomy. Business unit heads had to prepare business cases on opportunities, but the senior leadership team often had the final say on each opportunity or project. Some participants expressed frustration that the lack of autonomy meant they were often slow to react to new opportunities. Radical innovations are also harder to pursue when they need senior leaders who have different priorities, measures and goals from the business unit managers.

As Chandy and Tellis (1998) argued, strong internal markets increase the likelihood of radical innovation because business unit decision-makers have a deeper understanding of their investments and resources and can make decisions to shift resources a lot quicker and easier than executives that are removed from the daily operations of the business unit. Internal markets also ensure that each business unit must look at competition from outside the organisation and from within (Chandy & Tellis, 1998). This creates a stronger incentive to be willing to cannibalise on their investments.

5.3.3.2 INNOVATION CHAMPIONS

The level of influence of product champions on the decisions of what innovation projects to pursue is an essential factor in the ability of firms to pursue radical innovations (Chandy & Tellis, 1998). Senior managers must support innovation champions' role in deciding which projects the organisation will select as part of their innovation portfolio (Chandy & Tellis, 1998). Human resource policies (recruitment, rewards, and training) within organisations must support the role of innovation champions within the innovation management process.

Most participants indicated that their organisation had innovation champions in each business unit. Their innovation champions were given training and incentivised as part of the programmes run by the innovation department. However, from what participants expressed, these innovation champions had no real influence on the innovation

projects pursued in each business unit. Their role was primarily a coordination role between the innovation department and the business unit for the ideation process (when ideas are introduced into the business unit from outside).

Some participants also felt that “innovating” is part of business as usual and employees championing innovation do not need to be incentivised to innovate. This was required in their job. These participants saw no real value in having innovation champions looking to drive innovation projects as part of their KPIs.

Findings suggest that the role of innovation champions in influencing innovation within MNOs is very low. The ability of innovation champions to influence organisations pursuit of innovation projects even at the expense of current investments and resources are critical in increasing organisations' willingness to cannibalise (Chandy & Tellis, 1998).

Given the vast investments that MNOs have made on network infrastructure (Dasi et al., 2020), it is crucial for innovation champions and innovation departments to influence what innovation projects to pursue if they are to drive radical innovations.

5.3.3.3 FUTURE MARKETS

Market orientation is a double-edged sword for organisations looking to pursue radical innovations (Chandy & Tellis, 1998). As Christensen’s seminal work on disruptive innovation showed, the incumbent’s focus was on innovating for the demands of often the most profitable customer (market) and therefore exceeding or ignoring the needs of least profitable customers, which resulted in their being disrupted. The disruption occurred when new entrants entered the market to serve the least profitable customers and eventually improve until they took market share away from incumbents (Christensen, Raynor, & McDonald, 2015).

However, as Chandy and Tellis (1998) found, firms that introduced radical innovation tend to focus on the future market and competition. These firms consider what their future customers will need and what current customers will need in the future (Chandy & Tellis, 1998). A focus on future markets ensures that decision-makers are always on the lookout for changes in trends and technologies that may affect their market.

Participants indicated that as players in an industry facing a VUCA environment, their organisations recognised the need for exploring new markets and opportunities. They also saw the industry trend migrating up the value chain towards digital services as motivation to go and disrupt other markets. Some participants also discussed the need for business model innovation in response to disruption, which suggests an awareness of the industry's changes.

There is a high-level focus on future markets within the MNO industry. This focus may translate into the view that they will need to use their current resources and investments to disrupt other markets or even a view that they need to be exploring new markets and new opportunities to defend against the disruption in theirs (Darji, Mkwanazi, & Njisane, 2016).

5.3.4 SUMMARY OF DISCUSSION

Globally, a VUCA environment that requires a new normal is challenging the mobile network industry (Mack & Khare, 2016; Dasi, Elter, Gooderham, & Pedersen, 2020). South Africa’s MNOs have not escaped this new reality, with decision-makers highlighting their concerns about the state of the industry. They're also growing concerns that as value increasingly migrates towards digital services (Hacklin et al., 2018; Dasi et al., 2020), the core products of voice and data connectivity are becoming highly commoditised. As customer needs and behaviours change with the introduction

of digital transformative and disruptive technologies, there is recognition that current incumbents will need to innovate if they are to remain relevant.

Incremental innovations on core products will not be enough, and MNOs need to be able to introduce radical innovations. However, MNOs seem to have largely failed to manage innovation strategically. This has resulted in a misalignment between the kind of innovation that is required and the kind of innovation that is pursued. Therefore, strategic management of innovation approach must be adopted, which will support the drive towards more radical innovations within the MNOs.

Findings suggest that decision-makers within MNOs see the value of being willing to cannibalise on current investments. Decision-makers would be willing to cannibalise on the investments made by their own business units to introduce innovations that would offer long-term benefits. However, although decision-makers see a willingness to cannibalise as important, the current organisational culture does not support the building of this capability.

Current MNOs cultures have very poor internal markets and low levels of influence by product innovation champions. Therefore, although they have a strong future market focus, MNOs are not geared towards being willing to cannibalise.

5.4 DISCUSSION OF SUB-PROPOSITION 1.2

MNOs can develop a willingness to cannibalise as a dynamic capability to enable the sensing and seizing of opportunities and the shifting of resources such that the outcome of their strategic innovation management processes is radical innovations in response to discontinuous change.

5.4.1 SENSING TOWARDS SELF-DISRUPTION

Sensing capabilities include the accumulation of knowledge to create or discover new value creation opportunities (Teece, 2007). Organisations need the competencies to accumulate, filter and process both internally generated and external information about the changes in technology, customer needs and their markets if they are to sustain any competitive advantage in a VUCA environment (Teece, 2007; Teece et al., 2016; Schoemaker et al., 2018).

MNOs collect internal and external information about their market. This collected information includes customer insights, competitor analysis, global trends and economic business environment that may present various opportunities or threats. Participants indicated that their organisations had dedicated research units that collect, filter and process this information into valuable knowledge that decision-makers can use. This finding aligns with Teece's (2007) ecosystem framework for sensing opportunities.

However, participants also highlighted that although there were solid frameworks for gathering data and creating information and knowledge about what changes and disruptions would impact MNOs, there were often poor organisational structures and low willingness to take action on the findings. Birkinshaw et al. (2016) suggest that sensing as a dynamic capability can be conceptualised exploratively. This would indicate that MNOs have a strong future market focus, positively correlating with a cannibalising willingness (Chandy & Tellis, 1998).

The findings suggest that MNOs are unwilling to cannibalise because of the specialised investments in network infrastructure and other resources (Chandy & Tellis, 1998). Although MNOs have developed excellent sensing dynamic capabilities, they cannot exploit the opportunities they discover through their exploration.

5.4.2 SEIZING TOWARDS SELF-DISRUPTION

Seizing as a dynamic capability involves exploiting new opportunities in response to a dynamic and fast-changing environment by introducing new innovative products, services, processes or even business models (Teece, 2007; Teece, 2010). It is not enough for organisations to explore and discover new opportunities and threats when discontinuous changes happen in their business environment (Schoemaker et al., 2018; Birkinshaw et al., 2016); they must have the capabilities and competence to exploit these opportunities in a sustainable way (Teece, 2007).

The exploitation of resources and investments towards seizing new opportunities is where the actual cannibalisation occurs. Organisations must have the correct structures, systems, processes, and incentives to seize opportunities that would lead to self-disruption (Teece, 2007). As Teece (2007) states, seizing and a dynamic capability require suitable decision-making protocols and leadership to drive the organisation forward. The themes that emerged on would findings support this view.

Participants indicated that strong leadership from the top was required for organisations to be empowered to take risks and seize on cannibalising opportunities. The organisational structures, systems, processes, and incentives that leaders are responsible for (Augier & Teece, 2009) do not support strong internal markets, both through competition for resources and autonomy for which business units could pursue opportunities. Therefore, there is unlikely to be the risk-taking culture necessary to enable a willingness to cannibalise (Chandy & Tellis, 1998; Nijssen, Hillebrand, & Vermeulen, 2005). Without leadership support, even the role and influence of the product innovation champion will be limited, which would limit the

ability of radical innovations to be successfully driven through the innovation process within the firm.

Participants also highlighted that they would be willing to cannibalise as they recognised the need for MNOs to do so in light of the VUCA environment they are faced with. However, there was a recognition that South African MNOs are currently unable to respond to these changes effectively as they are hesitant to cannibalise on their investments. Participants indicated that the MNO industry was a high CAPEX business environment, which often left leaders unwilling to exploit opportunities to make their current business models obsolete.

As such, a theme that emerged was the need for seizing on opportunities that would lead to cannibalisation to strongly balance between exploration and exploitation of current resources and investments. These findings suggest strong support for one of the key pillars proposed in Ramukumba (2018) of organisational ambidexterity in organisations' ability to be willing to cannibalise. Birkinshaw et al. (2016) also support the idea that firms need to be ambidextrous if they adapt to discontinuous changes in a VUCA world through their dynamic capabilities.

For organisations to be ambidextrous and seize on opportunities that may lead to cannibalisation, people with the mindset and attitudes enabling the seamless exploration and exploitation capabilities have been hired, supported, and incentivised. This view aligns with the product innovation champions' role in influencing radical innovations within organisations (Chandy & Tellis, 1998). Seizing capabilities in response to discontinuous change requires that routines and capabilities be developed at all organisation levels (Birkinshaw et al., 2016).

Finally, according to participants, developing seizing routines that would enable a willingness to cannibalise as a dynamic capability requires an innovation-enabling culture across the organisation. An innovation-enabling culture is essential in

supporting the ability of organisations to seize on opportunities. Participants indicated that an organisational culture that supports risk-taking was more important than having the right structures. Again, the role of leaders in shaping the culture of organisations is critical in the ability of organisations to enable a willingness to cannibalise (Augier & Teece, 2009; Tellis et al., 2009; Warner & Wäger, 2019; Hayashi, 2013; Schein, 2004)

5.4.3 SHIFTING TOWARDS SELF-DISRUPTION

Shifting routines have been described as higher-order dynamic capabilities located within the capabilities of executive leadership the involve the strategic management of the organisational response to their VUCA environment by enabling the organisation to reconfigure, transform and renew its resources, assets, and other investments (Birkinshaw et al., 2016; Schoemaker et al., 2018; Teece, 2007). The strategic renewal of resources and investments is crucial for firm survival and sustaining competitive advantage by radically transforming the routines, structures such that the introduction of radical innovations is possible (Teece, 2007; Schoemaker et al., 2016; Warner & Wäger, 2019).

Participants indicated that although shifting of resources as a dynamic capability was important in the ability of MNOs to enable a willingness to cannibalise, most participants highlighted that for incumbent MNOs, their size, structures, and systems made this problematic. This group of decision-makers lamented that they often have to choose whether to exploit or explore within their limited resources whilst the incentives often rewarded short-term returns, which made the ability to shift resources toward cannibalisation highly unlikely. This view supports a concern by Teece (2007) on the incentives and structure of incumbents often biased towards “anti-cannibalisation” and therefore organisations often being unable to enable radical transformation.

Most participants highlighted that their organisation's organisational structure and systems as the biggest obstacle to their ability to shift resources towards innovations

that may lead to cannibalisation. This and the current rewards and incentives tend to bias MNOs towards “business as usual” and away from radical innovation projects.

Findings suggest that MNOs looking to transform their resources will need to develop some organisational flexibility. This organisational flexibility is supported in the OSD conceptual model that supports the importance of strategic flexibility for creating a willingness to self-disrupt (Ramukumba, 2018). Some participants noted that their organisations were attempting to create this flexibility by adopting agile methodologies of working. Research on building dynamic capabilities (Warner & Wäger, 2019) and on the internal antecedents of dynamic capabilities within firms (Eriksson, 2014) validated the importance of organisational flexibility by recognising the value of strategic flexibility in developing and managing dynamic capabilities. This strategic agility is even more necessary in developing dynamic capabilities of shifting as fast and timely decisions about organisational resources and investments to reconfigure quickly towards new and more radical opportunities.

Participants noted the importance of senior leadership support for shifting resources towards more radical innovations. There was recognition that as soon as senior executives within MNOs recognised the need for change, reconfiguration and transformation of resources would happen. The executive leadership role in developing shifting routines is essential in that the dynamic capabilities depend on the organisational context and strategy selected by the executive to respond to a changing environment (Birkinshaw et al., 2016; Augier & Teece, 2009). Leadership is paramount, as dynamic capabilities for shifting require a continual focus on strategic renewal of the organisation’s resources and even culture (Warner & Wäger, 2019; Schoemaker et al., 2018).

Participants again highlighted the importance of an innovation-enabling culture if MNOs are to be willing to shift their resources towards potentially cannibalising opportunities. An enabling organisational culture is at the core of firms’ willingness to

cannibalise (Chandy & Tellis, 1998; Hayashi, 2013; Tellis et al., 2009). This confirmed the importance of an innovation-enabling culture as described in the section.

Finally, in summarising the findings and the themes that emerged, Table 2 in Chapter 4 highlights the five themes that emerged strongly for the antecedents of developing a willingness to cannibalise as a dynamic capability. While an innovation-enabling culture did not emerge when discussing sensing and organisational flexibility did not emerge, discussing seizing, all four antecedents emerged when talking about shifting dynamic capabilities. This aligns with Birkinshaw et al. (2016) 's view that sensing and seizing are both low-order dynamic capabilities, whereas shifting dynamic capabilities are higher-order capabilities that reside within the senior leadership of organisations who must decide on a contingent basis how to reconfigure organisational resources to achieve desired results.

The findings suggest that building a willingness to cannibalise as a dynamic capability for enabling radical innovation is only possible when the senior leadership support the building, reconfiguration or transformation of current resources, capabilities and investments. Therefore, both strategic flexibility and strategic renewal are only possible when there is a willingness to manage innovation such that resources able to be strategically shifted towards disruptive and radical innovations. Only shifting routines within organisations enable the OSD capabilities that fully can exploit and/or explore opportunities that may lead to cannibalisation.

5.4.4 SUMMARY OF DISCUSSION

MNOs will need to have internal markets, where business units are empowered to compete for and direct resources towards opportunities as they see fit (Chandy & Tellis, 1998). They must also have product innovation champions who can influence decisions away from “business as usual” towards risky, radical innovations. (Chandy & Tellis, 1998). Finally, they must focus on their future markets with a keen

understanding of their customers' fast-changing needs and the increasingly uncertain future of their markets.

For each incumbent MNO, organisational values, beliefs, and assumptions drive their people's attitudes and behaviours and, ultimately, their culture (Schein, 2004). A willingness to cannibalise will only be possible when they create routines that enable sensing, seizing, and shifting dynamic capabilities across all organisation levels. It is only by creating an organisational culture that supports and empowers all employees who are willing to introduce radical innovation that incumbent MNOs will build organisations that can sustain a competitive advantage even as the core business model is being disrupted.

The findings suggest that the innovation process's strategic management will have to be an essential pillar if MNOs are to develop the willingness to cannibalise as a dynamic capability. Findings highlighted the concerns of most participants that innovation is not being managed strategically within the industry. The low level of radical innovation within the MNO industry in South Africa suggests that most MNOs are only comfortable with incremental innovations or innovations outside their industry. Without a proper understanding of the innovation process and an innovation strategy, MNOs will continue to lose their competitive advantage as value migrates until they are no longer sustainable (Goffin & Mitchell, 2017; Schilling, 2017; Ezzi & Jarboui, 2016).

The strategic management of organisational innovation requires that firms build relevant dynamic capabilities to support their corporate strategy (Crossan & Apaydin, 2010; Keupp et al., 2012). This is particularly important in today’s VUCA world, where leaders need to build the dynamic capabilities necessary to respond through innovative products, services and process to a rapidly changing business reality (Millar et al., 2018; Schoemaker et al., 2018).

5.5 SUMMARY

This chapter analysed and discussed the findings of this research project. The aim was to link the conclusions of Chapter 4 to the literature and propositions in Chapter 2.

The main proposition of this study was that:

> *Having a willingness to cannibalise as a dynamic capability will enable incumbent MNOs to respond to discontinuous changes in their VUCA environments by enabling radical innovations through their firm-level innovation processes*

The two sub-propositions were analysed with the use of findings from the data collection and the literature review. The conclusion seems to support this research's proposition that a willingness to cannibalise will enable incumbents to respond to a VUCA world by enabling firm-level routines and processes that would support radical innovation.

This chapter concludes that decision-makers within MNOs recognise the need to develop a willingness to cannibalise as an essential dynamic capability to develop to respond to a VUCA world that is quickly changing telecommunications industry worldwide and a South African environment that is increasingly more competitive. Although this capability is essential, MNOs in South Africa has largely failed to respond to disruption and have often opted to protect their core products and services.

Participants noted that strategic management innovation is integral if MNOs develop the skills, capabilities and routines necessary to respond adequately to a rapidly changing VUCA environment. MNOs will need to review the organisational structures, systems, processes, rewards, and incentives they have in place and how they impact innovating. As they stand currently, most MNOs do not have the capabilities to

introduce radical innovation. Developing dynamic capabilities requires organisations to continually realign their capabilities and structures to a continuously changing market environment (Felin & Powell, 2016).

Participants noted that although sensing, seizing and shifting routines were important in the ability of MNOs to respond to a VUCA environment by gearing the organisation for change, there were still significant obstacles in the willingness of decision-makers to cannibalise in the process of responding to change. Participants highlighted the lack of support by senior executive leaders as a particular concern. They also bemoaned the lack of risk-taking culture as another concern. Building and managing dynamic capabilities will require leaders at all levels to be empowered to make autonomous decisions on opportunities to exploit (Chandy & Tellis, 1998). It will take strong leadership and management to select and develop routines (Augier & Teece, 2009).

This suggests that although a willingness to cannibalise is essential, the environments within our incumbent MNOs make it difficult for these organisations to develop a willingness to cannibalise as a dynamic capability. Chapter 6 will conclude the research report with recommendations for MNOs as well as suggestions for future research.

CHAPTER 6: CONCLUSION

6.1 INTRODUCTION

The purpose of this research project was to conduct an exploratory study of how firms can build a willingness to cannibalise as a dynamic capability for enabling radical innovation in a VUCA world. Chandy and Tellis (1998) positively related a willingness to cannibalise with the ability of firms to introduce radical innovations; however, there has been no study to show if firms have been able to implement a willingness to cannibalise as a strategic orientation.

A VUCA world has meant that many industries find themselves disrupted by the fast pace of technological and societal change (Grossman, 2016; WEF, 2017). The study focused on incumbent South African MNOs facing high levels of disruption.

This study used semi-structured interviews to collect data from decision-makers within MNOs to answer the following research question and its sub-questions:

- **Research question 1:** How do incumbent MNOs build, integrate or reconfigure organisational resources and capabilities to capacitate a willingness to cannibalise as a dynamic capability that would enable them to respond to discontinuous changes in their industry through radical innovations?

- **Research sub-question 1.1**: How do decision-makers within MNOs view the significance of a willingness to cannibalise current investments in enabling radical innovations?

- **Research sub-question 1.2**: How can MNOs develop a willingness to cannibalise as a dynamic capability to empower radical innovations?

The research proposition and sub-propositions are:

- **Proposition 1**: Having a willingness to cannibalise as a dynamic capability will enable incumbent MNOs to respond to discontinuous changes in their VUCA environments by enabling radical innovations through their firm-level innovation processes

- **Sub-proposition 1.1**: A willingness to cannibalise is an important capability for MNOs to enable radical innovations in a VUCA environment.

- **Sub-proposition 1.2**: MNOs can develop a willingness to cannibalise as a dynamic capability to enable the sensing and seizing of opportunities and the shifting of resources such that the outcome of their strategic innovation management processes is radical innovations in response to discontinuous change.

6.2 SUMMARY OF FINDINGS

The study found that the MNO industry in South Africa is facing multiple disruptive forces. Government, regulators and customers are demanding cheaper connectivity from incumbent MNOs. Value of connectivity has also been migrating from MNOs towards OTT providers. Increased competition from other connectivity options has also meant the completion has increased substantially for incumbents even as there are various pressures on the price they can charge.

As an example, South African MNOs have had to respond to the market demand for faster data connectivity by evolving their networks to faster fourth generation and fifth generation access technologies whilst also keeping their legacy networks running without any additional spectrum that should have been released through the digital migration of television broadcast services. This introduction of new technology was necessary given the expansion of fibre rollout, and wi-fi hotspots give alternative methods of connecting for subscribers.

MNOs will need to innovate if they are to create any sustainable competitive advantage in the face of disruption. However, there seem to be poor structures, systems and processes for strategic management of innovation within MNOs. This has resulted in the inability to make strategic decisions that will introduce impactful innovations.

The focus on traditional measures of innovation returns has resulted in MNOs focusing on incremental innovations to their core products where they are able to demonstrate faster return on investment. MNOs will need to develop very strong innovation management systems if they are to improve on the output of radical innovations.

The study found that there was great support for the importance of MNOs being willing to disrupt themselves to introduce innovations, with all but one participant stating that they would be willing to cannibalise on their current investments to innovate towards long-term survival. However, MNOs are currently not set up to support a willingness to cannibalise as incumbents have invested heavily in network infrastructure and focused on protecting their core product offerings to maximise return on investments.

There is a strong understanding of the future customer and market trends within MNOs. Incumbents are constantly exploring new opportunities and ways to use their investments to disrupt other industries to serve the needs of their future customers. Although this is a strong indicator for a willingness to cannibalise, MNOs have tended to still be biased and inclined to protect their core products. Another key finding was that MNOs had the capabilities and competencies for sensing new opportunities and threats. There are dedicated research and strategy units and data analytics systems that give MNOs good sensing dynamic capabilities for what changes are happening in their environment.

Although there is internal competition for resources, there is very little autonomy in the decision-making process for what opportunities business units can pursue. Decisions on where to invest are often centralised, and business units often have to compete for resources. If MNOs are to develop a willingness to cannibalise as a dynamic capability, internal markets will need to have high levels of competition and autonomy. These strong internal markets would reduce the bias to protecting current investments by empowering less risk-averse teams to have the autonomy needed to pursue opportunities more aggressively.

Innovation champions currently have little to no influence on the decisions of which innovations to pursue. The innovation champion role is often used to funnel new ideas into the business units without any meaningful say on which innovations will receive investments. Managers looking to maintain the status quo can ignore innovation champions or ideas that may lead to cannibalisation. The role of innovation champions will have to expand if MNOs want to develop a willingness to cannibalise as a dynamic capability.

The findings highlighted that the obstacle to successful disruptive or radical innovation within MNOs was the reluctance to seize opportunities or shift resources towards potentially cannibalising options. Although there is a recognition that they need to disrupt themselves, there is often an “anti-cannibalisation” bias that prevents the actual investment from disruptive opportunities.

Five antecedents for building a willingness to cannibalise as a dynamic capability emerged from the interviews: strategic management of innovation, organisational structure and systems, senior leadership support, an innovation-enabling culture and organisational flexibility. The first three are common across building the dynamic capabilities necessary for sensing, seizing and shifting towards opportunities to cannibalise.

Shifting of resources had all five antecedents. The reconfiguration of resources towards new and radical innovations is often where most cannibalisation would take place. This suggests that MNOs will need to find the best strategies and new routines that would best enable the strategic renewal of resources.

This study sought to understand whether a willingness to cannibalise could be a useful capability for firms looking to create sustainable competitive advantage through radical innovation. The study was an attempt to expand on the idea of OSD as proposed by Ramukumba (2018). Ramukumba (2018) proposed six antecedents (four internal and two external) that are necessary for enabling OSD dynamic capabilities.

This study found three of these also emerging as antecedents for a willingness to cannibalise, namely: organisational leadership, organisational structure and organisational culture. Two other antecedents that emerged form part of the proposed conceptual model for OSD; hence, this study supports the findings and conclusions of Ramukumba (2018) and their implication for MNOs.

6.3 MAJOR FINDINGS

6.3.1 FINDINGS ON THE IMPORTANCE OF A WILLINGNESS TO CANNIBALISE AS A DYNAMIC CAPABILITY FOR ENABLING RADICAL INNOVATION WITHING MNOS

The research found support for research sub-proposition 1.1. Decision-makers within MNOs recognised the importance of a willingness to cannibalise as a capability that would enable them to respond to the disruption of a VUCA world by initiating and implementing radical innovation projects.

The environment in which MNOs operate is rapidly changing. Technology evolution and shifting customer preferences have led to a migration of value from connectivity to the services offered on top of the connectivity. These changes have led to the commodification of traditional voice and data connectivity services of MNOs. An increased competitive landscape and regulatory pressure are also putting pressure on the prices MNOs can charge for their traditional services. MNOs recognise that their future markets are rapidly changing and that their business is being disrupted.

In this disruptive environment, decision-makers are seeing the importance of MNOs being willing to disrupt themselves. The findings suggest that incumbents recognise the need for them to be ready to cannibalise on their current investments should there be an opportunity to introduce radical innovations that will benefit them in the long term.

Decision-makers highlighted the pressure to demonstrate predictable return on investments as a limitation in their MNOs for introducing radical innovation projects. Although there are internal markets for resources, there was no autonomy given for which innovations to pursue. Organisations tend to measure innovation projects using the same metrics as other projects, which discouraged more radical projects with a high uncertainty level. The findings also show that innovation champions within MNOs are not empowered to drive innovation projects. Although there were innovation champions in some business units, organisational policies and incentives did not give them the ability or authority to drive innovation projects.

As a result, most projects in their innovation process end up being incremental, or if they are radical, they tend to be an attempt to disrupt other markets such as financial services. Therefore although there is recognition for a need to be willing to cannibalise, there is a hesitation to pursue innovations that would lead to cannibalisation of current investments.

6.2.2 FINDINGS ON DEVELOPING A WILLINGNESS TO CANNIBALISE AS A DYNAMIC CAPABILITY

Sub-proposition 1.2's findings highlighted how MNOs could develop a willingness to cannibalise as the dynamic capabilities of sensing, seizing, and shifting current resources and investments towards potentially cannibalistic opportunities.

The findings indicate that MNOs already have suitable structures for sensing opportunities, which may lead to cannibalisation. The problem is that although MNOs are willing to explore options that may lead to cannibalisation, there is often a reluctance when the time comes to exploit these opportunities.

Although there is a need to develop the seizing as dynamic capabilities within MNOs must be developed to exploit opportunities that would lead to cannibalisation. The MNOs industry is capital intensive, and incumbents have invested heavily in specialised infrastructure. These investments led to hesitation from decision-makers to exploit opportunities that could lead to cannibalisation. This hesitation has resulted in risk-averse mindsets and cultures within incumbents MNOs and their organisations unable to exploit opportunities that would lead to more radical innovations.

Findings suggest that senior leaders within incumbent MNOs must empower decision-makers at all levels of the organisation to take risks and pursue cannibalising opportunities to enable radical innovation. This empowerment will include setting up the proper structures and incentives and building an innovation-driven culture within MNOs. The senior executive leaders must be more involved in managing innovation as a strategic process within the MNOs.

The involvement of senior leaders is especially crucial if MNOs are to develop the high-order dynamic capability of shifting towards a willingness to cannibalise. Shifting of resources, which involves the strategic renewal of organisational resources, competencies and capabilities in response to a rapidly changing environment, is led

by senior leaders. The size and specialised investments of incumbents often discouraged leaders from shifting resources towards potentially cannibalistic opportunities.

Although participants highlighted the importance of a willingness to cannibalise, and the need to be willing to seize on opportunities to cannibalise by shifting resources, there was great uncertainty about the risk appetite of their senior leadership. There is also a tendency to reward short-term results that disincentivised risk-taking and often led to incremental innovations.

6.2.3 FINDINGS IN A WILLINGNESS TO CANNIBALISE AS DYNAMIC CAPABILITY ENABLING INCUMBENT MNOS TO RESPOND TO A VUCA ENVIRONMENT BY ENABLING RADICAL INNOVATION

The main finding of this study is that, indeed, a willingness to cannibalise is a vital dynamic capability for MNOs to develop if they are to respond to their rapidly changing VUCA environment with more radical innovation. Decision-makers within MNOs recognised the need for MNOs to disrupt themselves when faced with discontinuous changes or they risk being disrupted.

MNOs need to adopt a process that manages the innovation process strategically to understand better and measure the impact of their innovation process. The strategic management of innovation will give MNOs a better understanding of their innovation projects and the ability to prioritise and allocate appropriate resources towards both incremental and radical innovations.

Findings highlighted the need to have the correct organisational flexibility, structure and systems, and an innovation-enabling culture to develop a willingness to

cannibalise as a dynamic capability. MNOs will most importantly need a senior leadership team that understands the need for and the importance of this willingness to cannibalise to respond to discontinuous changes through radical innovation to ensure that MNOs continue to thrive in a VUCA world.

For MNOs to develop a willingness to cannibalise as a dynamic capability, there need to be more robust internal markets where business units compete for resources and higher levels of autonomy for business units to pursue innovation opportunities. These internal markets will enable incumbents to be ambidextrous in their ability to explore (sense) and exploit (seize) opportunities as business units closer to the customer will have the autonomy to pursue more radical opportunities even if they cannibalise on current investments. Executives will need to support internal markets by continuously renewing organisational resources as required.

MNOs must also empower innovation champions to drive innovation projects without interference from business as usual projects. Currently, decisions on which innovation projects to pursue often depend on managers who are measured and incentivised to deliver short-term results. Innovation champions are either non-existent or do not have the authority to influence innovation decisions. This focus on short-term results leads to only incremental innovation projects given the green light.

6.4 RECOMMENDATIONS

The study illuminated multiple obstacles faced by MNOs in their attempt to respond to the disruption they face. This section details some recommendations for how MNOs can start to develop the internal environment necessary for a willingness to cannibalise:

1. MNOs must build up their innovation management capabilities. Innovation management within their organisation must be strategic and central to their ability to respond to a fast-changing environment. These rapid changes

mean that leaders at the executive and board level must take ownership of the strategic management of innovation. Each managerial level must also understand the organisation's innovation strategy and have a goal to operationalise it. The Goffin and Mitchell (2017) textbook on innovation management is a practitioner's model for what steps an organisation must consider when managing innovation. Demir's strategic management maturity model will also help evaluate the current innovation management and maturing in the firm (Demir, 2018). The model looks at various components (leadership, structure and model, people and culture) of strategic management of innovation and scores them from level 0 (undefined) to level 5 (excellent).

2. MNOs will need to change their organisational cultures to encourage employees to be willing to explore transformational ideas and opportunities. Schein's (2004) work on organisational culture and leadership can help create the right culture for innovation.

3. MNOs must create policies and routines that encourage internal competition and autonomy of decision-making inside each business unit. This will encourage creative solutions to come from all areas of the organisation quickly, freely and without the fear of cannibalisation stifling them. Strong internal markets can start by creating an innovation strategy and an innovation-enabling culture such that business units feel empowered to innovate towards making the strategic intent of the MNOs a reality. Therefore, they will feel free to compete internally to make innovation happen.

4. MNOs must expand the role of the innovation champion to a position with a greater influence on which innovations to pursue. The innovation champion will need to own the innovation process within each business unit across the innovation's entire value chain. This ownership may involve onboarding more individuals into the innovation function within each business unit or department, so multiple innovation projects are explored simultaneously.

5. The senior executive leaders are primarily responsible for the strategic decisions required for the shifting of resources. Moccia, Zhao and Flanagan (2020) proposed a conceptual model for leading in a VUCA world that indicates the leadership skills and actions leaders must take when building innovative organisations for a VUCA world. Their model lists the six leadership skills needed to *anticipate*, *challenge*, *interpret*, *decide*, *align* and *learn*. Leaders must anticipate that there will be disruption and hire innovators who will give the firm an advantage in responding to change. They must also challenge their organisation by creating diverse teams that will bring different perspectives to the innovation process. Leaders must interpret the data and information from multiple sources, requiring a strong knowledge management plan. Leaders must be decisive despite not having full information while also taking full accountability for outcomes. Leaders will also have to align with all stakeholders by listening to all key stakeholders when a decision has to be made; this will involve strong engagement with stakeholders around their views. Finally, leaders must be willing to learn and build a learning environment by building collaborative environments where all employees can learn. The recommendation here is that senior leaders in MNOs must develop the practical skills necessary for developing dynamic capabilities within their firms.

6. MNOs will need to redesign their organisational structures to develop suitable dynamic capabilities for a willingness to cannibalise. The proposed structural model by Pavlou and Sawy (2011) will be useful for MNOs to apply to how they redesign for operationalising dynamic capabilities.

6.5 DELIMITATIONS OF THE STUDY

- This study is limited to mobile network operators within South Africa. The participants were only from two of the four incumbent mobile network operators. No other stakeholders in the mobile network value chain were interviewed.

- The study is a cross-sectional research study and does not consider any longitudinal data from participants. Therefore the findings are based on the participants' views at the time and do not consider that these views make evolve or change over time.

- Only junior to mid-level decision-makers were secured to participate in the study. Since no senior executive or board-level leaders participated in the research project, the findings exclude their perspectives. The role of senior leaders in creating an enabling environment for a willingness to cannibalise was highlighted. Their views on their role in developing the high-order dynamic capabilities and their role in developing organisational structures, systems and culture are missing from the findings.

- This study used a qualitative methodology. Qualitative studies are subjective and rely on the interpretation of the researcher and the participants. The biases of the participants and the researcher may have influenced the findings.

6.6 SUGGESTIONS FOR FUTURE RESEARCH

The study found that a willingness to cannibalise is necessary for MNOs to enable radical innovations to sustain a competitive advantage in a VUCA world. The literature review proposed a theoretically constructed conceptual model for how enabling a willingness to cannibalise as a dynamic capability through the sensing, seizing and shifting of resources towards radical innovation would result in firm-level performance, growth and survival.

While this study finds that MNOs support the value of a willingness to cannibalise dynamic capability, further research is required to validate the conceptual framework and the findings of this qualitative study. Suggestions for future research are:

- This study was limited to MNOs within South Africa. Future research could extend the scope to the African continent or even globally

- Another suggestion for future research is a comparative study in other industries faced with disruption and a VUCA world.

- A quantitative study on a willingness to cannibalise within MNOs can be used to validate the relevance of the findings of Chandy and Tellis (1998) in today's context for enabling willingness to cannibalise, particularly in an increasingly VUCA world.

- The research recommends a quantitative study on the relevance of the themes that emerged in the findings and their significance for enabling radical innovation.

- The findings highlighted the role of senior leadership support for a willingness to cannibalise as one of the antecedents. No interviews were secured with senior leaders within MNOs for this research project. The researcher suggests a future research project that includes interviews with senior decision-makers at EXCO and board level on a willingness to cannibalise as a dynamic capability.

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APPENDIX A: INTERVIEW GUIDE

Project title:

Mobile network operator willingness to cannibalise as a dynamic capability: a strategic management of innovation perspective

Semi-structured interview guide

Thank you for agreeing to participate in this study. All information gathered will be treated as confidential, and data will be anonymised. The name of your organisation will also be kept confidential. The purpose of this study is to explore how firms facing turbulent environments and disruption can develop a willingness to cannibalise as a dynamic capability. The study takes the mobile network operator perspective to determine what decision-makers view as important considerations for understanding and developing a willingness to cannibalise as a dynamic capability that would enable radical innovations in response to a rapidly changing world.

Descriptive information

1. What is the name of your organisation?

2. What is your job title?

3. How long have you been working in a mobile network operator?

4. Can you describe the current business environment in which you operate?

Innovation and the strategic management of innovation

1. What is your understanding of innovation in your industry?

2. How does your organisation understand and manage innovation?

3. Can you give examples of innovations from your organisation you can think of?

4. What are the metrics used in your organisation for the impact of innovation projects?

Willingness to Cannibalise

A willingness to cannibalise has been defined as a willingness to reduce the actual or potential value of current investments in pursuit of radical innovation

1. How are decisions made about which innovations to pursue within your organisation?

2. Does your organisation have product innovation champions and systems to mentor, support and reward such champions?

3. What is your organisation's view about its future market and its future customers?

4. What is your understanding of disruption in your market, and how do you feel about it?

5. What is your view on innovations/products which take away investments from the core products?

Willingness to cannibalise as a dynamic capability

1. How do you understand cannibalisation in the context of business investments and products? Should organisations ever be willing to cannibalise?

2. (Sensing) Does your organisation gather and analyse information on opportunities or threats which may lead to the cannibalisation of investments? If so, how are these opportunities and threats handled internally?

3. (Seizing) Are you as a decision-maker willing to cannibalise on current organisational investments in order to respond to identified opportunities and threats?

4. (Seizing) How would your organisation respond to such opportunities?

5. (Reconfiguration) How important is the ability to realign resources to opportunities or threats that may lead to the cannibalisation of investments?

APPENDIX B: CONSENT FORM

Project title: Mobile network operator willingness to cannibalise as a dynamic capability: a strategic management of innovation Perspective

Researcher: Ndivhuwo Ramukumba

I, …… agree to participate in this research project. The researcher has explained what the research is about to me and what my participation will entail.

I agree that: (*please circle relevant answer*)

My participation will remain anonymous: YES NO

The research my use my quotes anonymised: YES NO

The interview may be recorded: YES NO

Signature: …….

Date: ……..

APPENDIX C: CONSENT LETTER

Wits Business School
Graduate School of Business Administration
Master of Management: Innovation Studies
2 St David's Place & St Andrews Road, Parktown, Johannesburg, 2193
P.O Box 98, Wits, Johannesburg, Gauteng, South Africa, 2050
Tel/Fax: 011 717 3600/ 011 7171 3514
Website: www.wbs.ac.za

Dear Participant,

My name is Ndivhuwo Ramukumba. I am currently studying towards a Master of Management in the field of Innovation Studies (MMIS). I am conducting a research project as part of my studies.

My study seeks to explore how incumbent firms can develop a willingness to cannibalise as a dynamic capability in order to respond to a turbulent environment of business. I am looking at this from the perspective of mobile network operators and would like to understand how they can develop this dynamic capability so that they can sustain a competitive advantage even in the face of disruptive technologies in a dynamic and rapidly changing world. As such, I would like to interview decision-makers in mobile operators.

I would like to request that I interview you as part of the study is a semi-structured interview which will last for 60 minutes. Your time and your contribution would add tremendous value to my study. The information collected from you will be treated with the strictest confidence, and your participation will be kept anonymous at all times. Should you be willing to be interviewed, I will be in contact to make an appointment at the most suitable time for you.

Professor Mjumo Mzyece is my supervisor for this study and can be contacted should you have any questions. Please contact him via email at mjumo.mzyece@wits.ac.za should you require further clarity on the research study.

Best Regards,

Ndivhuwo Ramukumba

APPENDIX D: ETHICAL CLEARANCE

Graduate School of Business Administration
University of the Witwatersrand, Johannesburg

Wits Business School Ethics Committee
Constituted under the University Human Research Ethics Committee (Non-Medical)

Ethics Clearance Certificate

Ethics protocol number:	Not available.

This certificate is only valid with a legitimate ethics protocol number and signed by the Researcher (below).

Project title	Mobile network operator willingness to cannibalise as a dynamic capability: A strategic management of innovation perspective
Investigator / Researcher	Mr Ndivhuwo Ramukumba
Nature of Project	MM (Innovation Studies)
Decision of the Committee	Approved unconditionally
Issue Date of Certificate	2020/05/17
Expiry date	Date of submission of the project report
Chairperson	Prof Anthony Stacey ☎ +27 11 717 3587 +27 82 880 4531 anthony.stacey@wits.ac.za

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Declaration by Researcher

One copy must be signed by the Researcher and returned to the Chairperson of the Wits Business School Ethics Committee.

I fully understand the conditions under which I am authorized to carry out the abovementioned research and I guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I undertake to resubmit the protocol to the Committee.

School protocol number	Student number	Applicant name	Degree registered for	Title of project	Supervisor name	Risk level (School ethics committee)	Summary of the research	Date of approval by the school commit	For the attention of the main HREC	Waivered application (YES, NO)
WBS/FI2177471/496	2177471	Mr Ndivhuwo Ramukumba	MM (Innovation Studies)	Mobile network operator willingness to cannibalise as a dynamic capability: A strategic management of innovation perspective	Associate Professor Mzyece	Minimal risk	The aim of this research study is to understand how incumbent mobile network operators (MNOs) can develop a willingness to cannibalise as a dynamic capability that enables radical innovation for the performance, growth and survival of the firm. The research will seek to get perspective of decision-makers within South African MNOs on willingess to cannibalise and will be required to enable it as a dynamic capability. To achieve this, a qualitiative study will be undertaken using semi-structured interviews of senior and executive decision-makers (managers) within MNOs. The researcher will use themetic analysis to extract the perspective of partcipants and to make conclusions.	43811	Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.	NO