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**The missing-middle in strategic change: exploring the cognitive capabilities of
middle managers as a source of dynamism in dynamic capabilities.**

By

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ABSTRACT

The reasons behind why some organisations are able to obtain and sustain competitive advantage over others in their chosen markets has been a topic of discussion in several domains of academic literature. The theory of dynamic capabilities is one of the most prevalent conceptualisations of competitive advantage. This school of thought attributes an organisation's sustained competitive advantage to its ability to sense opportunities, seize those opportunities and transform in line with the changes it is experiencing. However, much of the existing literature has focused its attention on how the cognition, and behavioural capabilities of an organisation's top management enable the existence of the attributes of sensing, seizing and transforming, and has ignored other levels in the organisational structure, such as middle managers. This has been identified as a gap in the literature.

This study explores how the cognitive capabilities of middle managers of an organisation contribute to its ability to obtain and sustain competitive advantage in its chosen markets. Data was collected through fifteen in-depth, semi-structured interviews with middle managers from a South African multidisciplinary professional services firm. The study found that middle managers play a crucial role in the execution of the strategy and business model adaptations formulated by top management, whilst giving valuable input based on practical on-the-ground experience. The research contributed to the literature by showing that middle managers leverage several cognitive capabilities to effectively perform sensing, seizing and transforming activities. These capabilities are deemed to be foundational to middle managers as they span across more than one of the mentioned activities. These comprise; analysis, perception, attention, problem solving, reasoning, empathy and emotional intelligence, social cognition, language and communication, and mental walk-throughs.

The study further contributes to the literature by identifying the critical attributes of a work environment that are required for middle managers' cognitive capabilities to thrive. In this regard, the study highlighted the importance of offering autonomy to middle managers and increasing organisational collaboration. A framework is presented that can aid top management in understanding the origins and development of middle managers' cognitive capabilities.

KEYWORDS

Cognitive, capabilities, dynamic, collaboration, middle managers

DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Philosophy (Corporate Strategy) at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

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Lutho Phumelele Sotashe

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CHAPTER ONE: INTRODUCTION TO RESEARCH PROBLEM

1.1 Introduction

Dynamic cognitive capabilities of middle managers based in a multi-disciplinary South African professional service organisation were explored for this study. The study sought to give rich insights into identifying cognitive capabilities along with their key characteristics and the contextual features that either enable or limit them.

1.2 Background and description of the problem

A firm's capability to embrace change as well as to execute on it at speed in the midst of uncertainty is no longer just a matter of achieving competitive supremacy in the market, but a matter of survival for many (Teece et al., 2016). A company's ability to modify their strategy in response to customer demands, continuous technological advancements and shifting economic power has never been more necessary (Teece, 2018). In today's world, change is inevitable, more so in business. It is predicted that with the current shifts being experienced, the next ten years in business will yield the most changes since the 1970's (Allen et al., 2017). The goals of strategy (competitive advantage through better margins, higher growth and superior customer experience) will not change, but the majority of everything involving how an organisation pursues these strategies will change (Allen et al., 2017). Many firms are now having to grapple with what is takes to remain strategically relevant and effective at executing on those strategies

The conversation in the business arena centres around a number of emerging buzz words or phrases such as future of work, innovation and agile organisations (Allen et al., 2017; DeSmet et al., 2019; Dewar et al., 2019). The academic conversation in the field of strategic management, among others, has centred around the conceptualisation of dynamic capabilities, their micro-foundations (sensing, seizing and transforming), their workings (routines) and their sources within the organisation (enterprise level, interpersonal level and individual level) (Helfat & Peteraf, 2015; Salvato & Vassolo, 2018; Teece, 2018; Teece, 2007). Common points of discussion in academic literature and the business arena revolve around questions such as; what kind of leadership or management team is required? Which parts of the business enable the business to manoeuvre through turbulent change?, therefore require attention and nurturing (Allen et al., 2017). These stress the importance and relevance of deepening the understanding of this topic.

1.3 The research problem

An extensive review of literature indicates that a considerable amount of work has been done in attempting to answer the key question in strategic management; why are some firms able to sustain competitive advantage over others in industries peppered with constantly changing technological, competitive, political and economic landscapes, as well as pricing and consumer consumption behaviours (Helfat & Winter, 2011; Teece, 2018; Teece, 2007)? The resource-based view offers a useful foundational perspective, in that sustained competitive advantage stems from a firm's ability to acquire or develop resources that are valuable, rare, imperfectly imitable and have a low substitutability (Barney, 1991), however this theory reveals only one aspect of sources of competitive advantage and has not gone unchallenged (K. Eisenhardt & Martin, 2000).

Significant attention in the scholarly fraternity has shifted beyond just the resource-based view toward dynamic capabilities (Teece, 2018). This school of thought brings to prominence the firm's ability to take the best advantage of opportunities by sensing, seizing, transforming and managing emerging threats, risks and uncertainties faced (Teece, 2018). This layer of capabilities is referred to as higher order dynamic capabilities and is followed by micro-foundations and ordinary capabilities (Teece, 2007). Micro-foundations focus on managing and adjusting the current ordinary capabilities together will developing new ones within the firm, for example product solutions and innovation, customer account targeting, regional expansion, competitor countermeasures and others like these (Teece, 2018). Ordinary capabilities involve normal routines within the business that allow it to function effectively and efficiently on a day to day basis (Teece, 2018). Top management's focus should be placed on higher order dynamic capabilities, which strategically manage the overall reconfiguration and reallocation of the layers which follow it (Teece, 2018).

In essence, the postulation is that dynamic capabilities enable the firm to develop, curate, reorganise, combine and redeploy its resources towards the capture of changing and emerging opportunities. This is supported by key processes and procedures that exist within the firm which include strategic planning, budgeting, marketing, product design, supply chain, strategic partnerships and alliances, investments and divestures (Eisenhardt & Martin, 2000). The concept of dynamic capabilities has itself attracted numerous additional considerations. The two that seem most conspicuous are in relation to identifying where the capacity to build and execute on dynamic capabilities are located

within the firm (sources of dynamism) and the manner in which this capacity operates (Salvato & Vassolo, 2018). These considerations are aligned to the current business conversation as understanding the sources of a company's ability to be competitive and identify ways to nurture these is vital for organisations and their leaders yet remains an enigma (Dewar et al., 2019).

In deliberating these two considerations as presented above (sources of dynamic capabilities and operations), the existing literature seems to apply dual lenses. The first being levels at which the actions are performed in the organisation. These include the enterprise level i.e. organisation wide routines (Teece, 2018; Teece, 2007), the interpersonal level i.e. dialogues stemming from interpersonal engagement between actors in the organisation (Salvato & Vassolo, 2018) and the individual level i.e. cognitive faculties, habits and emotions exhibited by individual actors (Helfat & Peteraf, 2015; Salvato & Vassolo, 2018). The second lens is the level of the individual actors within the corporate hierarchy of the firm. For instance, enterprise-wide routines are seen to be devised and implemented by actors at a top management level with their focus mainly on higher order capabilities (Teece, 2018). Dialogues at an interpersonal level is seen to happen between those across the organisation's corporate hierarchy (Salvato & Vassolo, 2018). Yet the individual level faculties seem to emphasise the actions of managers at the top (Helfat & Peteraf, 2015; Salvato & Vassolo, 2018).

The observation from the current academic literature is that middle-management seems to be under-represented, especially at the level of individual cognition and action (Helfat & Peteraf, 2015). Middle management's role in business generally covers the strategic execution task (which is typically placed at a level below senior executives), such as delegating tasks, managing the performance of other employees and planning projects. This makes middle management a crucial link between actions of higher order and micro-foundation capabilities (De Smet, 2018; DeSmet et al., 2019; Teece, 2018). Middle managers are seen to be highly knowledgeable, capable and influential individuals and senior executives would be best served to find ways of better empowering them on the journey of strategic change (DeSmet et al., 2019).

1.4 Research aims
The purpose of this study was to derive rich insights into the workings of the cognitive

capabilities of middle managers as they pertain to executing strategic change as an attempt to represent middle management and address the existing gap in the literature as identified (Helfat & Peteraf, 2015; Salvato & Rerup, 2018).

The research aims to:

1. Explore the contextual characteristics of cognitive capabilities that middle managers leverage in pursuit of strategic change within the organisation (e.g. project management, customer, business or operating model change implementation, innovation, etc.)
2. Determine how these cognitive capabilities link to dynamic capabilities
    a. Which ones are dominant within the elements of dynamic capabilities
    b. What heterogeneity can be observed across the middle management band
3. Explore where these cognitive abilities come from (where do they originate or how do they come into existence)
4. Determine what processes, actions or mechanisms enable (support) or limit these cognitive capabilities
    a. At a personal level
    b. At a firm wide level

1.5 Scope of the research

This study was limited to the cognitive capabilities leveraged by middle managers as they pertain to implementation of strategic change which was specifically identified as both a gap in the current literature (Helfat & Peteraf, 2015; Salvato & Vassolo, 2018) and a topic of relevance in the general domain of business (Bain & Co., 2019; De Smet, 2018; DeSmet et al., 2019). The context chosen was a single multi-business unit firm within the professional services industry in South Africa. It is believed that rich insight came from actors within this context due to the multi-disciplinary nature of the firm. In addition to the dynamism and disruption that exists within the professional services industry requires high levels of strategic alliances and partner ecosystem reliance with constant innovation around solutions for clients (Donada et al., 2016; Salunke et al., 2011; R. Wilden et al., 2019; World Economic Forum, 2017)

1.6 Conclusion

This chapter presented background information to understand the research problem together with the aim and scope of the research. The next chapter explores the

theoretical arguments in the multi-level conceptualisation of dynamic capabilities in order to support the development of the understanding of middle-management cognitive capabilities.

CHAPTER TWO: LITERATURE REVIEW

2.1 Theoretical perspectives and arguments
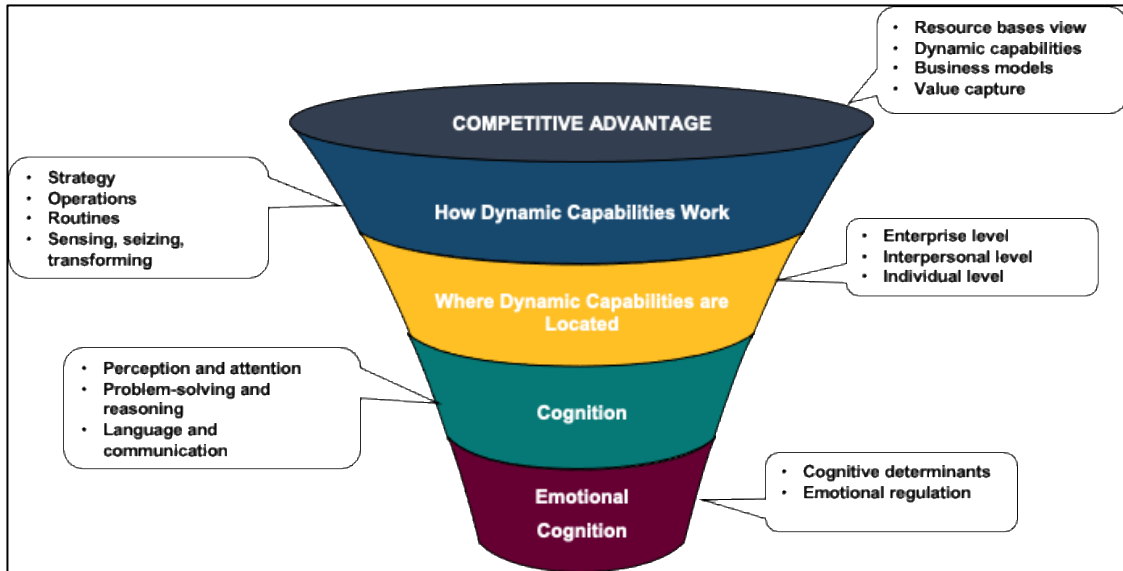
Figure 2.1: Literature review overview

2.2 Introduction to competitive advantage – Dynamic capabilities, business models and value capture

This study examines various aspects of dynamic capabilities and where they are located in the organisation (Figure 2.1). Seminal writers on this topic such as Teece (2007, 2018) have contributed significantly to the definition of dynamic capabilities in academic literature. Subsequent literature has sort to not only extend the initial definitions but to describe the way in which dynamic capabilities operate (Salvato & Rerup, 2018; Suddaby et al., 2020; Winter, 2013). Further studies have attempted to identify the sources of dynamism in dynamic capabilities (Helfat & Peteraf, 2015; Salvato & Vassolo, 2018; Teece, 2018) and where they are located throughout the levels within the organisation.

A significant amount of research has been done in attempting to answer the key question in strategic management; why are some firms able to sustain competitive advantage over others in industries peppered with constantly changing technological, competitive, political and economic landscapes. Research has also been conducted around pricing and consumer consumption behaviours (Helfat & Winter, 2011; Teece, 2007; Teech 2018). The resource-based view offers a useful foundational perspective in that sustained competitive advantage stems from a firm's ability to acquire or develop

resources that are valuable, rare, imperfectly imitable and have a low substitutability (Barney, 1991; Prahalad & Hamel, 1990). This theory however reveals only one aspect of sources of competitive advantage and has not gone unchallenged (K. Eisenhardt & Martin, 2000).

Over time, the attention in the scholarly fraternity has shifted beyond just the resource-based view toward dynamic capabilities (Teece, 2018). Teece (2007, 2018) defines dynamic capabilities as the ability of an organisation to sustain competitive advantage over its peers by effectively pursuing opportunities, nullifying threats, mitigating against risks and transforming itself in response. This ability requires that the firm have certain faculties within its fold. To further dissect this definition, Teece (2007) continues to address the micro-foundations that form the basis of dynamic capabilities; sensing, seizing and transforming. This layer of capabilities is referred to as higher order dynamic capabilities and is followed by micro-foundations and ordinary capabilities (Teece, 2007). Micro-foundations focus on managing and adjusting the current ordinary capabilities together will developing new ones within the firm, for example product solutions and innovation, customer account targeting, regional expansion, competitor countermeasures and others like these (Teece, 2018). Ordinary capabilities involve normal routines within the business that allow it to function effectively and efficiently on a day to day basis (Teece, 2018). Top management's focus should be placed on higher order dynamic capabilities, which strategically manage the overall reconfiguration and reallocation of the layers which follow it (Teece, 2018).

Firms need to be able to sense opportunities that emerge in the market such as new technologies and changing customer demands as well as any risks that may need to be considered (Teece, 2018; Teece et al., 2016). In the same vein, firms need to be able to act on this market intelligence by seizing the opportunity to take full advantage of it. Firms are required to set in motion mitigation procedures to avert the downside of risk it may face (Teece, 2007; Teece et al., 2016). An additional faculty is the ability to then transform itself to conform to the new normal brought about by the changes triggered in the organisation's environment. This rapid rate of change being experienced in global markets introduces high levels of uncertainty and which requires firms to display high levels of agility (Teece et al., 2016). Therefore, at a foundational level, sensing, seizing and transforming are the primary drivers of firm-level resource dynamisation (Teece, 2018). These micro-foundations enable an organisation to swiftly and carefully reallocate

resources to remain sustainably competitive in the chosen markets.

McGrath (2010) points out that whilst the dynamic capabilities approach is well accepted as a useful lever, it has several limitations. Firstly, the dynamic capabilities and resource based thinking assumes that competitive advantage can be sustained over a long period of time by developing difficult-to-imitate resources (Barney, 1991). Recent times have shown firms that the speed at which competition catches up to a new innovation has drastically increased, resulting in the need for firms to view competitive advantage in areas of their businesses as temporary rather than long term (McGrath, 2010). Secondly, the dynamic capabilities approach takes a predominantly inside out view to addressing opportunities and threats and focuses on dynamising the resource base available to the firm at a point in time in the most efficient manner (Teece et al., 2016). The drawback here is that external changes in customer demands and consumption patterns for instance may require all together new capabilities (technologies, channels, expertise, etc.) that a firm neither possesses nor has thought about (McGrath, 2010). Thirdly, the mentioned limitations to dynamic capabilities leaves management with minimal latitude for immediate action due to how difficult it is to shift a firms selected position in an industry, should it be required, and the amount of effort it takes to alter a well-established resource endowment within an organisation (McGrath, 2010).
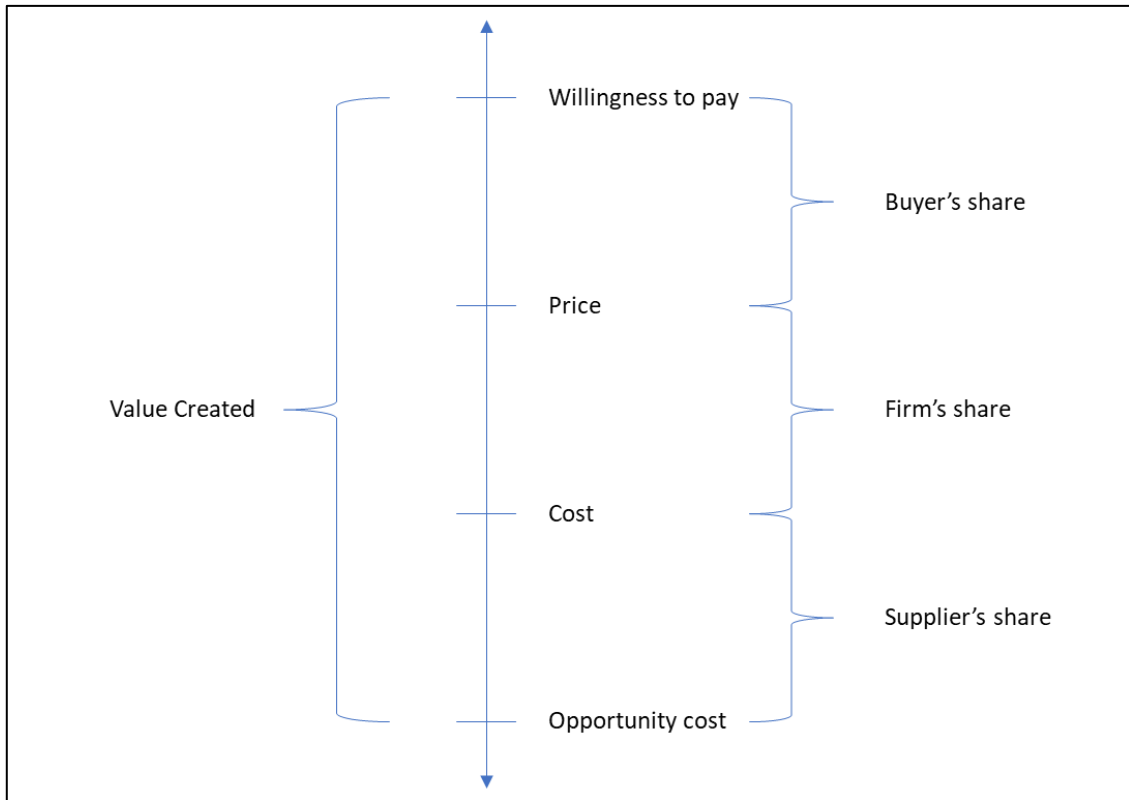
Figure 2.2: Value capture theory (Brandenburger & Stuart, 1996)

McGrath (2010) suggests that the effective way for organisations to thrive in highly volatile and unpredictable competitive conditions is to lead with business model construction, evolution and innovation. The continued existence of every organisation is predicated on its ability to create and capture value for its stakeholders (Teece, 2018). Value is created, delivered and captured through an organisation's business model (Teece, 2018). The value capture theory finds its roots in the seminal writings of Brandenburger & Stuart (1996), as presented in figure 2.2. The theory explains how in the process of building products and configuring services, actors interact in a network to create value which in turn is captured by each player in that value chain. Simplistically, suppliers produce products for firms to package and sell to end customers or buyers. Each of these players will create and capture value for themselves in specific parts of the interaction.

As demonstrated in Figure 2.2, suppliers will capture the value in the difference between input costs (here seen as the value of opportunity cost of producing this particular product over the benefits of another activity) and on-sell costs, firms will capture the difference between the on-sell costs and ultimate selling price, the buyer will capture the difference

between the perceived value of the item sold (being the maximum amount he or she is willing to pay) and the selling price (Brandenburger & Stuart, 1996; Gans & Ryall, 2017). Thus, emerges the formula; Value created = Willingness to buy – opportunity cost.

In support of McGrath's (2010) views, Schumpeter (1979) postulates that the constant evolution of markets is driven by two main factors; changing customer needs and rapid imitation among competitors which will constantly reduce competitive advantage and economic profit. The long term growth of firms and the economy therefore results from constant business model innovation, so-called creative destruction, where the old is continuously replaced by the new (technologies, products, services, methods, etc.) (Aghion et al., 2015).

The importance of business model innovation in strategic thinking cannot be denied as it pivots the focus away from the existing resources a firm possesses towards how those resources can and should be leveraged (McGrath, 2010). Teece (2018) argues that dynamic capabilities cannot be decoupled from business model innovation and that they are inextricably linked. Teece (2018) highlights that strong dynamic capabilities enable the creation, re-evaluation and implementation of an effective business model. Therefore, in isolation, these two levers provide limited advancement toward the goal of competitive advantage, but combined they can be extremely effective.

Thus, it is important that dynamic capabilities and their origins be explored and understood in more detail. As mentioned previously, the definition of dynamic capabilities has expanded over the years, allowing scholars to explore the sources of dynamism at multiple levels within an organisation. The next sections in this literature review seeks to understand the various literary arguments surrounding the workings of dynamic capabilities and where they originate within a firm – enterprise, interpersonal relationship and micro levels.

2.3 How dynamic capabilities operate

Concerning the workings of dynamic capabilities, it appears that scholars converge in the understanding that firms require dynamic capabilities to build, augment and alter their knowledge base (Giudici & Reinmoeller, 2012). The area of strong divergence lies in how dynamic capabilities find expression at a strategic and operational level as well as the degree of routinisation across each level (Wohlgemuth & Wenzel, 2016). Feldman,

Howard-Grenville, Rerup, Langley, & Tsoukas,(2016) in addition to M. S. Feldman & Pentland (2003) break down the understanding of routines into two aspects. The first is the ostensive aspect of routines which would typically embody the governing structures of a particular routine (M. S. Feldman & Pentland, 2003). Feldman & Pentland (2003) suggest that this aspect of routines enables people, as actors, to guide, account for and refer to the performance of a routine. The second aspect is the performative nature of routines which represents the actual tasks executed on by the organisation routines (M. S. Feldman & Pentland, 2003). These tasks incorporate specific actions, accountable participants, locations, frequency and timing which are deemed to bring the routine to life (M. S. Feldman & Pentland, 2003). The main argument put forward in Feldman & Pentland's (2003) research is that, in combination, the ostensive and performative natures of routines create on-going opportunities for an organisation to generate a wide range of outcomes by taking advantage of variation, selection and retention of new procedures and practices in routines. The view then is that an organisation can achieve substantial change from perceived excessive stability.

The two conflicting positions on the execution of dynamic capabilities have, on the one literary corner, Teece (2018, 2007) advocating for high levels of routinisation within management processes as a driver of ultimate dynamisation. On the other hand, Eisenhardt & Martin (2000) advances an understanding that dynamic capabilities thrive in an environment of reduced levels of routinisation, viewing routines by definition as historically focused and create inertia in organisational activities geared towards embracing futuristic change.

Peteraf, Di Stefano, & Verona (2013) argue that these sharply divergent views can be logically married without undermining their underlying driving assumptions. Wenzel, Danner-Schröder, & Spee (2020) & Wohlgemuth & Wenzel (2016) contrast this with the view that emphasises the significant role that routines play in the sensing and seizing of opportunities that come across an organisation with an established market dominance and sustained competitive advantage. Wenzel, Danner-Schröder, & Spee (2020) further make the case for a dynamic view of routines in dynamic capabilities based on the practice perspectives on organisational routines. As previously mentioned, organisational routines have been understood as repetitive, reliable, and stable patterns of activity (Wohlgemuth & Wenzel, 2016). They form a critical component when attempting to explain the workings of dynamic capabilities and how they contribute to

organisational change (Wenzel et al., 2020). Wenzel, Danner-Schröder, & Spee (2020), recognise that the current conceptualisation of dynamic capabilities entails a very apparent contradiction. While studies on dynamic capabilities such as those of Feldman & Pentland (2003) and Teece (2018, 2007) claim to provide an understanding of repeated, routine-based organisational change, their leading thinking around organisational routines as foundational conceptual support for the framework is seemingly undynamic and seemingly less inclined to change (Salvato & Vassolo, 2018).

Wenzel, Danner-Schröder, & Spee (2020) & Wohlgemuth & Wenzel (2016) studies' explain the degree of routinisation at various levels of the organisation concluding that higher degrees of routinisation exist at a strategic level of the firm with much lower degrees prevailing the further down the organisation one goes. It thereby confirms the notion that to obtain maximum operational effectiveness, managers of firms should avoid the temptation to routinise all levels of the organisation in the same way and to the same extent (Wohlgemuth & Wenzel, 2016). Therefore, a firm's ability to shift itself to posture for strategic change in the market is driven by routines at the top of the organisation and flexibility at an operational level (K. Eisenhardt & Martin, 2000), whilst ensuring process continuity to provide the necessary stability (Schreyögg & Kliesch-Eberl, 2007). In essence, high levels of routinisation is seen to represent stability and predictability, the antithesis being flexibility and change which would stem from low levels of routinisation (M. S. Feldman & Pentland, 2003).

The co-existence of both stability and change within dynamic capabilities remains a very profound enigma and has significant practical implications for firms (Peteraf et al., 2013). In their case study of Alessi, an Italian design company, Salvato & Rerup (2018) put forward an argument that having the appropriate types of routines within an organisation with potentially conflicting goals will aid in introducing the right level of flexibility and agency for organisational participants to act in a manner that results in achieving these goals. In Alessi's case, the conflict existed between designing for innovation in new products, which may be seen as disruptive and uncomfortable, and efficiency which lowers risk and cost (Salvato & Rerup, 2018).

Another relevant example of this coexistence is that of IBM, the bimodal approach to change and stability is adopted in driving its' success (Harreld et al., 2013). IBM's winning strategy was seen as its ability to place bets on future scenarios and adapt its

organisational focus towards the change required, whilst keeping a good grip on current scenarios and what it will take to continuously deliver on it (Harreld et al., 2013). The opportunity for IBM moving out of the 1990s was to transform itself from a traditional hardware company that sold products to one that created customer solutions and sold skill-based capabilities (Harreld et al., 2013). This required IBM to leverage its existing routines, which centred around technology and quality, along with the augmentation of further agile customer centric solution processes and advisory capabilities in order to empathetically and meaningfully solve their most pressing business problems (Harreld et al., 2013).

2.4 Where dynamic capabilities are located

Wenzel, Danner-Schröder, & Spee (2020) & Wohlgemuth & Wenzel (2016) studies' conclusion on how different approaches (high vs. low levels of routinisation) are appropriate for diverse levels of the organisation (strategic vs. operational level) segues the conversation aptly into the second distinct divergence in the conceptualisation of dynamic capabilities in the current academic conversation. This includes; where are the sources of dynamism found in an organisation? Where do the behaviours that drive dynamic capabilities originate and reside within a firm? How are they sustained and who is responsible for their continuous development?

Salvato & Vassolo (2018) offer a model that places these sources in three distinct levels within the organisation; organisational (macro) level, interpersonal (meso) level, individual (micro) level. Thus, suggesting that dynamic capabilities be viewed as a multilevel phenomenon and not in an isolated domain of the organisation. These levels are presented in figure 2.3 and further discussed below.
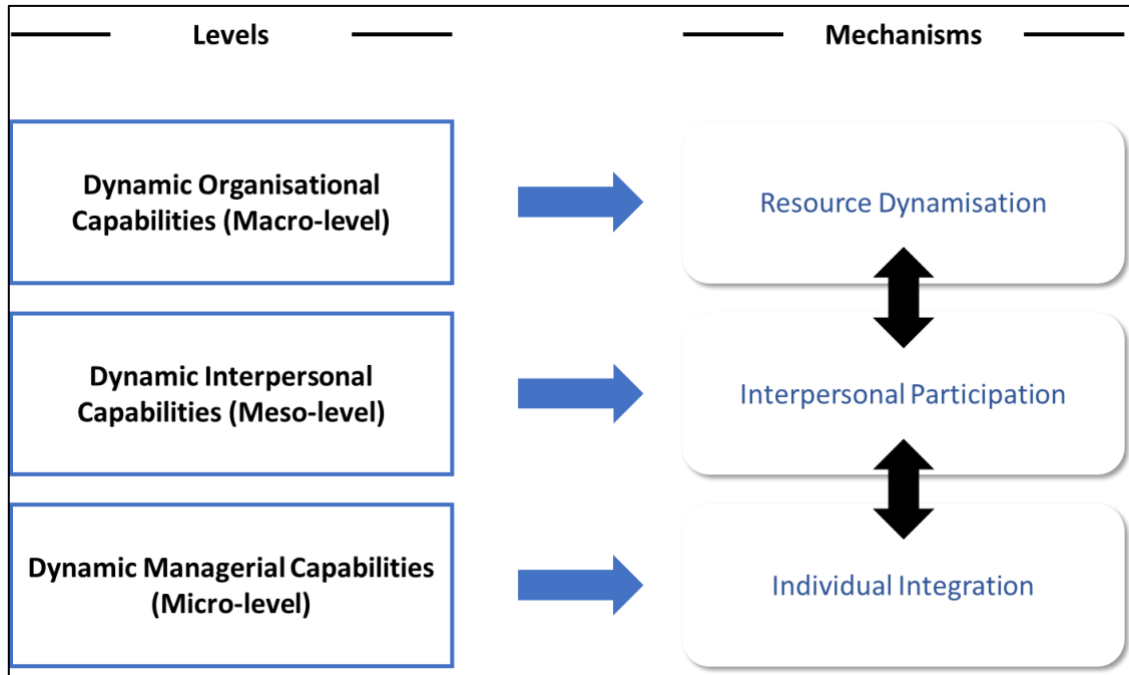
Figure 2.3: Sources of dynamism in dynamic capabilities (Salvato & Vassolo, 2018)

2.4.1 Organisational (macro) level

Peteraf et al., (2013) points out that further divergence exists in the conceptualisation of dynamic capabilities. The divergence is largely around the question of whether dynamic capabilities can explain strategic change and adaptation of organisations in rapidly changing environments (Helfat & Peteraf, 2015; Peteraf et al., 2013). From Teece's (2007) perspective, the answer to this questions is an emphatic yes - the construct of dynamic capabilities is applicable to the firm's ability to adapt when experiencing significant amounts of change in its environment, especially change induced by technological innovation and other forms of disruption. In contrast, Eisenhardt & Martin (2000), counter-argue this position, insisting that dynamic capabilities can explain the firm's ability to adapt in relatively stable environments but cannot offer similar explanations in highly volatile environments.

The academic literature tends to conceptualise dynamic capabilities through two lenses. The first lens understands dynamic capabilities as a function of the degree of routinisation of behaviours (Feldman & Pentland, 2003) drawing from historical events and trends (Suddaby et al., 2020), which was briefly reflected on in the preceding section. The second lens views dynamic capabilities as an enterprise-wide phenomenon (Schilke, 2014).

Indeed some of the seminal writers such as Teece (2007) have kept the conceptualisation of dynamic capabilities at an enterprise level, inferring that the ambidexterity of an organisation originates and resides in the custody of a limited number of core participants (CEO, COO, CFO, and other senior managers). These participants remain responsible for recognising the need for change, identifying relevant initiatives and bringing to fruition the said change within the firm in order to address an external threat or opportunity (Ralf Wilden et al., 2013). Helfat & Peteraf (2015) emphasise that the organisation's competitive advantage resides in its ability to systematically change not sporadically create. The argument here is that dynamic capabilities need to reside at a higher organisational level where resources are viewed, created, changed and redirected. Barrick, Thurgood, Smith, & Courtright (2015) continue with this narrative, positioning the firm's performance and the ability to execute on a chosen strategy as being a product of collective organisational engagement. According to Barrick et al. (2015), collective organisational engagement is a result of the driving actions of the top management team who possess within their ambit of responsibilities to exhibit transformational behaviours, establish sound human resource management practices and create motivating work designs for the individuals within the organisational structure.

Both of these lenses have a limiting effect on the conceptualisation of the dynamic capabilities' framework and the extent to which they can bring about change to an organisation (Salvato & Vassolo, 2018). Winter (2013) is of the opinion that viewing dynamic capabilities as enterprise-level routines is a stumbling block to understanding how ingenuity, innovation and unconventional thinking emerge. As routines tend to be based more on interpretations and learnings from historical occurrences than anticipated future eventualities (Levitt & March, 1988). Suddaby et al. (2020) positions the understanding of historical events as a cognitive managerial tool that can be leveraged in the crafting of future strategies. However an overreliance on the causal relationships within past mega trends and micro-events, which tend to result in inductive (moving from specific examples to general principles) or deductive (from general perceptions to specific truths) reasoning, can prove to be dangerous in a future of anomalous phenomena that require more of an agile experimental approach (Teece et al., 2016).

It is therefore evident that the traditional view to dynamic capabilities looks set on solving current and future problems based on past learnings. This argument with its historically-bound way of solving problems has a fundamental weakness as the core of

contemporary problems being solved lends itself to new ways of thinking and agility to address uncertainty and risk (Teece et al., 2016). The risk that capabilities face in this traditional view is that of becoming outdated and eroding in volatile, ever changing markets. Interpreting dynamic capabilities at an enterprise level is equally unhelpful as it undermines the micro-level decision making required to create a systematic resource dynamisation that is sustainable and reliable (Salvato & Vassolo, 2018).

2.4.2 Interpersonal (meso) level

Salvato & Vassolo (2018) have attempted to address the undermining of micro level decision making which resulted in a multi-level theoretical framework by introducing the interpersonal (meso) level into the academic conversation on dynamic capabilities. Building on the concept of individual cognitive, habitual and emotional capabilities, Salvato & Vassolo (2018) posit that the relational interactions between managers in the existing resource base will enable them to accept and advance strategic and operational (tactical) change – a key input to overall organisational change. This body of work proposes that dynamic capabilities at an enterprise level emerge when managers collectively interact and formulate relationships that drive productive dialogue within the organisation.

Productive dialogue, a key driver of collaboration and expression of diverse proposals to change, then emerge as the magic link that allows us to better articulate how the individual managers' cognitive abilities and habits aggregate to deliver enterprise level dynamic capability outcomes (Salvato & Vassolo, 2018; Tsoukas, 2009). Productive dialogue leads to constructive conflict which will lead to the consideration of diverse perspectives and recommendations as to how a response to change should be managed (Tjosvold et al., 2014). This collective ownership of solution processes within an enterprise is what drives dynamic capabilities, as opposed to just individual managers' actions (Helfat & Winter, 2011) or executive strategic input (Teece, 2007). Therefore, management's engagement to collectively respond to change or achieve the firm's goal brings along the individual level faculties (cognition, emotions and habits) and underpinning routine thereby allowing them to find meaningful expression at an interpersonal engagement level as opposed to acting in isolation.

The above mentioned interpretation has been beneficial to the advancement of the conceptualisation of dynamic capabilities, particularly when one considers Helfat &

Peteraf (2015) who acknowledge the fact that their work (explored in the next section) focused on understanding the micro-foundations of dynamic capabilities from the perspective of the individual actor i.e. the manager, as they pertain to his cognitive ability. Helfat & Peteraf (2015) noted the relationship between enterprise (macro level) and managerial (micro level) capabilities which required further untangling and remained largely unexplored in theoretical and empirical conceptualisation of dynamic capabilities.

2.4.3 Individual (micro) level

It is useful to explore dynamic capabilities as a phenomenon that stems from the individual managers' ability to leverage their cognitive capacity to make critical decisions in sensing, seizing, and transforming resources (Helfat & Peteraf, 2015) The micro-level perspective of dynamic capabilities is significant enough for Adner & Helfat (2003) to proceed on in suggesting that the rise and fall of a firm's performance during a trying season in its business cycle rests on the heterogeneity and robustness of the decision making of individuals throughout the corporate ranks of the organisation. Teece et al.(2016) also suggest that management's demonstration of entrepreneurial skills within their decision-making in building and deploying resources within an organisation forms the bedrock of continued market competitiveness. Ultimately, these decisions inform the levels of dynamism in the dynamic capabilities of any organisation. Cognition plays a critical role in all managerial decision-making processes (Helfat & Peteraf, 2015). Cognition is conventionally known as mental processing activities that drive knowledge acquisition, information retention, focus, reasoning and sense-making (Table 2.1). This is further explored in the subsequent section.

2.5 Cognition

The literature offers consensus that cognition is an essential attribute of managers at the top of the organization (Finkelstein et al., 2009). However, when it comes to cognition itself, scholars tend to strongly differ across the various fields of study such as cognitive psychology, social psychology, cognitive science, cognitive neuroscience, and behavioural decision theory (Helfat & Peteraf, 2015). These divergent views on cognition even cut across specific cognition elements. Tushman & Smith (2005) argue that top management must build paradoxical cognition individually or as a team. Paradoxical

mental processing will enable the organisation's leaders to explore new opportunities and exploit those that exist currently more effectively which is not an easy feat, as engaging these tensions requires advanced levels of dynamic decision making (Smith, 2014). However, Miller et al. (2005) noted that most managers believe that navigating complex business situations (to effectively explore and exploit) requires intuition, utilising holistic inclination and automated expertise. Their research made it apparent that intuition can be very costly as a mechanism (Miller & Ireland, 2005). Rather than letting intuition run rampant, tactics such as devil's advocacy decision making, multi-attribute decision analysis and root-cause analysis (Miller & Ireland, 2005). Gavetti (2012) supports this view and offers that superior performance in an organisation comes from identifying superior opportunities. These superior opportunities are cognitively distant and cannot be pursued within behavioural bounds such as intuition (Gavetti, 2012). Therefore, superior performance comes when managers can overcome their behavioural bounds and biases through deliberate mental processing.

Table 2.1: Definitions of cognition

Description	Definition	Reference
Cognition	"The processes of knowing, including attending, remembering, and reasoning; also, the content of the processes, such as concepts or memories."	The American Psychological Association Glossary of Psychological Terms (2009)
	1) "the mental activities involved in acquiring and processing information" and 2) "an item of knowledge or belief."	A Dictionary of Psychology (Colman, 2006)
	1) mental activities (also termed 'mental processes' or 'mental operations'), and 2) mental structures (or representations).	Managerial cognitive capabilities and the micro foundations of dynamic capabilities (Helfat & Peteraf, 2015)

(American Psychological Association, 2009; Coleman, 2006; Helfat & Petaraf, 2015)

Teece (2007) recognises that cognition plays an essential role in the formulation of an organisation's strategy. Formulating a strategy then allows the entity to focus more deliberately on specific opportunities and threats, thereby prioritising efforts. This process of playing out various scenarios and making a decision is facilitated by managerial cognitive capabilities - defined in Table 2.1 (Helfat & Peteraf, 2015). The concept of managerial cognitive capabilities being the capacity of an individual manager to perform one or more of the mental activities that comprise cognition is briefly presented by Teece (2007), however this is not elaborated on. To bridge this gap, Helfat

& Peteraf (2015) links the micro-foundations of dynamic capabilities (sensing, seizing and reconfiguring) and the related cognitive capabilities managers are required to have to deliver on the firm's objective of strategic change as presented in Figure 2.4. It is important to note that strategic management research has often analysed managerial cognition, including its heterogeneity, in terms of information structures and mental maps (Gary & Wood, 2011). Helfat & Peteraf (2015) focus on the mental activities involved in acquiring, organizing, and processing information.

Linking Cognitive Capabilities to Dynamic Capabilities

Micro-foundation	Related Cognitive Capability
Sense	Perception
	Attention
Seize	Problem Solving
	Reasoning
Transform	Language and Communication
	Social Cognition
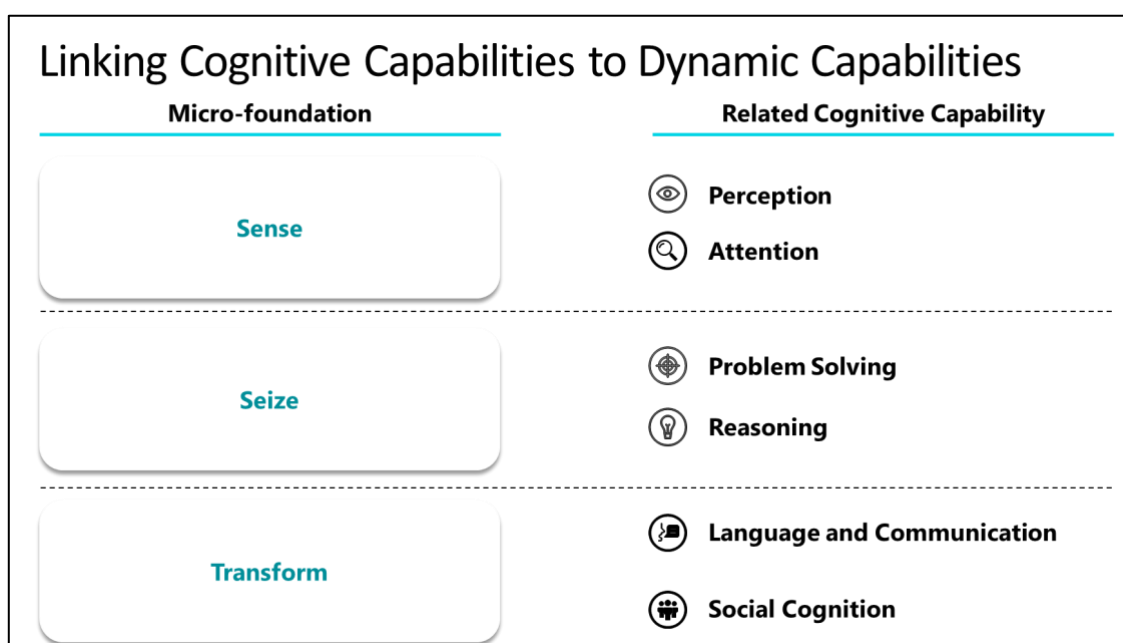
Figure 2.4:Linking cognitive capabilities to dynamic capabilities (Adapted from: Helfat & Peteraf, 2015)

Leveraging some of the leading scholars in psychology and behavioural science, Helfat & Peteraf (2015) suggest in Figure 2.4 that the effective sense and recognition of existing or new opportunities in an uncertain, complex and ever changing environment are underpinned by two managerial cognitive capabilities. The first being perception, which is the ability to assimilate large volumes of data and recognise relevant patterns. The second managerial cognitive capability is that of attention, which entails detecting specific areas of focal need and committing mental processing capacity to them.

The next aspect presented in Figure 2.4 is seize; which is seizing opportunities and confronting emerging threats. Helfat & Peteraf (2015) suggest that the cognitive capabilities required of a manager in this instance are problem solving and reasoning. Problem solving describes the process of devising and executing on a plan to get around

an obstacle or problem that stands in the way of the realisation of a particular goal, while reasoning refers to assimilating and analysing information to arrive at a conclusion or using available information to evaluate the reasonableness of a particular conclusion (Teece, 2018).

The remaining aspect presented in Figure 2.4 is the ability to reconfigure a firm's resources leading to the transformation of a business i.e. transform. Often this results in either a redesign or structuring of elements of an organisation's business model (Teece, 2018). Successfully implementing such processes requires managers with excellent language and communication abilities, and superior social cognition (Helfat & Peteraf, 2015). Managers' use of language, whether verbal or non-verbal, to communicate a change initiative is a key factor in how members of the organisation receive and embrace such initiative (Helfat & Peteraf, 2015). Cognitive activities affecting social behaviours also play a significant role in managerial processes relating to asset reconfiguration (Helfat & Peteraf, 2015).

Whilst Helfat & Peteraf (2015) address the linkage between managerial cognition and the micro-foundations of dynamic capabilities, the study does not elaborate on the individual level instruments leveraged by decision makers to match their mode of cognitive processing to the problem or task presented by the environment. Laureiro-Martínez & Brusoni, (2018) defines this mechanism as cognitive flexibility. According to Laureiro-Martínez & Brusoni (2018), this matching of cognitive processing with the problem depends on two conditions being met. Firstly, the type of problem they faced by the decision-makers need to be adequately described. This requires that different elements, views, and perspectives of the issue be identified and categorised. The second condition is that different possibilities be considered by the decision-maker. This requires active reflection on the components identified to establish possible linkages and ascertain their appropriateness (Laureiro-Martínez & Brusoni, 2018). As such, one cannot deny the importance of not only knowing and understanding the types of cognitive capabilities at the disposal of management, but how these are deployed based on the demands of various situations.

2.6 Emotional cognition

Salvato & Vassolo (2018), in Figure 2.3 further extend this body of literature by suggesting that the path from a person's consciousness to action involves more that

cognition alone. When an opportunity or threat is presented to an individual within and organisation, the role of cognition in the process of either sensing, seizing or reconfiguring is that of logical deliberation (Salvato & Vassolo, 2018). Learnt behaviour (habits) which trigger automated responses to external stimuli and emotions which will spur an individual to physically react (Salvato & Vassolo, 2018). Salvato & Vassolo (2018) proposed that the higher the level of integration of these three aspects within an individual, the more effective the individual will be at recognising and acting on. Their submission is that the three determinants (learnt behaviour, emotions and cognition) can exist in isolation but are optimal when integrated with one another. Helfat & Peteraf (2015) view learnt behaviour as an outcome of thinking dispositions, which may potentially give rise to biases (noted in the previous discussion on cognition, section 2.5). This conflicting view suggests that learnt behaviour is not seen as a standalone component of managerial action in pursuing strategic change, but rather as a consequence of cognition.

The emphasis in the literature has been on aspects of managerial cognition such as mental models (Adner & Helfat, 2003), attention and reasoning, or dominant logic (Helfat & Peteraf, 2015). Literature detailing numerous other cognition-related constructs have been reviewed by Helfat & Martin (2015), nevertheless they confirm that researchers have largely overlooked emotions. In addressing the role of emotions, Huy & Zott (2019) recognise that during the unfolding of strategic events, managers experience several emotions. This requires managers to not only regulate their own emotions but the emotions of stakeholders around them – staff, superiors, customers, suppliers, etc. (Adner & Helfat, 2003). Thus the emergence of the concepts of emotional regulation of self and others. Huy & Zott (2019) note that individuals experience emotions when they have a stake in the outcome of an encounter between themselves and their environment. Goals and concerns drive what is important to an individual, which in turn evokes emotions (Huy & Zott, 2019). The efforts managers make to deal with emotions (either for their own sake or for the sake of achieving a specific goal or vision) is referred to as emotional regulation (Huy & Zott, 2019).

Huy & Zott (2019) examined emotional regulation which was premised on the entrepreneurial aspect of dynamic capabilities. Teece (2016) emphasises the need for a firm's management to exhibit entrepreneurial characteristics in the process of strategic change. Huy & Zott (2019) purport that the deployment of entrepreneurship in existing

or new firms and ventures can be understood as a platform of strategic change involving the pursuit of opportunities. The pursuit of these opportunities has associated goals and desires, which in turn evoke intense emotions (Huy & Zott, 2019). As such, entrepreneurial passion is considered a crucial antecedent for opportunity seizing because of its effect on goal-related cognition (Huy & Zott, 2019).

The sole focus on resource mobilization as it pertains to seizing business opportunities is evident in the study presented by Huy & Zott (2019). The analysis done is of emotional regulation behavioural patterns of entrepreneurs. This gives a limited perspective as it overlooks the other micro-foundations of dynamic capabilities i.e. sensing opportunities and transforming the resource base to configure towards the strategic change. Hodgkinson & Healey (2011) argue that emotions drive automatic physical and cognitive reactions. Salvato & Vassolo (2018) note that this integration not only applies to executing (seizing) against an opportunity but includes sensing it in the first place. Managers who are aware of and allow emotions to influence them are more likely to have higher levels of perception and cognisance of opportunities outside of their behavioural dispositions (Salvato & Vassolo, 2018). This, in most cases, will result in more innovative proposals. Therefore, neglecting the involvement of emotions in the process of strategic change would often result opportunities being overlooked.

2.7 Conclusion

The review of existing literature on the conceptualisation of dynamic capabilities has illustrated the divergence, convergence and emergence of different schools of thought on the sources of dynamism and working of dynamic capabilities at all levels of an organisation. The body of work gives an initial understanding of dynamic capabilities as a construct of enterprise wide routines instituted and coordinated by top management (Teece, 2007). Work by Helfat & Peteraf (2015) further illuminates the subject by presenting the cognitive abilities of individual top managers as one of the foundational sources of dynamism in dynamic capabilities. Salvato & Vassolo (2018) then rounds it up by linking dynamism at an individual level to the dynamism produced by the resultant enterprise level routines stemming from the collective top management decisions facilitated by interpersonal engagement.

Helfat & Peteraf (2015) along with Salvato & Vassolo (2018) admit that dynamic capabilities remain an emerging and evolving phenomenon that require further

understanding consequently further work needs to be done in this area. It is evident in the literature that the conceptualisation of dynamic capabilities is centred mainly on the top management team which can be seen across the levels of conceptualisation (enterprise, interpersonal and individual). Helfat & Peteraf (2015) acknowledge in their work that the examination of cognitive abilities was of individuals at the top of the organisation's hierarchy. Other participants in the organisation can and do impact the strategic direction of a firm thus providing an opportunity for future research to analyse cognitive capabilities of managers positioned below top management to draw out insights and further enrich the current understanding of strategic change (Helfat & Peteraf, 2015). This has been identified as a gap in the literature. The focus of this study is to extend the understanding of cognitive capabilities, beyond the top management, to the middle managers of the organisation.

Salvato & Vassolo (2018) support the further analysis of micro-level phenomenon which generate dynamic capabilities, with the aim of deriving thick and rich descriptions. Salvato & Vassolo (2018) go on to suggest that the following be taken into consideration when framing and conducting this research (noting in this case that the focus will be on cognitive capabilities of middle management):

1. Understand what the dynamic capabilities are
   a. The research should provide rich descriptions of what they are
   b. The research should provide a better understanding of their nature and characteristics
   c. The research should be designed and applied to the context of the multi-level construct of dynamic capabilities
2. Understanding how dynamic capabilities operate
   a. The research should provide a deeper understanding of the process through which the phenomenon emerges
   b. The research should provide and understanding of the contextual features that enable (drive) or moderate (limit) them

This study aimed to address the gap outlined within this section by putting forward key research questions and answering them through the research design.

CHAPTER THREE: RESEARCH QUESTIONS

3.1 Introduction

The research questions for the study were derived from the review of the literature as presented in chapter two. The study aims to answer the resulting questions for the purpose of providing additional insights to the process of strategic change through a deeper understanding of cognitive capabilities focused on the level of middle management.

3.2 Research Question 1

How do middle managers contribute to their organisation's ability to gain and sustain competitive advantage?

This question sought to understand the contextual characteristics of cognitive capabilities that middle managers leverage in pursuit of strategic change within the organisation, examples include; project management, customer, business or operating model change implementation, innovation (Helfat & Peteraf, 2015; Salvato & Vassolo, 2018). A better understanding of the middle manager's organisational role, routines and key performance indicators will give the necessary context to the kinds of cognitive capabilities leveraged (Wohlgemuth & Wenzel, 2016).

3.3 Research Question 2

How do middle-managers leverage their cognitive capabilities to perform activities that drive the organisation's competitive advantage through dynamic capabilities?

The micro-foundations of dynamic capabilities (sensing opportunities and threats, seizing these opportunities and threats and transforming) are seen to be the bedrock of an organisation's ability to sustain competitive advantage (Teece, 2007). Helfat & Peteraf (2015) were able to link several modes of managerial cognition (such as perception, attention, etc.) to specific micro-foundations. This question aims to understand which modes of cognition; including emotional (Huy & Zott, 2019), middle managers leverage when performing activities specific to each of the micro-foundations of dynamic capabilities within their organisations. Specifically, which ones are dominant within the elements of dynamic capabilities and what heterogeneity can be observed across the middle management band.

3.4 Research Question 3

Where do the cognitive abilities of middle managers originate?

Helfat & Peteraf (2015) suggest that experience plays a significant role in the development of cognitive capabilities such as pattern recognition when an individual is sensing opportunities. According to Gavetti (2012), superior opportunities are cognitively distant and cannot be pursued within behavioural bounds such as intuition or biases. The purpose of this question was to understand the origins of cognitive abilities of middle managers and the way in which they are developed. In addition, it was important to understand how they mitigate against potential biases in the process.

3.5 Research Question 4

How does the firm's structure, processes, routines or activities enable and limit these cognitive capabilities?

This question seeks to understand what processes, actions or mechanisms enable (support) or limit these cognitive capabilities at a personal level and at a firm wide level.

CHAPTER FOUR: RESEARCH METHODOLOGY

4.1 Introduction

The research methodology presented within this chapter details the approach taken to answer the research questions stated in chapter three. Qualitative research methods were utilised to research the cognitive managerial capabilities of middle managers across various business units within a project-oriented multidisciplinary professional services firm. The emphasis of the research was exploratory and leaned heavily towards uncovering more scholarly insights on the topic (Creswell & Creswell, 2018). The researcher intended to collect data through conducting a series of semi-structured, one-on-one, in-depth interviews to obtain potential answers to the specified research questions (Saunders & Lewis, 2012). The population chosen was of reasonable variety, spread and quantum to achieve an appropriate level of richness in results (Bloomberg & Volpe, 2012; Creswell & Creswell, 2018). The data analysis procedures organised and categorised the information into meaningful findings from which emerging themes, based on the literature review, could be drawn and further evaluated to generate insightful and relevant recommendations (Creswell & Creswell, 2018). The researcher remained mindful of the potential limitations, personal biases, misgivings, concerns and ethical considerations that required noting and perhaps further mitigation (Creswell & Creswell, 2018).

4.2 Rationale for research methodology and approach

Qualitative research methods are suited for exploratory study topics and are most commonly used for evaluating emerging phenomena (Zikmund, 2000). The emergent nature of the topic under study means that the researcher was required to let the findings from the data lead the investigation and its conclusions, delving deeper into the subject without rigidly prescribing the research plan (Creswell & Creswell, 2018). Danneels (2011) and Salvato & Vassolo (2018) note that qualitative methods have not yet been utilised in building on the concept of dynamic capabilities as a multi-level emergent construct.

The study sought to provide deep and meaningful perspectives on the characteristics of managerial cognitive capabilities of middle management, a phenomena that is a significant driver of dynamic capabilities within an organisation (Salvato & Vassolo, 2018). The literature review demonstrated that diminutive conceptualisation has been

done on managerial cognitive capabilities from a middle management perspective. The research adds to the understanding of the underlying processes through which these capabilities emerge and the organisational context in which they find their expression.

The leveraging of qualitative research methods was found most appropriate to support the intention of the study (Salvato & Vassolo, 2018). Due to minimal research done on middle manager cognitive capabilities, an abductive approach was followed, with the objective of generating insights emerging from the data collected. Cassell & Symon (2011 p.63) states that, "qualitative research has become associated with many difference theoretical perspectives, but it is typically oriented towards the inductive study of socially constructed reality, focused on meanings, ideas and practices, taking the native's point of view seriously". This philosophical underpinning was adopted for this study. Once the process was followed where the patterns, categories and themes are organised from a "bottom-up" analysis of the data, then a deductive assessment of the data and themes was conducted to determine if the existing evidence is sufficient to support each theme (Creswell & Creswell, 2018).

Although the study focused on a single organisation for control of variance, the data that was collected originated from multiple sources; different levels of managers outside of the top management team (managers, senior managers and associate directors) in addition to being across different business units and offering (specialisation teams). In this manner the cross-sectional study was produced (Saunders & Lewis, 2012). In pursuit of gaining rich insights and formulating directional views from the data, in-depth, semi-structured, one-on-one interviews were conducted with the relevant research participants. These interview interactions provided the researcher ample opportunity to gather meaningful and wide-ranging perspectives.

4.3 Data collection

Several semi-structured, in-depth interviews were conducted by the researcher over a period of eight weeks. The interviews were facilitated through various platforms, namely; online voice calls, video calls and in-person meetings. The in-person interviews were held primarily at the work premises of the interviewee within secluded meeting rooms to ensure minimum disruptions (Saunders & Lewis, 2012). The audio data was recorded on a device using a secure cloud-based application which ensured its integrity and recoverability of backups. Notes were taken during each interview for the researcher to

keep track of additional questions that arose during the session. A total of fifteen interviews were conducted. The shortest interview was concluded after 27'08" with the longest interview being concluded in 1h06'03".

4.4 Interview schedule

Semi-structured interviews were conducted during the data collection phase. The advantage of utilising the semi-structured interviewing approach was that it allowed the researcher to move freely between questions and further probe for clarity where required (Saunders & Lewis, 2012). However Creswell & Creswell (2018) suggests that it is beneficial to have consistency in the line of questioning across interview participants in order to achieve a sufficient level of comparability in the analysis of the data. As such, the researcher in this study developed an interview schedule with a specific protocol to ensure that the questions are prepared appropriately prior to the interview (Creswell & Creswell, 2018). Guidance for the protocol to be followed was taken from Table 4.2 which depict the steps taken by the interviewer during the interview from introducing the purpose of the interview and the concepts explored, to the use of open, content and probing questions to draw out the required data from the participant. The interview questions developed were guided by the literature review conducted in chapter two and geared towards answering the research questions presented in chapter three. The interview schedule has been provided in Annexure A.

Table 4.1: Interview Protocol example

Step	Description	
1	Basic information about the interview	Interviewer records basic information about the interview to easily organise database
2	Introduction	Interview provides relevant instructions for the interview to guide conversation in the right direction
3	Opening questions	Used by interviewer as an ice breaker to set the interviewee at ease
4	Content questions	Research questions in the study phased in a friendly way for the interviewee
5	Using probes	Use by the researcher as reminders to the interviewer to ask more questions or seek greater clarity during the interview
6	Closing instructions	The interviewer must thank the interviewee for his or her time and be prepared to field any questions about the research results

(Cresswell &Cresswell)

4.5 Pilot interview

The pilot interview was conducted with one of the participants in a senior manager role of the business who possessed the characteristics of the population of the study. The pilot interview was conducted to ascertain whether the questions would be well understood and serve the purpose of the study. Further, it was done to ensure that the questions were neutral, not leading, relevant to the study and not misaligned with the objectives of the research (Mark Saunders & Lewis, 2012). In the process, the researcher discovered the questions were not clear in distinguishing between physical activities conducted by the manager and those of cognitive. The ambiguity resulted in the interviewee intertwining the concepts and offering repetitive answers. The list of questions were adjusted in subsequent interviews to address this issue and make the distinction clearer. In addition, the researcher gave a non-exhaustive list of examples of cognitive capabilities when presenting questions that required clarification. This enabled the participants to better conceptualise the question and answer appropriately.

4.6 Population

The purpose of this study was to obtain deeper understanding of cognitive capabilities of middle managers, where they originate and how they operate as it pertains to strategic change implementation at a managerial level within a project-oriented, multi-disciplinary local professional services firm. This therefore required that the focus be on individuals that do not form part of top management, who, according to Teece (2007), drive the strategy formulation and dynamic capabilities (the management of resources in response to an opportunity or a threat in the chosen markets) at an enterprise level. The seniority level chosen as part of the population also excluded those whose primary role is to deliver on project scopes with significant guidance from those who manage the projects; as these individuals would fall outside of what is considered to be the role of a middle manager (DeSmet et al., 2019). Individuals that were best placed to support the research were those whose roles encompass project management, business development and client solution processes that require firm-wide collaboration and in certain instances, team and talent management (DeSmet et al., 2019).

The positions that have the highest key performance indicators linked both to project delivery and business development are those at senior manager level of the chosen organisation within this study. This level forms the middle and upper middle management

layer in this organisation. Individuals positioned at this level deliver projects and create solutions with clients in order to ensure the firm's sales pipeline remains healthy. In crafting some of these solutions, numerous ideation sessions occur between counterparts across different business units and service lines with varying skills and competencies to provide compelling and relevant propositions for the market. Directors, who are equity partners in the organisation, tend to occupy roles such as business unit leads, service line heads and managing directors. Directors therefore fall into the top management level as the majority of their actions address more enterprise wide issues such as organisational strategy, policies, procedures and reporting (Teece, 2007). Hence, the focus of this study was on the senior manager level as these seem to be the individuals in roles that were best place to provide the required input to establish answers to the research questions. The researcher utilised the introductory questions of the interview schedule to establish job descriptions and context and confirm that the interviewee fell into the desired population category.

4.7 Sampling

The purposive sampling approach was employed as this sampling methodology ensured that the participants (sample subjects) are able to offer insights and inputs to the topic under study (Bloomberg & Volpe, 2012). Section 4.6 above lends credence to this decision as the selected sample was carved out from a population limited to the individuals with roles that require them to engage in activities that leverage the firm-wide network in order to deliver competitive market offerings and solutions. The sample was identified through engagement the company's human resource personnel to obtain a portion of the non-sensitive fields of the personnel records i.e. name, level, business unit or service line, etc. The data was requested and provided in an excel spreadsheet format to allow the researcher an opportunity to appropriately manipulate the data while applying the applicable sampling technique. The researcher also engaged his wider network to gain access to some of the participants involved.

The sample size of fifteen was not fixed from the outset, but was determined when saturation was reached, which occurs when no new insights were found from further data analysis (Saunders & Lewis, 2012). Figure 4.1 below demonstrates how the researcher recorded the number of new codes per interview conducted.
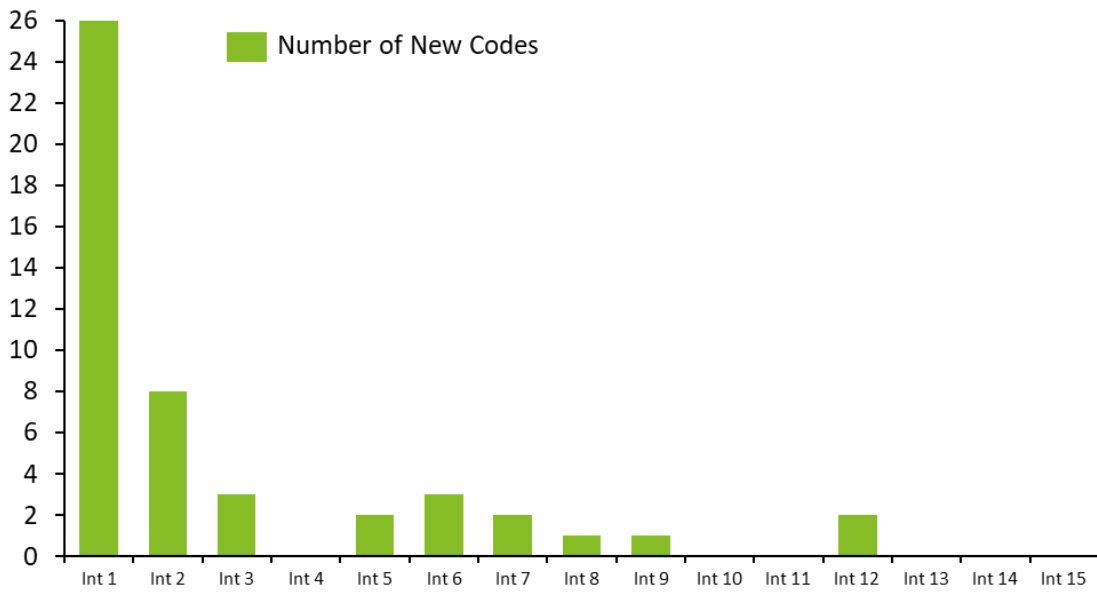
Figure 4.1: Number of new codes by interview

4.8 Method of analysis

4.8.1 Unit of analysis

The unit of analysis of this study was the opinions and experiences of the individuals who form a part of the sample chosen from the firm's population. Per section 4.6, the individuals in their current managerial roles are deemed to be most suitable to have the most relevant opinions and perceptions in relation to the workings of middle management cognitive capabilities throughout the organisation and how those can be a source of dynamism in the firm's capabilities.

4.8.2 Data analysis

Data analysis in this paper was performed in conjunction with other parts of this study. As the data was collected through interviews, notes were taken and themes were captured and explored simultaneously in comparison to earlier interviews to ensure that the understanding of the topic was built on with every step taken in the process (Creswell

& Creswell, 2018). As the process unfolded the researcher winnowed the data, being mindful to only focus on the information that is relevant to the analysis and disregard that with no impact on the topic (Guest et al., 2014). The thematic analysis itself, as detailed in Table 4.2, was done systematically and sequentially, on a question by question basis to ensure all the insights were evaluated at multiple levels of analysis (Creswell & Creswell, 2018).

Table 4.2: Data Analysis in Qualitative research

Process Step		**Description**
1	Organise and Prepare the data for analysis	This involved transcribing, writing up or typing the information, making field notes throughout interviewing process, collating and organising the data into categories for specific analysis depending on its origins and source.
2	Read or look at all the data	The researcher went through the data to reflect on the overall ideas and thoughts. The researcher documented overall impression on the tone, depth and credibility of the information received represented on the transcripts
3	Start coding all the data	The researcher bucketed the information being analysed into categories and common themes, often using words derived from the language emerging from the participants and their environment
4	Generate a description and themes	Through the coding process the researcher generated detailed descriptions of the emerging themes based on the specific information at hand e.g. gender, location, etc. These themes were used to create narratives and storylines or theoretical models that inform the culmination of the study's conclusion
5	Represent the description and themes	The themes were then represented in a way that suitably explains them whether graphically, chronologically, linking different ideas or a combination of all of these

(Cresswell & Miller, 2000)

As per Table 4.2, once the interviews had been recorded, each was transcribed utilising a reliable, secure cloud-based technology. Each interview was analysed and emerging ideas were noted then grouped into common categories which are assigned a code (Saunders & Lewis, 2012). The researcher then assigned thematic descriptions to each of the codes. As anticipated, the list of codes increased and evolved as more data was collected, which aligns with the suggestions of Guest et al. (2012). The themes developed were continuously reflected on in the context of the research questions of this study (Saunders & Lewis, 2012).

In collating the data and thematic perspectives emerging from the codes, the researcher designed and utilised an excel spreadsheet template for purposes of achieving ease of reference, recording and visibility. The visibility created by the template allowed the researcher to apply various data ranking criteria during the analysis. The frequency analysis approach was utilised to grant the researcher the ability to ascertain which themes were most prevalent in the data and what implications this had on the direction of the research (Saunders & Lewis, 2012).

4.8.3 Data validity and reliability

Creswell & Miller (2000) state that the validity of qualitative research is the defining factor in determining its credibility. This credibility relies on the level of accuracy contained in the findings based on all relevant vantage points – the researcher, the participants or the independent readers of the account (Creswell & Creswell, 2018). Checking for the accuracy of the findings derived from the data required that the researcher conduct various procedures which included triangulation, checking findings with participants, description of findings, etc. (Creswell & Creswell, 2018; Gibbs, 2007).

The researcher embedded the accurate representation of findings throughout the collection and analysis process (Creswell & Creswell, 2018). During the coding of the themes, the researcher made use of member checks to ensure the correct interpretation. This was accomplished by requesting that certain participants in the research offer their views on the themes and their justification (Creswell & Creswell, 2018). Themes were tested with participants as playbacks during the interviews with two participants contacted after the conclusion of all interviews for the purpose of verifying the outcomes. Moreover, the researcher utilised direct quotes in the presentation of results within chapter five to further justify the interpretation of the views of the participants. This also

alleviated the potential bias that the researcher might have had stemming from preconceptions due to close links to the organisation under study. The researcher remained cognisant of this bias throughout the process.

4.9 Limitations

Qualitative research has often been found to be limited by the subjective nature of findings due to various factors (Saunders & Lewis, 2012). The limitations to the study as recognised by the researcher are stated as follows;

1. The researcher has very close professional links to the firm being researched which may limit objectivity when drawing insights from the data due to preconceptions that may exist.
2. The researcher lacks interviewing expertise which may have an impact on the collection process of the data during the field work.
3. The generalisability and transferability of the research may be limited due to the following factors:
    a. The sample was limited to the range of levels deemed most suitable to the objectives of the study. Levels lower than manager and those that are above associate director may have additional insights to share based on their exposure and understanding of the business which may be relevant to the advancement of this research.
    b. The research was conducted on a single firm which introduces a level of homogeneity. Although it spans across multiple business units within the company, replicability of the study may be limited by its focus on a single entity.
    c. The participants in this study are concentrated in the region of Johannesburg, Gauteng, South Africa.

4.10 Ethical considerations

Ethical clearance was obtained from the University's Ethics Committee prior to engaging in fieldwork to ensure that the researcher conducted the research in an ethical manner. The researcher additionally obtained formal consent from the leadership of the professional services firm under study. Each participant was then requested to sign a consent form which guaranteed their confidentiality and anonymity upon presentation of the results of the research. To ensure this anonymity, the researcher changed the names of the firm and the participants to pseudonyms (Creswell & Creswell, 2018).

CHAPTER FIVE: RESULTS

5.1 Introduction

This chapter presents the key findings derived from the in-depth, one-on-one interviews conducted with fifteen middle managers within a project based, multi-disciplinary consulting firm. The results are presented and structured in accordance with the research questions framed in chapter three. The interview questions were formulated using a consistency matrix and were mapped to each of the research questions to ensure consistency and alignment between the research questions, literature reviewed, data collected and method of analysis.

A description of the study's participants is provided, followed by the presentation of the results of the qualitative analysis. For each research question, the results are presented based on themes and subthemes that were extracted from the qualitative analysis of the interviews, providing insights into the role of each manager, their role in enabling the organisation to obtain and sustain competitive advantage, and the cognitive capabilities leveraged to perform this role.

5.2 Description of participants

Table 5.1: Description of participants of the study

#	Reference ID	Gender	Position	Business Area
1	DG	M	Associate Director	Technology and Operations
2	SB	M	Senior Manager	Technology and Operations
3	TR	F	Senior Manager	Enterprise Systems and Performance
4	SM	M	Associate Director	Finance Strategy and Performance
5	RL	M	Senior Manager	Business Strategy
6	ML	M	Associate Director	Mergers and Acquisitions

7	NM	F	Associate Director	Assurance
8	NL	M	Senior Manager	Finance Strategy and Performance
9	AC	F	Senior Manager	Technology and Operations
10	SP	F	Senior Manager	Business Strategy
11	GH	M	Senior Manager	Mergers and Acquisitions
12	RB	F	Senior Manager	Supply Chain Strategy and Technology
13	NH	M	Senior Manager	Business Strategy
14	AV	M	Senior Manager	Finance Strategy and Performance
15	KB	M	Senior Manager	Finance Strategy and Performance

To maintain anonymity, the names of the participants were removed from the presentation of the results (Table 5.1). A random identification was assigned to each participant for ease of reference when presenting and discussing the results. In addition, the specific names of each business area were altered to describe their function in order to limit traceability. The respondents selected were of varying experiences, backgrounds and expertise and spanned across several business areas within the organisation. This wide selection was done in an attempt to create a level of heterogeneity within the sample and increase the richness of the data collected.

A total of fifteen interviews were conducted. The sample selected was of individuals that fell into the category deemed to be middle management within the organisation as described in chapter four of this study. The entire sample consisted of five females and ten males with participants holding either a senior manager or associate director title. All participants had an appropriate level of seniority and operational expertise to give meaningful answers to each interview question posed by the interviewer. All interviews

were conducted online using Microsoft Teams with the exception of one, which was done face-to-face with the participant at the organisation's offices.

5.3 Results - Research Question 1

How do middle managers contribute to their organisation's ability to gain and sustain competitive advantage?

Chapter four has highlighted the purpose of this question which was to better understand the contextual characteristics under which the cognitive capabilities that middle managers operate. This question looks at both the organisation's means of attaining and sustaining competitive advantage, and the contribution of the manager's role to this. Figure 5.1 below gives an overview of the results for this research question and is discussed in detail in the sections that follow.
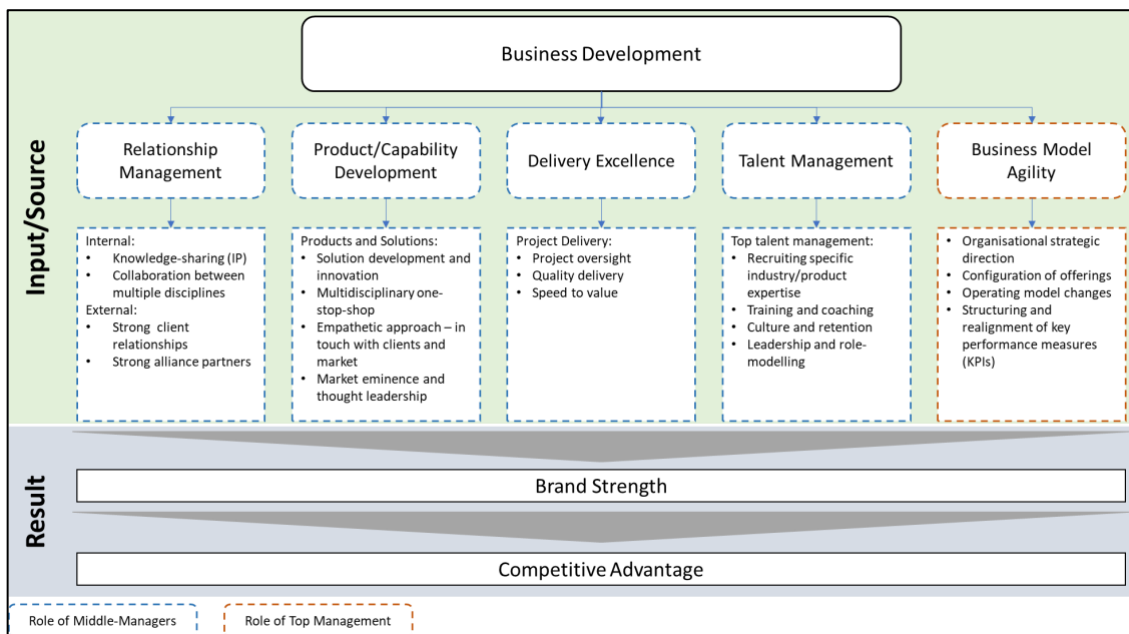
Figure 5.1: Overview of results - Research Question 1

5.3.1 How middle managers contribute to organisations competitive advantage

5.3.1.1 Business Development

When answering the question of what role they play in the organisation, all participants mention business development as one of their primary performance metrics. Nearly all the participants led with business development as the ultimate or overarching measure of success and relevance within the organisation.

> SP: *"big drive is sales right so can you develop business"*
>
> TR: *"I am the bid manager meaning so do leading bids from the beginning of the bid to the end."*

Business development was seen by participants as the ability to enable the organisation to grow its revenues through the creation of sales pipelines, driven by the identification and generation of new opportunities in existing and new clients. This aspect seemed to be a big focus of the participants interviewed.

> DG: *"…identifying and selling opportunities"*
>
> SM: *"Build the business of the firm at the client by creating opportunities for the firm at the client…"*
>
> NL: *"So I think, three things at a high level, obviously it's the pipeline that you create..."*

However, in one case one of the participants acknowledged the importance of business development but noted that this is not as emphasised in the role they perform. This was due to the nature of the services provided to the client (being support to an already existing opportunity in the assurance business). Therefore, the work involved in mining and creating an opportunity would be done by the Assurance staff, at which point they would be called in to support.

> NM: *"because I'm in audit support role right, I don't, I necessarily don't have any requirement under my KPCs to go out and actually look for opportunities. If it does happen that an opportunity arises during my engagement with the client. Then I bring it back to the business unit and it was responsible for that particular area."*

5.3.1.2 Relationship management

The theme of relationship management was identified by participants as another pillar in their roles within the organisation. It presented itself in two aspects, external relationships and internal relationships, both of which are discussed below.

External Relationships:

Forming and maintaining client relationships was identified as a key component of the organisation's competitive advantage. The role of the middle manager is understood as being a creator and nurturer of these key relationship as opportunities are most likely generated from these relationships.

> DG: "… retaining those relationship is critical."
>
> SP: "I think we've maintained a fair amount of the client relationships we have and I think that's probably the, the most important one that we have in terms of leveraging a strategic advantage… forming client relationships is a very important part of sure of what we do."
>
> GH: "Most important. It's a lot harder to get in the door than to stay in the room"

In four of the cases, participants mentioned the importance of staying relevant with the client's business and remaining top of mind. This required the organisation and its managers to effectively posture themselves towards the client in the manner in which they think through potential solutions.

> AC: "… the way in which we engage our clients."
>
> SB: "And really, it's about, you know, organizing ourselves internally to then serve those needs of those clients."
>
> SM: "Becoming a trusted advisor to the client and remain top of mind when it comes to the client needing to make big moves within their business"
>
> NH: "What you're noting there is industry knowledge, and depth of perspective and, relationships so this is relationships through delivery of professional relationships, established through, you know quality delivery."

Maintaining external relationships goes beyond clients. In three cases, the participants identified alliance relationships as critical especially in the tech implementation space. Keeping abreast of what alliance partners are developing and positioning the organisation as a significant value add to the relationship ensures that it remains top of mind of the alliance partner, thereby giving the organisation an advantage over its competitors in that space.

TR: "Engagement of global alliance partners is critical… we continuously engage with PartnerX as in like the PartnerX forums themselves, to understand what's out there in the markets."

AV: "Yeah, I've got like I was bi-weekly calls with different vendors to align on pipeline, new tech, new releases issues. All of that shapes pipeline, pipeline shapes your competitive advantage… you need to use your relationship with to become a preferred partner, and if you're a preferred partner, then you are a step in raced… then CompetitorX for instance."

<u>Internal relationships:</u>

Internal relationship management in this case refers to two aspects. Firstly, the ability of the managers to coordinate and bring together various stakeholders in the business along in the creation of the client opportunities. The internal team incorporates leaders, team members and other areas such as specific offerings and governance.

DG: "… and then keeping the internal team involved as well… And next is by the need for me to bring the various components of the firm together. In respondent, so enables us to tick all of those boxes that we just discussed around the multidisciplinary teams"

Secondly, this refers to the existence of and the ability to leverage the firm's intellectual property to pursue or deliver against an opportunity.

SP: "… and the experience that we have globally so then that brings in a third point is that without global networks… people can create tools they use experience to kind of develop things over time that make our lives easier for the next generation, who then have a new set of problems and attack that a completely different way."

TR: "Drive client business development with the global firm when chasing bids"

Two of the participants noted that this intellectual property resides specifically in the people within the firm and therefore, in most cases, needs to be engaged at that level.

AC: "And it's a competitive advantage because of global IP clever people that we employ."

SB: "it's actually the IP that resides within us as human beings, right? Whether it's an SMEs knowledge, their expertise, if you think about the evolution of the industry"

5.3.1.3 Product and Capability Development

The development of products is a significant part of the company's competitive advantage. Several participants noted the importance of consistently keeping up to date with market trends. This is achieved through constant research and upskilling in the issues of the client.

> DC: *"…our capability in the market. So consistently staying on top of our knowledge and industry trends, but also how the real world applies to our clients and our clients problems."*

> SM: *"I guess remain Top of Mind and remain somebody who's going to teach the client, something new every time you get in front of a client that means that it takes a lot of reading and research, continuous from your from your side as well. and be somebody who suggest new ideas, to the client, either by knowing those ideas from a global research, or by actually thinking of those ideas."*

Two of the participants noted that creating and publishing thought leadership on the knowledge acquired not only form part of the key performance indicators that middle managers are measured on but also go a long way in establishing a strong brand for the organisation and the strength and depth of its expertise in certain product lines.

> AB: *"And there's eminence right so those are the four things that you can measure them on…"*

> GH: *"generating thought leadership to get eminence and thinking of the organisation out there… the main purpose of thought leadership is more on branding…"*

Based on the market research, knowledge build from client relationships and industry knowledge, managers are expected to contribute meaningfully to the creation of new products and solutions through tech innovations and other prevailing trends. In some cases, it was mentioned that specialisation in specific areas is often required to provide depth in knowledge and capability.

> SP: *"you've got those people creating assets, which then give us the competitive advantage"*

> AC: *'service and solutions that we sell to our clients*

> NL: *"…focus on Technology in each product that gets developed… Secondly, is around your speciality in terms of your capability."*

As mentioned previously, collaborations with alliances with external partners to formulate specific client solutions becomes a differentiator for the firm. Further, managers are required to leverage the various skills that exist internally to become a one-stop-shop for the organisation's clients.

> TR: *"Working with alliance partners, "I'm talking a rebuild or pre-configured solution that is unique to deployed, that can be actually deployed to several industries, etc. This becomes a good source of product differentiation"*
>
> DG: *"And I think also, in a firm like ours, you've got the competitive advantage that comes from the multi-disciplinary capabilities that bring in various components of the firm together, whether it be consulting, tax, legal, and finance advisory…"*

In solution processes for clients, one of the participants pointed out that part of the differentiation exists in the firm's ability to co-create commercial and pricing models to fit the client's situation, especially in cases where clients are unable to disburse discretionary advisory funds without demonstrable value.

> SB: *"…from a competitive advantage perspective, what really puts, you know, an organization ahead of others in the game is really about that empathetic approach… So that competitive advantage is now not only about identifying opportunities, you know, work on, it's about different models to either share risk, you're not going to be at a point where you've got enough resources internally to now share with your client to say, let us handle and walk this journey with you."*

5.3.1.4 Delivery Excellence

In the accomplishment of work that has been won, the participants all identified delivery excellence as a common requirement in their role. Providing leadership to teams and direction for delivery ensures the right quality is given to clients.

> DG: *"…as well as providing leadership oversight on project delivery"*
>
> SP: *"Articulating it well enough to your team that they're now able to dissect this this issue and go away and solve that problem in much more detail.*
>
> TR: *Set up projects. Manage delivery (stakeholders, etc.) and quality assurance, and ensure lowest cost to serve."*

Moreover, in two of the cases, participants have mentioned that delivery excellence and demonstration of speed to value create the solid foundation of the relationships formed with clients. This as quality delivery builds trust with clients.

> *NH: "What you're noting there is industry knowledge, and depth of perspective and relationships. So, this is relationships through delivery of professional relationships, established through, you know quality delivery.*
>
> *SB: So I guess the expectation of the client has evolved to want more from the management consultant, more in the sense of value and very fast, visible value, whatever that may be, whether it's changed, whether it's a new way of work, whether it's a working system, whether it's a tool, whether it's an app, whether it's a redefined, model, etc."*

5.3.1.5 Talent Management

The organisation's talent incorporates specific skills and intellectual property, required for building solutions and delivering projects. The expertise and skills that come with the talent recruited allows the organisation to compete effectively in its chosen market. Some participants have further noted that it is the strength of the already existing brand of the organisation that attracts the kind of talent it does.

> *SP: "The organisation's as a brand attracts really good talent. They are, for the most part, largely just the most amazing minds that you can work with."*
>
> *AC: "…clever people that we employ…"* – Referring sources of competitive advantage
>
> *AB: "I would say that it gains competitive advantage by sourcing people into the organization and growing on the strengths and experienced from outside of the organization…"*

Once the talent has been brought into the organisation, it is the role of middle management to develop it and create an environment or culture that will allow it to thrive.

> *SP: "My role is to develop a lot of the talent that we have below us, but in a way that is open minded"*
>
> *DG: "…the other responsibility is team development and culture…"*
>
> *AC: "Build the culture, build the teams"*

One of the participants firmly held to the view that development is best done in front of clients when delivering projects or developing products.

> *SM: "…you've got to expose people. I think it's always a good chance to expose people to become experts in whatever field they choose as well so expose them*

to the client so that they get that confidence to carry on. Learning to carry on delivering to carry on building the relationships at the client and I feel like I would have done."

5.3.1.6 Business Model Agility

One of the participants noted that the organisation's agility in adapting to changes in the market, COVID-19 being chief among them, was a significant source of its competitive advantage. It was suggested that the way the organisation has been structured by its leaders lends itself to being agile.

SB: "… but also how I think organizational structure is, is one of the ways in which you can sustain competitive advantage, because it's got to be agile enough. And I don't like using the word agile out of anything other than what it's meant for, but agility and organizational agility. Agility is key. e.g. requirements of COVID."

No middle management role was noted for this aspect.

5.3.2 Summary of findings - Research Question 1

The findings for research question one highlighted that organisations competitive advantage came from its ability to continuously strengthen its brand in the market. The number one driver was its ability to develop and grow the business. The middle managers in the organisation play a crucial role in the development and growth of the organisation's business. Five themes emerged, being their ability to manage crucial internal and external relationships, developing deep expertise and capabilities, delivery excellence, talent management and business model agility. Notably, business agility was not specifically linked to the role of middle management in this case.

5.4 Results - Research Question 2

How do middle-managers leverage their cognitive capabilities to perform activities that drive the organisation's competitive advantage through dynamic capabilities?

The purpose of this question was to understand which modes of cognition the middle managers leverage when performing activities specific to each of the micro-foundations of dynamic capabilities within their organisations. Micro-foundations of dynamic capabilities refer to actions performed by the middle managers to sense opportunities, seize them and transform as a result of the change experienced.

5.4.1 Sensing Opportunities

5.4.1.1 Sensing - Physical activities
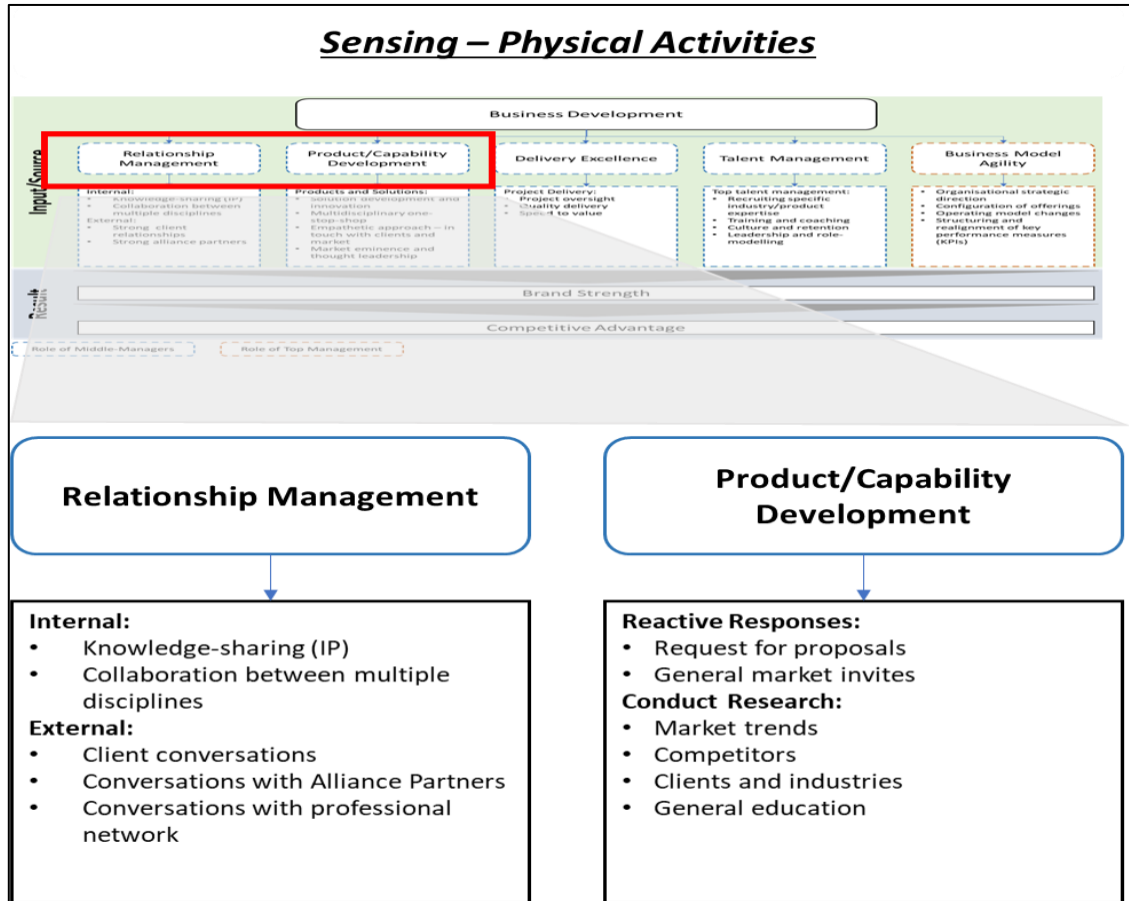
Figure 5.2: Overview of results - Research Question 2

Responses from the participants suggest that sensing activities fall under the categories of relationship management (described in section 5.3.1.2) as well as product capability and development (described in section 5.3.1.3). These two aspects are represented in Figure 5.2 and discussed in detail below.

5.4.1.2 Relationship management

Several participants noted a high number of activities in relationship management as drivers of opportunity-sensing. Driving conversations with clients to understand what their most pressing issues are and then develop those into opportunities for the organisation to service those clients was a prevalent theme in some of the interviews.

AC: "it would be through client relations, and client engagements… if I'm engaged

at a client I understand what challenges they've got. Understand what sort of problems and learn to solve and make use of some of the experience that I have. It gives me the ability to find opportunities."

Developing these kinds of relationships requires high levels of trust and credibility to be developed between the mangers and the client. Getting to this point takes time and effort.

NH: "I guess building that depth of industry, not depth against depth of some company knowledge. A lot of the information you'll get is not, it's not public. Yeah. And, you know, many of these guys operate under very strict governance. So, for someone to share something delicate about the future of the business. I think requires an incredible amount of trust in you and what you will do and I don't think they will trust you, if there's no professional relationship that underpins that that conversation."

Beyond focusing on the client conversations, participants also pointed out the importance of keeping an eye on what competitors are doing and saying as an indication of where opportunities may exist in the market. One interviewee noted this as a big component in the process, whilst another mentioned that engaging professional networks outside the organisation, and in many cases in competitor organisations, aided in keeping track of market moves.

SM: "… and never be scared to read what the competition is saying, right, because they take their gems there too. Listening to the client and competitions is a big component"

RB: "I very much keep in touch with some of my. Yeah, friends that are in like similar kind of consulting firms to get an idea of what when the market is going in…"

Another participant's approach was to engage the alliance partners and other vendor networks to get a sense of what opportunities are coming up. This also gave an opportunity to understand what competitors in the industry are focusing on. An additional source utilised by this participant is social media where he observes what ideas are being communicated in his specific field.

AV: "hold a lot of calls with your vendors you keep track of what your competitors are doing. You also use utilize social media to, to keep track of what people other people are doing so that you're not left behind."

Participants frequently raised the point of driving internal conversations and interactions to generate new, explore existing, and convert mature opportunities. Sharing of information, industry and client knowledge generates a lot of insights for the organisation internally which can be actioned. These conversations come in many forms. Some happen informally through ad hoc discussions, others happen in more formal forums such as client account meetings or communities of practise set up to generate leads.

> *DG: "…it's the account sessions that we have where we talk about one of the issues of the client…"*
>
> *SP: "And to be able to have an open and honest conversation where neither party feels threatened. Getting feedback from colleagues. Gather opinions and perspectives. To try and solve a problem in an isolated environment really doesn't work."*
>
> *SB: "So I, for example, every Monday, we jump on a call with my internal leaders, and we would discuss specific opportunities that exist either within my industry or specific ongoing opportunities that would need any sort of help support, etc."*
>
> *NL: "…it's pretty much what has contributed to our success has been collaboration."*
>
> *SM: "Listening to colleagues internally is a source of new insights."*

5.4.1.3 Capability Development

A participant noted that often opportunity sensing can be reactive action from a capability development perspective,. Clients send out requests for proposal (RFP) to the organisation for specific projects that address an identified problem. It is the responsibility of middle management to co-ordinate these responses and curate a solution based on the available capabilities.

> *TR: "Reactive (opportunities that come) RFPs are the great source of sensing. That is where client needs are expressed."*

Remaining relevant and up to date with market trends was mentioned by several of the participants. The importance of conducting research proactively to generate new ideas and reactively respond to a specific client problem was highlighted. This extended beyond general research, but also applied to managers taking time to personally educate themselves on specific topics in order to have meaningful client conversations.

> *DG: "So number one is being ahead of the client in the Global Insight, so to be*

able to predict where our clients may go and trigger the right conversations. And, and then it's our own personal education as well."

GH: "… but there's that constant personal development and probably more informal and formal in terms of you know just reading and staying up to date with trends…"

TR: "I do a lot of reading up on clients to inform RFP responses. This helps determine what the real ask is"

AC: "So be keeping an eye on the market. Yep. So not a bit of more of an outward view."

One of the participants mentioned the eminence of research as a vital tool in generating interaction and conversation in the market which in many instances leads to opportunities.

AV: "from eminence between again, thinking is probably your best bet. So if you engage deep on people's content to generate interaction, then that brings you front of mind. First of all, and also, same thing. Whether you, your understanding of the content is actually current"

5.4.2 Sensing – Cognitive Capabilities
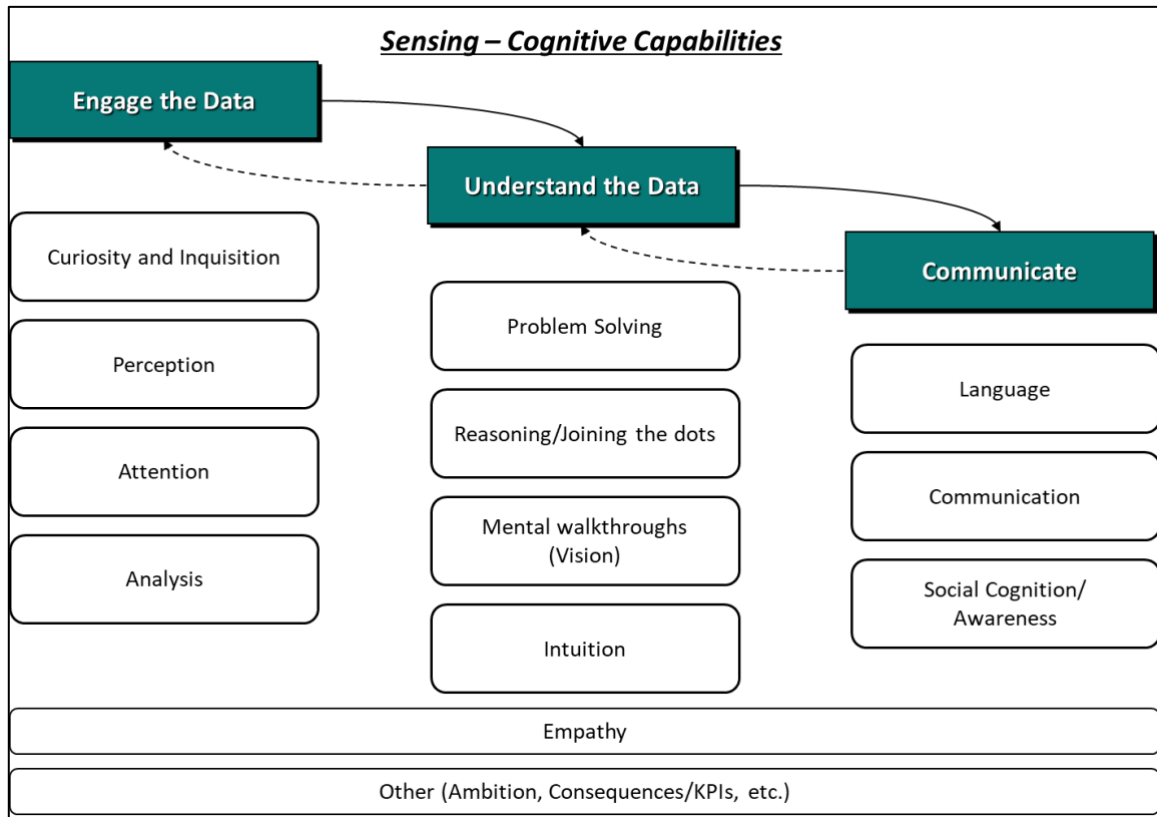
Figure 5.3: Overview of results - Research Question 2 (Sensing-Cognitive Capabilities)

Responses from the participants suggest that in order to effectively perform the opportunity-sensing activities (as in section 5.4.1), they must master the process of synthesising large amounts of complex data into simple, understandable segments.

> GH: *"it's very much around the ability to absorb, understand and contextualize data or information, which I think you know we are good at. And you know that context observation"*
>
> NH: *"So, so I guess it's, it's what you're kind of, you're kind of alluding to the information synthesis. So, you know, frame framing the, the complexity in a way that is, is, I suppose, easy to understand and easy to consume and relevant"*

The subthemes extracted from the interviews seemed to fall into three categories; data engagement, understanding or making sense of the data and communicating it (Figure 5.3). These themes are discussed in detail below.

5.4.2.1 Engage the data

Participants viewed sensing activities as channels to opportunity generating information or data. Under this category participants mentioned cognitive capabilities that related mostly to what they leveraged during initial encounters with data.

Participants noted intellectual curiosity as a driver for proactive learning and data collection. In one case a participant linked the level of intellectual curiosity to how much of a vested interest existed in continuous capability improvement. Intellectual curiosity leads to data, data leads to ideas, and ideas lead to opportunities.

> SB: *"intellectual curiosity is key. You know, you've got to have a vested interest in in pulling up your capability or capacity, etc; by doing things like reading, exploring ideas, like I said, you know, researching, etc."*
>
> SM: *"…curiosity and reading whatever is out there externally..."*

In engaging data, participants acknowledged the need to be perceptive. For one of the participants, this meant examining data and being able to identify the problem at hand. Another participant mentioned that it was about pattern-recognition. Seeing patterns and rhythms in the fact and opinions in data allows one to extrapolate into areas the data does not necessarily cover such as time lines and areas of uncertainty.

> NL: *"… one of the key things and it will basically sum everything up is, as, as a consultant, you need to be very perceptive. You need to be in a position to actually look at a particular problem."*
>
> SM: *"I guess as to is to sense what is going on where are we trying to go with this what is, like, like, understanding the pattern in the in the facts in the opinions of everyone so by understanding the pattern, and that pattern gives you the ability to, to try and analyse to say that if this is the pattern for the last five years, I can extrapolate that onto the next five years."*

One of the participants also noted the importance of memory and experience when attempting to recognise patterns in data.

> SM: *"I guess, when I say understanding patterns, is a lot of other abilities that go with it there, right, using experience using memory."*

The amounts of data encountered during this process also required that participant apply a filter that distinguishes information that is useful versus that which is not. One participant referred to this as the ability to identify moments that matter for the subject in

question (client, vendor, etc.) and then only focus on data points that will add richness to that context. Another participant mentioned leveraging framework to assist in the decision of which data points deserve immediate attention, by plotting them on a two by two matrix, with level of urgency on the one axis and level of importance on the other. Thereafter, that which is deemed important and urgent is focused on for purposes of crafting the opportunity.

> SP: *"I think part of that comes from the fact that you need to then go back sift out what's actually useful for you …"*
>
> SB: *"So, I will absorb all that information or based on the source of the information and then plot out what it is that I need to do and start managing and, you know, expectation."*
>
> GH: *"…identifying moments that matter but the ability to identify information that might be really relevant and impactful in a conversation."*

Participants also leveraged their analytical skills when processing large amounts of data. This skill, according to one participant, allowed the manager the ability to utilise that analysis to simplify complex problems for the interested audience. Another participant noted that being analytical makes an argument, opinion or solution more robust and able to endure scrutiny.

> SM: *"Using the ability to analyse, you know, where, where data is from where data is actually going, and using the ability to step away all from it and tell it in simpler and simpler terms…"*
>
> NL: *"It's that ability to be highly analytical. Yeah. Because you are going to get challenged quite a lot in terms of the solutions that you put on the table..."*

5.4.2.2 Understand the data

This category grouped themes where the participants focused on cognitive capabilities which they leverage in order to understand or make sense of the data at hand in order to see where the opportunities were situated.

Most of the opportunities pursued by middle-managers involve problem solving for clients. One of the participants noted that he has to leverage his intellectual problem-solving skills quite early in the process of sensing. Applying his mind to the data and exercising a level of critical thinking and ability deemed necessary when faced with complex client issues.

SB: "… ability would be around critical thinking and problem solving. But complex problem solving, you know, the higher up you go within an organization, the more complex the issues are."

The cognitive ability of reasoning was seen as critical by several participants. The general view that they were required to make sense of the data, by identifying or even creating correlations in order to start generating actionable insights. One participant called this the ability to join the dots, which meant being able to take thoughts and ideas that are moving in many different directs and find the commonalities and potential links.

AC: "then you turning it into an insight or you may, it's creating a link. So creating. Yeah, correlations between data"

DG: "So it's not a linear process at all. And it's, it's really important that you're able to take a nonlinear process and join the dots, and really make it linear almost as a linear output to an extent."

SM: "And once you've done that, well you understand the pattern you understand what impact it could have right on you on your competitors on you, the businesses that you have and once you've done that you kind of connected to everything else you've actually learned."

A mental walk through encompasses the manager playing out different scenarios presented by the data in their minds, understanding what they mean and being able to make the necessary conclusions or take the required actions.

AV: "Yeah, to just see the smallest inkling of light that this could be like something. And then I run hard to see if it's gonna work or not. I think a lot of experimentation was incredible."

TR: "I'll go through a process of mind maps-to say this is their pain point. Linking all information - client, industry, internal capabilities, etc. to figure out what the opportunity is"

Two of the participants mentioned gut feel/intuition as a cognitive ability they leverage when examining information and trying to make sense of it. It was noted that this is a skill that was acquired over a period of time as they built on their experience. One of the participants pointed out that this capability could not be quantified but it allowed them to sense when a particular approach or section in the data was not aligned to what they think it should be based on what they have known.

SP: "And a gut feel instincts kind of thing, which is a bit of an odd thing to have in the business world, but there's a feeling that that something's not right, and about the way you're putting things together, which is a little bit indescribable to be completely honest."

SB: "… for me as well, you know intuition is quite important for a leader to have. And it's again, you know one of those measurable goals, but it's, I think quite crucial to innovate early stages of identifying opportunities… it applies that level of realism I guess based on your experiences, and your shared understanding of what you know will work or what will not work… this comes with a level of work knowledge and experience in your field…"

5.4.2.3 Communicate

The participants of this study noted that sensing and opportunity is not just about identifying it through the data collection means mentioned above. It is about being able to articulate the opportunity to relevant stakeholders of that opportunity – clients, internal leaders or sponsors, etc.

The ability to communicate in a language that is understood is a key requirement within the sensing process. Two of the participants emphasised the need to craft a simple story from all of the data analysis in order to motivate a client and help them see that you understand their world and are able to not only think with them but solve their problems too. Participants also noted that a good opportunity story is critical to motivate the internal teams within the organisation.

This is useful for several reasons. Firstly, it will allow everyone to get on the same page when collaboration takes place to create a solution. Secondly it allows leaders that need to buy into the idea to support and opportunity and really understand it without getting caught up in the complexities of the data.

DG: "And then how to turn it into a story. Because you've got to be able to motivate your clients. But you've also got to motivate yourself and the teams are working with you to want to do this and want to be part of this. And what's a fair value?

SP: "So communicating is definitely probably Top of Mind."

TR: "Lots of communication internally to solution around bids and with client teams to introduce context"

SM: "What's your ability to translate, write a concept, into the daily language, right. So, I translate the automation of an invoice into what does it actually look like for you in the business"

A level of social cognition is also required in this process. Participants noted that being able to get acceptance from relevant stakeholders required that they are able to understand the dynamics at play with each stakeholder. Understanding the organisational culture, the various interests at play with different groups was noted as key components of being able to communicate the right message to the right audience.

SB: "That skill to motivate others to rally a troop around you around the concept around the idea, an idea is of utmost importance. Because if nobody thinks idea is going to work, yourself included, it's not going to be something that the client wants that your leadership will want, or anything of that matter."

RB: "Pre-empting what leadership will want. Building skills to walk client of walking journey"

RL: "… culturally appropriate communication…"

5.4.2.4 Other factors

There were several other themes noted from the answers received in this section that were deemed to be more pervasive. The first of these was the ability of managers to empathise with clients. As one of the participants pointed out, identifying opportunities to solve their problems forced them to think like the client, walk in their shoes and understand what keeps them awake at night.

TR: "…client empathy as a starting point (what keeps them awake at night)…"

One of the participants identified ambition as something that they leverage in the organisation to drive their sensing and ultimate generation of opportunities. This is seen as a desire to avoid negative consequences if the key performance indicators which they are measured against are not accomplished in addition to a desire to win that is driven by a sense of competitiveness.

DG: "… the fact that there's a financial metric attached to my head, also make sure you don't miss opportunities. And for it's more that, that desire to win and close the next deal and be good at what we do."

5.4.3 Seizing opportunities
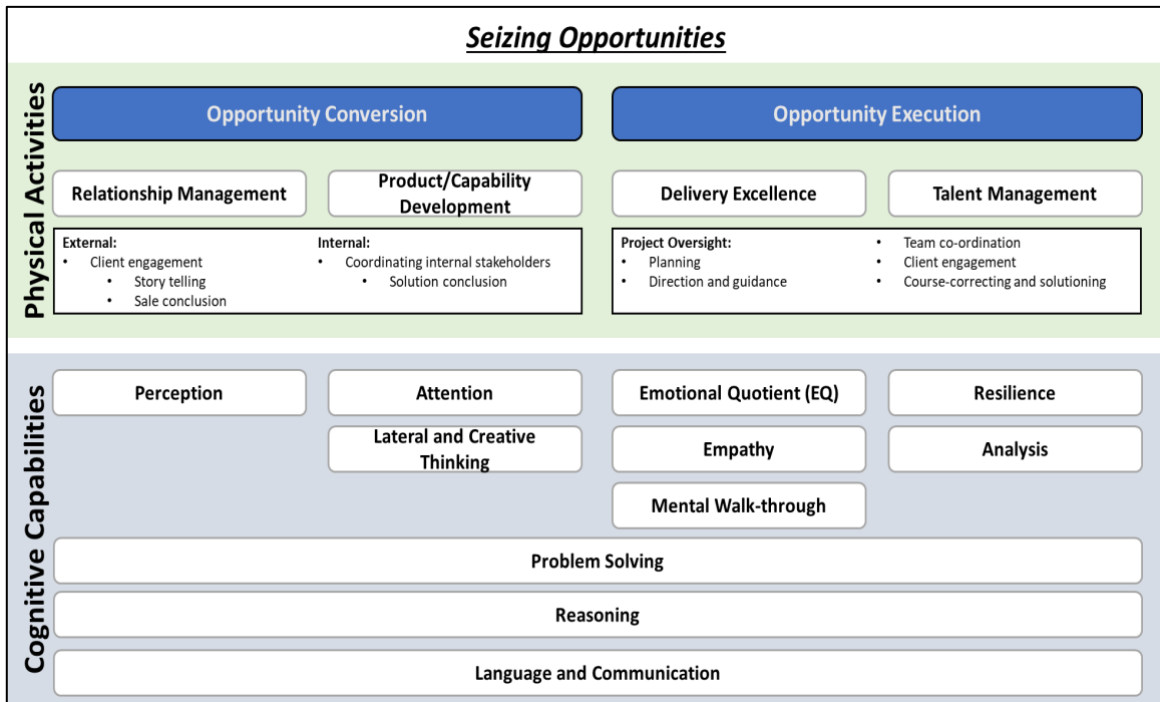
Figure 5.4: Overview of results - Research Question 2 (Seizing)

In addressing seizing activities and the related cognitive capabilities, participants seemed to cluster their responses into two stages of the process. The first category was the opportunity conversion stage, and the second being the opportunity execution stage (figure 9).

> *RL: "Analysis, selling to the client by getting the client excited. Delivery oversight. Dividing the work and getting people to do it"*

The physical activities and the related cognitive capabilities are detailed in the sections below.

5.4.3.1 Seizing – Physical Activities

Opportunity Conversion:

When converting a live opportunity into a sale, participants noted that activities they drive involve numerous engagements with the client to further shape the opportunity. These engagements then lead to a final proposal document being drafted and delivered to the client detailing the problem statement which gave rise to the opportunity and how the organisation intends on solving that problem. Thus, concluding the sale.

> *TR: "Preparing a proposal, presenting it to the client, having multiple*

conversations and reaching an agreement. Having the conversation with the client to ensure that the right decision makers get on a collision course with the information and insights derived."

DG: "The first thing that's really important is to go and have an initial conversation with the potential client and qualify with them."

In the process of bringing clients over the line to accept the proposed approach to resolving their problem, participants noted that the internal stakeholders and sponsors need to be engaged and convinced simultaneously. This also assists in solidifying the solution for the client as leaders and other staff within the organisation will be required to support the delivery of the solution to the client when the project begins.

DG: "… once the client has kind of given it heads up, the next thing is really to go and lobby internally to find people who want to work on this with you - buy in from leadership"

Opportunity Execution:

Participants noted that they are required to capacitate and manage delivery teams for projects once the opportunity has been converted and the client has agreed to engage with the organisation in executing the agreed approach. This is to ensure the quality of the deliverables for the client is of a high standard and that the value promised is demonstrated in the outcomes.

AC: "…I would play a fairly hands on full accountability for the success of the delivery and implementation as well as managing the client relationship throughout the process again pooling senior and more senior resources for oversight, because that's a model and then pulling the team together, managing a team."

NL: "… one of the key really important things obviously it's going to be quality control so just making sure that whatever it is that you put on the table. Yeah, it has been… Capacitating teams is a big challenge"

In one case, a participant pointed out that the quality and value management within the project requires constant communication with the client to ensure that it is progressing accordingly and that the client has full view of the direction of the project.

NH: "So it's like you keep the guy excited because you show him that where I was last week and whenever this week has been significant step jumps and there's so much more to look forward to. So continue then walking this journey with me then we started whenever we started."

Two of the participants emphasised the importance of being able to give clarity and guidance to the team from the beginning of the project and throughout its delivery. This requires a lot of upfront planning and coordination. The purpose of the planning is to simplify the project into segments that the delivery team can realise in parts.

> SB: "…create accountability across team for clarity and direction…"
>
> SP: "So everything else I need to do I need to do with people, but when I'm planning I need to kind of, like, live in my head, sort through what I think needs to be done. Yeah, break it up into chunks, and then go okay well how we tackle these little bits… first collaboration, then closed environment for planning, then collaboration to test the plan."

5.4.3.2 Seizing – Cognitive Capabilities

A participant emphasised that in the process of making a transformative impact on the organisation and clients, middle managers are often required to put on different personas based on the context they face. For this to be done effectively, perception and attention as a cognitive capability are leveraged.

> RL: "…peg your message. Sometimes I wear the strat hat, some the operations hat… understand who you are dealing with… perception, time of month, communication, tailoring your message."
>
> TR: And I pay attention to how many times they keep on going back to a specific point. Because I found that we as consultants, we hammer, something out, and then they keep on hammering another thing.

The process of converting an opportunity and delivering against it becomes less conceptual and more practical. Participants pointed out that they leverage a lot of their problem-solving capabilities to effectively facilitate this stage of the process.

> AC: "one skill I engage my brain most often is problem solving. Yep. So looking at problem. Putting multiple solutions on the table and then guiding the client to a decision. And then the process of facilitating that decision. I guess in the proposal phase is a little bit. It's also the problem solving the analytical skills of using badger to come up with recommendations."
>
> DG: "then working through the how, so how will we like do this."

One of the participants mentioned that reasoning and analysis play a critical role in the upfront planning required at the start of every project.

> SP: "…to make sense of a problem that sounds holistic but that you've got to be able to chunk up into portions and I think this doesn't always work out to the bits, right… at that point becomes very analytical for me is, is you. By the time I've started planning, and I start chunking after things."

In one of the cases, a participant identified the need for middle managers to think laterally (beyond what is in front of them) in order to incorporate different scenarios into the opportunity seizing process.

> DG: "And I guess the other thing is, why should you know are you thinking well, what would our competitors be doing? Do they have this opportunity? And how would they price? How would they approach you? What relationships do they have? Who else do we need to talk to who the other decision makers that the client that we may not have spoken to and we need to get to?"

Another participant referred to the need for cognitive flexibility in approaching the problems at hand as they tend to have different nuances that require varied methods of engagement.

> GH: "… have flexibility and not to understand where each problem or each opportunity means. It means a unique approach and staying flexible enough to think differently about approaches…"

Some of the participants stressed that reasoning, problem solving and lateral thinking allows middle managers the ability to take a step back and see the bigger picture in order to give the appropriate level of direction to the team and the clients.

> DG: "And but then it's about before that actually, and walking through my own mind, what does this look like? What are we trying to achieve in an outcomes from an outcome?"
>
> RL: "…it's an administrative ability yeah but it's also   ability to also see the big picture. You shouldn't be able to take, take the detail and convert that into the artwork that the client needs."
>
> NH: "For me, I think a big part of the work that we do also is about, you know, we need to almost see everything we do, two or three steps ahead. Yeah, so things that are in our control that would affect us. I think I would have failed, the team, if

I'm unable to see and navigate that terrain, before they get it…"

Several participants mentioned the importance language and messaging has throughout the process of seizing. Being able to clearly communicate to all stakeholders concerned is critical for landing the deal with the clients, obtaining acceptance from internal networks and leaders, and giving direction to delivery teams at the coalface of execution.

> *SB: "Negotiation and ability to convince. Create the right level of messaging…"*
> *SM: "your ability to communicate to the different levels of the business. It's your ability to understand. - build excitement"*

Equally important is the ability to know what should be articulated to different audiences. Social cognition is a cognitive capability that enables middle managers to appropriately tailor their messages for each audience in the process.

> *TR: "How do you gain trust with the influential individuals in the organisation. And who is this individual, meaning influence a decision maker, approver whatever it is. Who is this individual because you might find that a specific person specific person talks a lot, but then eventually they got overridden by somebody else's power? All right, so I pay attention to those dynamics."*

Two participants mentioned that, linked to social cognition, middle managers in the organisations had to possess very high levels of emotional intelligence (EQ) and show empathy when dealing with teams during the delivery of a project.

> *NH: "Number one is there's a, there's an element of EQ. That's very important. It's like, you know, being able to read the room. Yeah. Even with your team and you do that regularly, a new reading the room for different things."*
> *NL: "Yeah, so, so just being that ability to actually, you know just direct people making sure that you know you bring them on the, on the journey with them…"*

5.4.4 Transforming
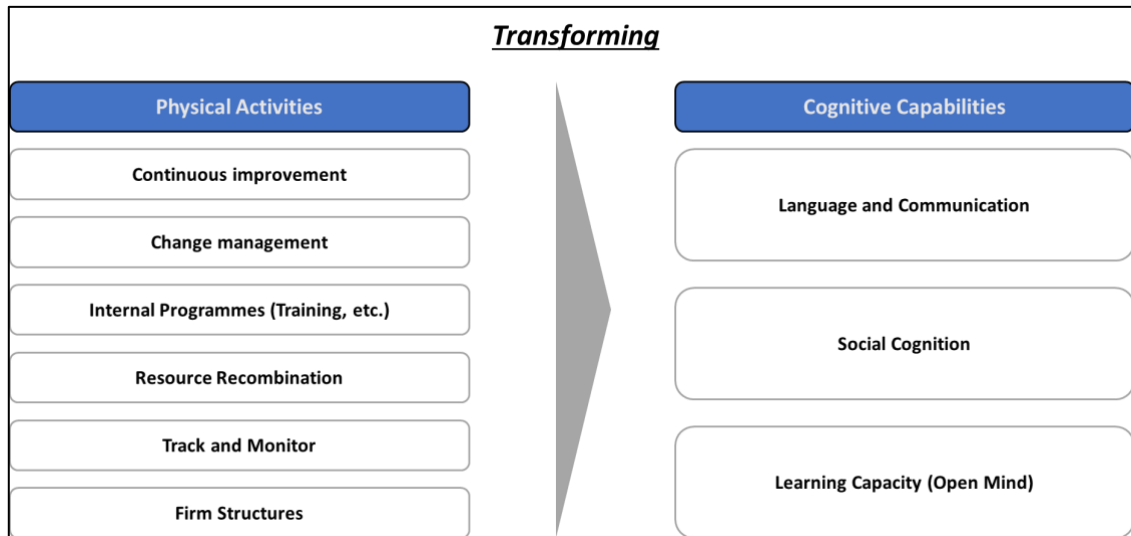
Figure 5.5: Overview of results - Research Question 2 (Transforming)

5.4.4.1 Transforming – Physical activities

In discussing their role in transforming the business to keep up with changes in the environment, one of the participants mentioned the importance of continuously evolving and staying ahead of the market and the clients they service.

> NH: "For me, I think a big part of the work that we do also is about, you know, we need to almost see everything we do, two or three steps ahead. Yeah, so any, any things that things that are in our control that would affect us. I think I would have failed, the team, if I'm unable to see and navigate that terrain, before they get it."

Some participants acknowledged that staying a step ahead required them to seek opportunities to continuously improve their product offerings, ways of work and other aspects of their job (Figure 5.5). Being open to continuously learn, by giving and receiving feedback, was also noted as a critical element.

> DG: "And therefore, is there not a way we can potentially change our delivery model? Should we not be outsourcing some of it to India? Or should we not be partnering with the technologies"
>
> NL: Ability to continuously learn and be humble about it
>
> SP: it becomes a lot easier to share that and then I go back to the open, honest conversation in being able to give people feedback, both about what they do

really well, and what they don't…"

Another participant identified tracking and monitoring performance as vital in sustaining change and in ensuring that continuous learning and improvement is maintained.

> *TR: "Sustaining change requires measurement, monitoring and tracking and that people are doing that."*

Several participants emphasised the fact that true transformation would not be accomplished if people are not taken along on the journey of change, thus making change management the prevailing theme in activities they drive relating to organisational transformation.

> *DG: "So its, its change management. At the heart of it, really!... the key is selling internally."*
>
> *SB: "Change the hearts and the minds… facilitate the change, not force it down"*
>
> *AC: "And I guess it's all about stakeholder management - change management, take people along on the journey, and make sure that they, they are also involved, and they feel heard.*
>
> *AV: "Internal sales and external sales - appeal to what is important to each individual…"*

One of the participants warned that if change management is not done appropriately, they risk resistance to that change.

> *AC: "So if you don't do that. And there's a lot of resistance against the change when it comes to implementation."*

Middle managers contribute to organisational transformation through their involvement in various organisational programmes. A participant's perspective was that the purpose of these programmes is to reinvent the manner of work within the organisation to enable employees to work more collaboratively when pursuing opportunities.

> *TR: "Involvement in an internal Future Fit programme dealing with new ways of work and the future of the consulting business. Force client orientation as opposed to P&L orientation. Remove silos."*

Education was also acknowledged as forming part of the role of middle managers in this

process. Participants referred to their role in education and development of other employees in general and the need to educate the broader organisation around new offerings or changes in their particular field of expertise.

> NL: *"So, so just actively making sure that people are always trained up and making sure that you know we're not we're not just chasing the bottom line, but we offer developing people."*

> AV: *"It's up to me to make sure that everybody's educated on what all the new things in the market. So, education goes out so you need to educate and inform"*

A participant mentioned that their focus was more on resource recombination (changing the combinations between skill sets within resources - focusing on current strengths) not reconfiguration (changing the skills set completely).

> SP: *"I don't feel like investing my time into developing any digital capabilities or technology led capabilities is a good use of my time it's not something I'm good at. And it's not somewhere where I excel. Instead, I'd much rather leverage off of people who are good at that in order to combine and make sense of a holistic solution."*

The firm structure was identified as playing a significant role in the organisational transformation. A participant indicated that structure enables culture and the manner of work, and the culture enables the fulfilment of a strategy. By structure, the participant was referring to how the organisation is organised and how people are incentivised. If these are not aligned concerning encouraging transformation towards a strategic change then all efforts are in vain.

> SB: *"weirdly enough structure, right? But because this is all adage, that strategy. A culture eats strategy for breakfast, but structure eats culture for lunch."*

5.4.4.2 Transforming – Cognitive capabilities

The emerging theme from answers to the question of which cognitive capabilities were required to effectively drive transformation activities was language and communication. The ability to effectively communicate to different organisational players was unavoidable in any change management effort within the organisation (Figure 5.5).

> TR: *"Change management requires communication*

> AC: *"Communication is a skill. Right. And, yeah, that would be the one skill."*

Further one of the participants alluded to the need for social cognition as a prerequisite

skill in order to "play the game" internally to win over all the gatekeepers.

> *AV: "… it is to actually know whether just to get you through the door, because there's so many gatekeepers in this organization, and you need to play the game…"*

Open mindedness was a trait considered necessary to see the need for change before taking the message to the rest of the organisation.

> *SP: "It requires a little bit of give and take, right, because on the one hand, you need to be open minded enough to take on the fact that you should change."*

5.4.5 Summary of findings - Research Question 2

In answering research question two, it emerged that middle managers within this organisation play a vital role across the three micro-foundational aspects of the organisation's dynamic capabilities. Cognitive capabilities leveraged under each micro-foundational aspect spanned across a wide spectrum. Notably cognitive capabilities such as language, communication and social cognition were leveraged when engaging with all three elements of dynamic capabilities. It was further observed that (aligned with results from research question one) issues with regard to firm structure seemed to live outside their sphere of influence.

5.5 Results - Research Question 3

Where do the cognitive abilities of middle managers originate?

The question was intended to gain a deeper understanding on the origination of middle managements' cognitive capabilities. The line of questioning to the participant was contracted to additionally assess the impact of these origins on the managers' biases and the manner in which these are mitigated.

Origins of Cognitive Capabilities		
Origin		**Bias Mitigation**
Formal Education		Professionalism
Natural Inclinations		Education and Self-initiative
Experience		Outside Opinions
Measurement and Tracking		Evaluations
Extramural Interests		Governance
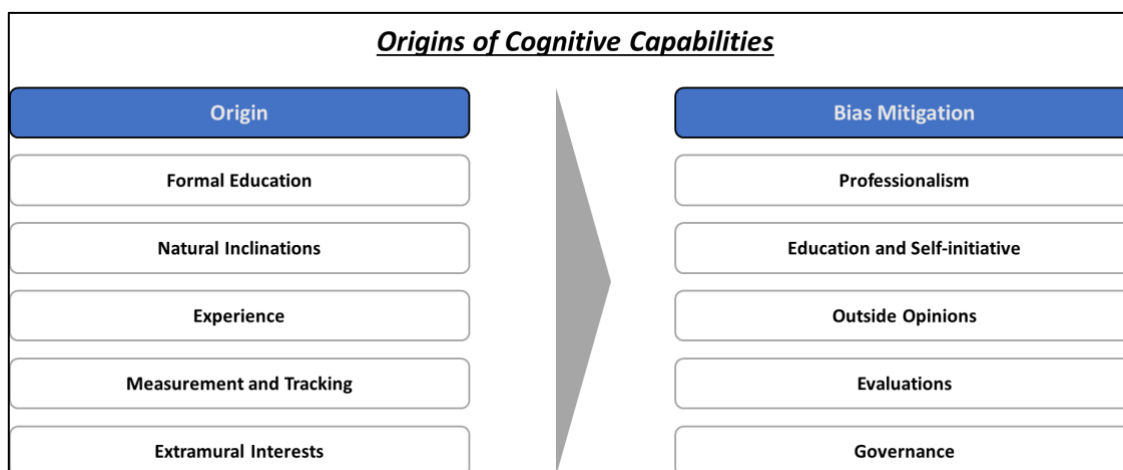
Figure 5.6: Overview of results - Research Question 3

5.5.1 Origins of cognitive capabilities

The participants identified formal education as a contributor to the development of the cognitive capabilities exhibited in the middle managers' role in the organisation (Figure 5.6). Two participants drew direct links between the type of tertiary education they received to the prevailing mental methodologies they use to solve problems in their current roles.

> AC: "I do believe that your tertiary education shapes your brain paths in a certain way. Yeah. So, and so for example if you study, finance, it's very structured, and it's not about the content, it's about the way that your brain learns to solve problems."
>
> NH: "I was trained as an economist. It's all about thinking in consequences if you put this policy, what is the outcome, how do the people benefit, how does the economy grow, how do you connect all of these dots in order to get to that? So maybe I was lucky in that those things kind of align but for me I think that's where that's where it comes from. I think I'm someone who generally thinks in consequences."

Several participants identified natural inclinations as a common driver of their baseline cognitive capabilities. This was linked to their upbringing and experiences in their formative years.

> DG: "it has to do with my personality. I generally have good EQ, which gives me the ability to talk to people and convince them."
>
> SB: "How you were raised - formative years…"
>
> TR: "Personal inclinations… I am a calculated risk taker who has to make sure

all the I's are dotted and all the T's are crossed… so there is an element of naturally being an analytic driver... based on that I can say, this is the pattern that I'm seeing, and based on the pattern, this is what it means."

Beyond natural inclinations, prior professional experience was mentioned as a pivotal aspect of cognitive capability development. The participant indicated that hands on experience allowed for the growth of natural inclinations and emotional intelligence to establish more scientific patterns of engaging real work issues. In addition, the role of others to the learning process was highlighted. Another participant expressed that being placed in difficult situations forced the exercising of cognitive muscles in ways that would not have otherwise been possible. Further, another participant broached the situational awareness that comes with added work experience.

DG: "I think then there's another group in which things that I've kind of picked up through experience of failure, through experience of success, and also through experience of watching others. And, and these are things like, and how to actually go and sell in a more scientific manner than using EQ."

SP: "Being put in previously challenging positions where you have had to be stretched outside of your comfort zone. Thrown in the deep end"

SM: "Experience and situational awareness"

In one case attention was called to the kind of leaders that participant had throughout their work experience which was viewed as crucial, especially when placed in testing. The participant acknowledged being able to thrive when not set up for failure by leaders, but rather challenged in order to offer the necessary support. This affirmation from individuals in leadership positions was critical for the participant's development.

SP: "I've had both situations in terms of people who are fully able to execute on something but are not great leaders. Yeah, as well as people who are great people leaders, but not able to execute on a problem."

It was recognised that the specific expectations on which the participant was measured on enabled the development of certain cognitive capabilities more than others in order to achieve the required outcomes.

SB: "The way you are measured in your role also drives the development of these capabilities."

Extramural interest was identified as another driver of cognitive capabilities which

seemed to refer more to the social dimensions of cognitive capabilities.

> *AV: "Wide variety of interests. So, you can latch on to something… you can connect to them outside of work, you can unlock a different sphere of emotions and then that might be a way in."*

5.5.2 Dealing with Biases

Participants acknowledged the existence of biases in their approach problem solving. This was linked to the participant's personality, insecurities and fears in general or in the work-place. In a second instance the participant linked this to their past experiences of gender discrimination which compelled the employing of defensive mechanisms in the problem-solving space especially, when working with others.

> *DG: "Yeah, and but from a negative point of view, your personality can also get in the way because it can create fear and insecurities and it can put barriers in your way to slow you down."*
>
> *RB: "Biases are around gender and race based on who you are talking to. What I ask myself is, am I being professional, articulate, data-driven as possible."*

In mitigating against the negative impacts of a participants biases, education was raised as being beneficial. This allowed the participant exposure and perspectives on aspects which were subconsciously concluded on forced the individual to challenge their own biases in methodologies and approaches. A different approach was taken by a supplementary participant who identified an unhealthy bias then made a note of it and intentionally practiced behaviours that would counter that bias.

> *SM: And the best way to go against it, is to always continue educating yourself on topics that sometimes you feel uncomfortable in educating yourself, or sometimes because you don't want it."*
>
> *NH: So, so it's really through practice. I do plan to do some reading as well to expose that side of me, and also just engaging in things that may force you into that right so I'm sure when to start a business, and you start looking into those things."*

It also emerged that soliciting the opinions and ideas of other great leaders reduced the negative impacts of biases for the managers that were interviewed.

> *DG: "And I think the best way there is to hear other people, ask other people what their views are."*

> *TR: "I try and minimize the element of being bias by validating my thinking with other people right within the same circle within the framework that I'm working with…"*
>
> *AC: "I think the only way to overcome it is not operate in a vacuum. Through people pointing it out and as a team processes things, those biases become less of a problem."*
>
> *NL: "Showcasing trialling and checking thoughts with people that are different to you. It's also about humility and willingness to change"*

However, a participant also gave emphasis to the processing of information for themselves and finding ways of sifting through what should and should not be considered from the many data points coming in.

> *SP: "But I think that you need to still be able to process, two competing thoughts in your mind, and not lean into one versus the other just because it's your own personal opinion, you need to be able to hold somebody else's opinion. Evaluate against your own, and then go okay well now which is the right one to go."*

A participant brought up that the governance within the organisation went some way in limiting the effects of biases in leaders. These include regulatory, risk and review forums that involve various people for the organisation to make collective decisions on critical matters.

> *DG: "There's obviously a whole host of governance that all organizations have, they should take out a level of bias. And I think it takes out bias from a risk point of view to make sure that your bias isn't creating risk. And those forums usually have multiple people."*

5.5.3 Summary of findings - Research Question 3

It emerged from the answers to research question three that the cognitive capabilities of middle-managers originate from more than one place. Even though nature and nurture bring about certain inclinations in thinking and personality, it was evident from the responses that formal education, life and work experience played a big role in the directional development of cognition. Additionally, extramural interests were seen to contribute to some extent. Mitigation strategies against biases include education, practice, inviting outside opinions, and the governance structures within the organisation.

5.6 Results - Research Question 4

How does the firm's structures, processes, routines or activities enable and limit these cognitive capabilities?

The purpose of this research question is to understand how organisational processes, actions or mechanisms enable (support) or limit these cognitive capabilities.
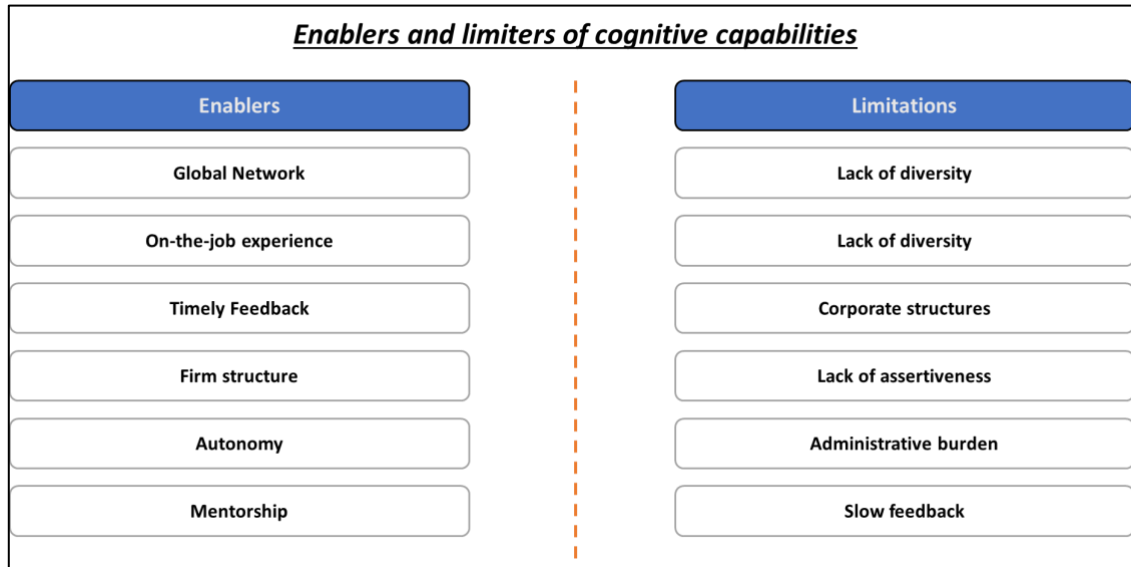
Figure 5.7: Overview of results - Research Question 4

5.6.1 Enablers of cognitive capabilities

The availability of resources within the organisation was identified as an enabler to the advancement of cognition in the organisation. One participant noted that the accessibility of thinking of other experts in the global network assisted in cultivating a collaborative culture of problem-solving (Figure 5.7).

> AV: *"The fact that there's a global network. So, the sheer size of the organisation, I mean if you need something. This one person knows 300,000 will be able to help you either to grow your knowledge or solve problems."*

Experience was identified as a key developer of cognition for middle managers (identified in research question three. On-the-job training and experience remained a key enabler for cognitive development within the organisation for a participant of the study. This individual also highlighted the importance of formal training programmes that the organisation continues to provide to its employees.

> *DG: "The core of the business, which is delivering projects, and speaking to client, and the experience that comes from that is better than any of the training that we do, and better than any of the conversations we have, right? Because they're real."*

Another enabler indicated by participants was the feedback that occurs within the firm. Two of the participants alluded to the necessity of all kinds of feedback for the advancement of their condition. These forms of feedback included internal (upward, downward and sideways) feedback and external feedback from outside sources such as clients (Figure 5.7).

> *DG: "I think feedback, both upwards and downwards and sideways is, is critical. And you like having deal loss reviews, having win reviews, even which we probably don't do enough of why we won that…"*
>
> *SP: "Constant feedback loops and evaluations on projects and outside…"*

The structure of the organisation is flat and tends to be fluid. Participants stipulated this as positive as it enables cognitive expression and development. It was acknowledged that the flat structure allows for numerous different people to work on projects and learn from each other across levels. The fluid nature of the business model was viewed as fostering a culture of ideation which drives innovation and creative solutions for clients.

> *DG: "I think also the structures are enables as well because the way we're structured is very flat, it's almost like a resource pool."*
>
> *SB: "consulting, right, it's, it's kind of a dual edged sword, if you will, where the absence of structure promotes freedom of thinking and sharing of ideas"*
>
> *SM: "if we do not configure ourselves to what our clients really need, then we probably wouldn't win so it embeds the fluidity of the, of the business so it is in the business that we always need to be said saying and, and we need to be fluid, when it gets to that is that we are very slow."*
>
> *RB: "Flat structure…"*

A participant put forward their own ability to thrive in cognitive development and expressions when trusted and allowed to work independently with minimal micro management. It was acknowledged that leaders in the organisation afford a level of autonomy that allows the participant to self-determine and grow their ideas, methodologies and approaches without restriction.

TR: "I've got carte blanche to design a make what I need to design a make, and that the level of trust that has developed based on the consultations that I've done with that framework. I experience less micro-management"

AC: "I think we have a culture of you build your own destiny. So, if you have an idea, and it generates revenue or could mean some social impact you are allowed to pursue it."

SP: "Our partners don't, or some of the partners I've worked with at least have given me quite a lot of freedom. How I solutions with clients. So they've allowed me to follow my own process of engaging other people deciding when to bring in so that I've experienced very little micromanagement. Yeah, and from senior leaders so that's created enough space for me to apply those cognitive abilities effectively."

Leadership support was critical on the journey of developing cognitive capabilities of a participant. The participant indicated that mentorship played a significant role in development of cognitive capabilities.

NL: "… mentorship definitely helps you know, sometimes you find yourself in uncomfortable situations, and just having the ability to talk to somebody who has either faced a particular challenge, and they'll say, look, you know that this is how I would recommend that you do then basically approach it so it, it helps your development.

5.6.2 Limiters of cognitive capabilities

Lack of diversity within the organisation was viewed as a limiting factor for a particular participant as this meant that ideas would largely be homogenous because of the likeness in perspectives.

RL: "… lack of diversity in parts of the organisation…"

Collaboration and networking was highlighted as a great enabler in previous sections of the interviews. Inversely, some of the participants mentioned that instances of low collaboration limited the advancement of their cognitive capabilities. Another participant noted that mechanisms to share and collaborate were limited and could be improved upon.

TR: "So, that's when I feel this limitation… especially now, there's a lot of fear right yeah so, and that's why I know we all go into this little pigeon hole, because

we want our P&Ls satisfied, but that's not the best way."

SB: "what's not working I think the fact that even though we are a cross functional type team that is industry aligned or core capability aligned, we don't have mechanisms in place to freely share ideas between those teams."

Participants attributed the lack of collaboration and other limiting factors to corporate structures that create silos within the organisation. A participant alluded to several leaders exhibiting non-collaborative behaviour to protect their profit and loss numbers as a result of being mandatory drivers of profit and loss results and further pointed out that this would hurt the organisation in the long run. It was additionally conceded that the silos created hierarchy and a narrowness in thinking as individuals focused on their areas of influence and did not think laterally.

DG: "…we're almost a corporate now. And we have these very formal, big structures – 'this is mine that's yours, you can't use these words unless you have my permission and, and you can't have these conversations and, and, and..' I think they just slow us down… Confined thinking… you have too many people who have who are too deep in their capability. And and you have to go and speak to them. And they only think in one way. And so, they're very closed and how they think and you, but you need them to think differently"

SP: "Centralised decision making recognised as a stumbling block. Decisions that affect real change are held by a few."

AC: "… our management structures sometimes they are a bit limited. it's the fact that we are driving revenues."

AV: "I think what the organisation does not get right is that a lot of people are looking after themselves. They make a lot of P&L decisions and not good firm decisions."

GH: "… and empty spaces a lot more hierarchical and the ability for juniors to be in hold in in development of pockets ability from the outside the box thinking…"

The adaptive nature of the organisation was singled out by one of the participants as a limiter of cognition. They felt frustrated by the organisation's accommodative approach to bids, timelines, pricing and other aspects.

NH: "my organisation is always trying to accommodate, you know - proposals and pricing and time frames. So it becomes quite frustrating, actually, for me, in my organisation because I sometimes don't find that they bold enough to just say,

"No, this is gonna take six weeks, and it's gonna cost you, 6 million, and that's it."

A participant recognised the administrative burden put on middle-managers slowed down their ability to move on opportunities and therefore limited the development of their cognition.

> *DG: "… first is red tape and governance. We are wrapped up, like teddy bears in, in red tape. And this is not just, this is everything from who you work with how you were an hour to charge, what conversations you have, with clients you speak to is all those two things"*

In some cases performance feedback would not be given timeously which has a negative impact on individual and team's cognitive development as confessed to by a participant. Tardy feedback limits the ability to apply learnings and continuously improve on prior performances.

> *SM: "… we are very slow when it comes to performance management of individuals so… we become very slow on it we don't want to do it too fast."*

5.6.3 Summary of findings - Research Question 4

In answering research question four, six broad themes emerged for each of the two categories. Participants identified factors to be considered under enablers as; the organisation's access to the global network, the provision of on the job experience, timeous feedback, the fluid and flat firm structure, high levels of autonomy and good mentorship. With regards to limiting factors, participants recognised that parts of the organisation lacked diversity, collaboration and assertiveness. Further, siloes and hierarchical corporate structures still existed. The high administrative burden and slow feedback in some cases were all cited as limiting factors for cognitive advancement.

5.7 Conclusion

This chapter presented the findings of the study based on research questions detailed

in chapter three. The findings stipulated the role of the middle managers is primarily to develop the business. Business development activities are what enable the organisation to gain and sustain competitive advantage in its chosen markets. The activities middle managers engage in fall into four main categories; relationship management, capability development, delivery excellence and talent management. Whereas top management assumes responsibility for business model agility.

The findings suggested that in performing these activities, the middle managers are able to contribute to the dynamic capabilities of the organisation which are its ability to sense, seize and transform. The cognitive capabilities leveraged by the middle managers for sensing activities allowed them to effectively engage data, understand it and communicate appropriately. The cognitive capabilities leveraged by middle managers for seizing activities enabled them to effectively convert and execute on opportunities. Transforming activities required cognitive capabilities related to language and communication, social cognition and learning capacity. Notably, it was identified in the findings that language and communications was cited by the participants a cognitive capability required for each micro-foundation.

The findings indicated that experience, formal education and natural inclinations were sources of the managers' cognitive capabilities. The managers acknowledged the biases created by experience and identified mitigating factors such as self-education and practice, internal governance as well as inviting outside opinions. The findings concluded with an understanding of the enablers and limitations of middle managers' cognitive capabilities. Collaboration, timeous feedback and firm structure were viewed as significant factors in enabling or limiting development of cognitive capabilities. Chapter six proceeds with a detailed discussion of these results.

CHAPTER SIX – DISCUSSION OF RESULTS

6.1 Introduction

In this chapter, the findings of the semi-structured interviews presented in chapter five are discussed in detail. These discussions are in context of the study and in light of the literature review presented in chapter two. The results are discussed as they relate to each research question. Insights obtained through the findings of the research investigation are provided in this chapter. They are further contrasted against the concepts and constructs offered in the current literature in order to answer each research questions identified in chapter three. The research findings build on the body of knowledge on managerial cognitive capabilities as a source of dynamism in dynamic capabilities. Further, the findings offer a deeper understanding of these capabilities as they relate to middle-managers – an area that remains under-explored in the literature.

6.2 Discussion - Research Question 1

How do middle managers contribute to their organisation's ability to gain and sustain competitive advantage?

This research question identified how the middle-managers' organisation gained and sustained competitive advantage. Further it gave a view of the role of these middle managers in achieving this competitive advantage. The researcher employed this question to understand the contextual environment of the middle managers in order to create better links between their activities and the manner in which their cognitive capabilities are leveraged. The literature has extensively explored the concept of competitive advantage and organisational approaches to achieve it. The researcher will discuss this research question based on the prevailing themes from the analysis conducted on the results.

6.2.1 Business development

The results show that each of the participants in the study identified business development as a key component of their role as middle managers in the organisation. In one case the revenue growth of the firm was listed as an outcome of the business development activities which the participant was required to perform. This aligns with one of the outcomes identified by Teece (2018) as a result of capturing value for the organisation. Teece (2018) suggests that when a firm utilises its business model to

capture value, the interaction of cost and revenue elements should then result in a rise in profitability.

The literature contends that the continued existence of any organisation depends on its ability to create and capture value (Teece, 2018). This notion aligns with Brandenburger & Stuart (1996) comments' on value-based strategy suggest that organisations operate in a value chain with numerous players. Each player produces or builds products to sell to buyers. Buyers assess the products and decide on their value relative to the selling price. Should the price be lower than the perceived value, the buyers pay the sellers in the value chain.

Further, the participants noted that growing the organisation's revenues through business development required the creation of sales pipelines, driven by the identification and generation of new opportunities in existing and new clients. The activities which enabled the participants to achieve this fell into four main categories; relationship management, product and capability development, delivery excellence, and talent management. The combination of these elements points to the theory of value capture through business model design (Teece, 2018). Teece (2018) suggested that the various components of a business model fall into three main categories; value proposition, organisation's revenue and cost models. Value proposition incorporates products and services, customer or client needs, and geography. The organisation's revenue model includes pricing logic, channels, and customer interactions (relationships). The cost model incorporates core assets and capabilities, core activities, and partner networks.

The exploration of various aspects of the role played by middle managers in the organisation is presented in subsequent sections.

6.2.2 Relationship management

Various participants identified one of the ways in which the organisation sustains its competitive advantage was through its ability to develop and retain relationships with external parties. It emerged from four participants that formulating and maintaining client relationships was an essential part of their role within the organisation. These participants further pointed out the need to remain relevant to the client and be top of mind when opportunities arise. This required the participants to understand the client's

needs and posture solutions. This is in line with Teece (2018) who suggested that the most important aspect of any competitive business model is its alignment with the needs and wants of the customer in order to deliver the expected value through the organisation's products and services. Teece (2018) goes on to note that this can only happen when the organisation is able to identify the unmet needs of a customer timeously and address them appropriately.

In addition to client relationships, another external relationship emerging from the data was the organisation's alliances and partnerships. The results noted that middle managers were required to keep abreast with various ecosystem partners such and original equipment manufacturers, technology hyperscalers and other specialty product or service owners that the organisation had partnerships with. This was identified as a source of competitive advantage in the industry as it was a significant opportunity generator. This is in line with Schilke (2014) who proposed that the development of alliance partner management capabilities has indeed been found to be a significant source of competitive advantage. However, Schilke (2014) warned that these alliance partner management capabilities may generate diminishing value returns as an environment becomes more volatile due to the reliance on specific routines to be effective. However, Teece (2018) argued that the success of these partnerships depends on the level of dynamism the organisation possesses to be able to identify high value endeavours and focus only on those. Teece (2018) emphasises that an organisation's business model may not be able to innovate quickly enough with its current resource base to take advantage of certain opportunities, again highlighting the importance of alliances in the creation of dynamic capabilities. In this case, the middle managers participating in the research noted that they monitor potential opportunities through weekly engagements with alliance partners to ensure that they are ahead of the competitors in pursuing those with significant value.

The results surfaced another aspect to the relationship management role of middle managers in the organisation; their ability to manage internal relationships. The research showed that the ability of the middle managers to generate and to leverage the firm's intellectual property to pursue or deliver against an opportunity created competitive advantage for the organisation. This indicated the opportunities were shaped by collective learning within the organisation and thus was a source of dynamism within the firm's dynamic capabilities as suggested by Giudici & Reinmoeller (2012). However,

Fainshmidt & Frazier (2017) suggested that these high levels of knowledge sharing would not exist effectively within the organisation. Aligned to this understanding, the research showed that a key element of the managers' role is to build that trust through collaboration. This can be described as the ability of the managers to coordinate and bring together various stakeholders in the business along in the creation of the client opportunities. In many instances, the internal team incorporated leaders, team members and other areas such as specific offerings and governance. This need for managers to collaborate and not work in a vacuum is further supported by Salvato & Vassolo (2018) and is viewed as a critical part of the organisation's dynamic capabilities.

6.2.3 Product and capability development

Various authors refer to the concept of micro foundations and higher order capabilities in the literature on dynamic capabilities (Helfat & Peteraf, 2015; Teece, 2018). The research displayed the theme of product and capability development coming through as one of the roles that middle managers in the organisation were required to perform. Participants answering this question noted that, in pursuit of an opportunity, this aspect of their role involved the adjustment and recombination of organisation's current knowledge base, resources and structural routines to improve current products and services as well as develop new ones. This aligns with second-order dynamic capabilities as described by Teece (2018),which include the development of new product and services, expansion into new sales generating markets and clients along with any other astute managerial decision that are made during times of uncertainty or change. An additional aspect observed from the research is that of developing pricing solutions specific to the client base of the organisation (Teece, 2018). A single participant acknowledged their contribution to co-create commercial and pricing models to fit the client's situation as a differentiator for the organisation. This was especially in cases where clients are unable to disburse discretionary advisory funds without demonstrable value.

The theme of knowledge sharing as it pertains to capability development was expanded on by participants. These middle managers are required to create and publish thought leadership on the knowledge acquired in the process of developing products. This is seen as a means of establishing a strong brand for the organisation and the strength and depth of its expertise in certain product lines. This concept aligns with Giudici & Reinmoeller (2012) as the establishing and expansion on an organisation's knowledge

base is deem to be a significant driver of its dynamic capabilities, as previously discussed. However, Salvato & Vassolo (2018) view this activity as going further than just the generation and sharing of knowledge. The production of eminence pieces by the middle managers is a form of productive dialogue both internally within the organisation and externally. Productive dialogue elevates individual learning within the embedded relationships in the organisation (Salvato & Vassolo, 2018). In this case, the dialogue-generating thought pieces allow employees to engage in more frequent, coordinated, and reciprocal interactions that ease knowledge creation and transfer in the organisation (Salvato & Vassolo, 2018). Thus, the middle managers in this organisation are what Salvato & Vassolo (2018) term as collaborators; defined as those who through organisational dialogue, jointly develop shared mental maps and solutions to meet the changing needs of the market.

6.2.4 Delivery excellence

As emphasised in previous sections, organisations exist to capture value within the value chain of its network (Brandenburger & Stuart, 1996; Teece, 2018). According to Teece (2018), a way in which to achieve this is that the organisation's business model is required to deliver value to its customers. The research results show that the middle managers in the organisation are tasked with managing the delivery of value to the firm's client base. All participants identified delivery excellence as a common requirement in their role when executing against work that has been won. This involved providing leadership to teams as direction for delivery ensures the right quality is given to clients. Participants in this study referred to delivery excellence as activities involving project set up and management, team oversight, execution, and quality review which only happen after opportunities have been identified and sold. In the dynamic capabilities framework, these processes would be grouped under the seizing of opportunities (Teece, 2018).

6.2.5 Talent management

Considering the participants' organisation is in the field of management consulting , the resource base, which are its assets, reside mainly in two parts of the organisation; the intellectual property developed over the years and its human capital (Helfat & Martin, 2015). A participant identified the intellectual property assets build by the global firm as a key source of competitive advantage as it provides frameworks and tools that assist in the delivery of projects and solve client problems. A bulk of the tools used are based on learning from projects delivered in the past. Managers are tasked with utilising an

appropriate mix of these tools when dealing with client project delivery. These tools are pooled into a knowledge base that is accessible for meeting current and future client needs (Giudici & Reinmoeller, 2012) . Utilising historical observations and learnings to equip an organisation for current and future changes is aligned with the thinking of Suddaby et al. (2020).

Other participants noted the importance of human capital within the organisation. The organisation delivers value to clients primarily through projects. Projects are staffed with individuals within the organisation that are deemed to be at the right level and possess the appropriate expertise to ensure quality and value is served to the client in the fastest time possible. One of the participants indicated that the organisation's talent incorporates the specific skills and intellectual property required for building solutions and delivering projects (Helfat & Martin, 2015). The expertise and skills that come with the recruited talent allows the organisation to compete effectively in its chosen market. Some participants have further noted the organisation's existing brand strength is what attracts the kind of talent it does. The management of these resources is therefore at the core of the organisation's dynamic capacities (Teece, 2018).

Talent management for middle managers includes creating the appropriate culture for new employees to prosper. Creating an environment of learning and development would be mutually beneficial for the organisation and its employees as the organisation's business model is largely based on acquisition, sharing and exploiting knowledge to solve client problems. Fainshmidt & Frazier (2017) suggests that such an environment is only possible where high levels of trust exist among the employees of the organisation.

6.2.6 Business model agility

Business model agility emerged as a sub theme from the results. Participants conceded that their products and services built were realigned and reconfigured based on the demands of the market. These decisions were concluded at a higher level of management, as a result the researcher did not obtain further insights on the topic due to the intention to limit the scope to middle management. Whilst this was the case, the researcher recognised the alignment to the view of McGrath (2010), who stressed the need for agility within business models in an ever changing competitive landscape.

6.3 Summary of discussion - Research Question 1

The fundamental focus of research question one is the sources of sustained competitive advantage leveraged by the participants' organisation. This question further illuminated the role the middle managers in advancing the organisation's competitive advantage in an effort to provide context to their environment. Middle managers play a vital role in the development of the business via revenue generating activities in order to grow the captured value by the organisation within its value chain (Brandenburger & Stuart, 1996; D. Teece, 2018). Several themes emerged within middle managements activities for business development. These individuals are required to manage external and internal business relationships. External facing relationships include clients and partner networks (Schilke, 2014; Teece, 2018). The internal relationships include the coordination of internal sponsors and holders of intellectual property to collaborate and share knowledge towards the creation of client solutions (Giudici & Reinmoeller, 2012). This cannot be achieved without winning over the trust of the relevant parties (Fainshmidt & Frazier, 2017).

Additionally, they are required to manage the delivery of value to the organisation's clients (Brandenburger & Stuart, 1996; Teece, 2018). This involves project oversight, staffing, scope management and numerous project management tasks. The responses to this question highlighted the importance of human capital to the organisation. Middle managers are tasked with creating a conducive environment for the organisation's people to succeed. A final observation from the responses to question one was the requirement of business model agility to remain competitive (McGrath, 2010; Teece, 2018). However, achieving business agility is considered to be the role of the organisation's top management team.

6.4 Discussion - Research Question 2

How do middle-managers leverage cognitive capabilities to perform activities that drive the organisation's competitive advantage through dynamic capabilities?

This Research Question attempted to understand the modes of cognition which middle managers leverage when performing activities specific to each of the micro foundations of dynamic capabilities within their organisations. Micro foundations of dynamic capabilities refer to actions performed by middle managers to sense opportunities, seize them and transform as a result of the change experienced. In understanding what these

managers do, the question was able to illuminate the relevant cognitive capabilities linked to specific activities.

6.4.1 Sensing opportunities
6.4.1.1 Engage the data

Three main themes emerged from participant responses obtained for research question two. The cognitive capabilities leveraged when performing sensing activities enabled these managers to effectively engage the data (obtained from various sources), make sense of the information and obtain understanding, as well as communicate effectively to relevant stakeholders. Participants identified three main sources of data as; internal intellectual property generated within the organisation's network, interactions with clients and continuous engagement with alliance partners (Wilden et al., 2019).

In engaging the data, participants mentioned that a level of curiosity and inquisition was needed to proactively induce learning. A participant disclosed that taking ownership of their personal development was crucial to the process of pursuing opportunities outside of what they currently know. This is aligned to Helfat & Peteraf (2015) that acknowledge the need for continuous organisational learning to innovate and strategically adapt to the changes in the environment.

Perception was noted as a key requirement for data engagement. For one of the participants this meant examining data and being able to identify the problem at hand, while another asserted that it was about pattern recognition which relies on leveraging memories of prior professional experience. The need to engage analytical skills with regards to perception was also expressed. Managers needed to able to utilise analysis to simplify complex problems for the target audiences. Another participant noted that being analytical makes an argument, opinion or solution more robust and able to endure scrutiny. These responses align with the American Psychological Association (2020) definition of perception which is the ability to organise information and interpret it. Based on pattern recognition, perception is therefore the ability to use knowledge, beliefs and expectations to reorganise data gathered about a particular environment or issue and make reasonably informed guesses (Helfat & Peteraf, 2015). This cognitive capability allows these middle managers to sense opportunities before they fully materialise as the data may not be complete. This is a key component of dynamic capabilities (Teece, 2018). However, whilst Helfat & Peteraf (2015) acknowledge that more experienced

individuals in a particular skill will recognise bigger chunks of patterns based on long term memory built up over a period of time, they warn that beliefs and knowledge may skew a manager's perception. This distortion (caused by subjective prior beliefs) occurs particularly when the data being examined is ambiguous (Helfat & Peteraf, 2015). Remedies to this issue are explored further in research question three.

Participants noted that large amounts of data emerge when engaging clients, alliance partners and conducting general research. This warrants the development of skills in order to prioritise areas within the data to focus on. The participants are required to apply a filter that enable them to distinguish between information that is useful and that which is not. The American Psychological Association (2020) defines this as the ability to pay attention, which is a focused awareness on a perceptual data subset. Aligned to this, Helfat & Peteraf (2015) assert that attention is critical to perception and these are considered to go hand in hand as attention enables the participants to focus on the most important stimuli from which data emerges, especially in extremely uncertain times.

6.4.1.2 Understand the data

In responding to research question two, participants indicated that they needed to make sense of the data that was acquired. Several cognitive capabilities are leveraged to do this effectively. Responses indicated that most opportunities pursued by middle-managers involve solving client problems. Whilst the literature recognises problem solving as a crucial managerial cognitive capability, it tends to associate it with seizing opportunities as opposed to sensing (Helfat & Peteraf, 2015). This is in contradiction with the experience of an individual participant who needed to leverage problem solving skills very early in the process of sensing due to opportunities often arising while resolving a particular client issue.

Understanding the data required participants to create linkages between what they were seeing and what they knew. Participants mentioned that this was done by performing two main mental processes; a mental walk through and leveraging intuition. A mental walk through was explained as playing out various scenarios presented by the data while making sense of what they mean and draw conclusions or take the required actions in pursuing an opportunity. Two of the participants leveraged intuition when analysing data to make sense of it. They noted that this skill was acquired over a period of time as they built on their experience.

These abilities appear to align with the literature's definition of reasoning. The mental walk-throughs, which are akin to information structures and mental maps (Gary & Wood, 2011), and experiential intuition, referred to by Miller et al. (2005) as automatic reliance on prior expertise, are brought together by the middle managers to gain insights from the data in front of them. The American Psychological Association (2020) defines reasoning as the cognitive processes engaged in solving problems through the application of formal rules and any other frameworks of logic. However, the literature deems reasoning as a capability only associated with the micro foundation of seizing opportunities (Helfat & Peteraf, 2015). This is in contradiction with the responses obtained from the research as the managers in this organisation indicated a significant reliance on the skill in the opportunity sensing phase.

6.4.1.3 Communicate

Participants emphasised the importance of communication throughout the opportunity sensing phase. Participants noticed that opportunities, in many instances, were pursued by a team through collaboration and knowledge sharing within the organisation which requires them to do a significant amount of coordination to ensure that all the relevant internal stakeholders are appropriately aligned. Likewise, opportunities were often derived from client engagements which requires constant and clear communication with the relevant clients as the opportunity was pieced together. Consequently, the ability to communicate in a language that is understood becomes a key requirement within their sensing process. Two of the participants alluded to crafting a simple, compelling story from all the data analysis in order to motivate both clients and internal teams by making them see that they have understood the issues and have applied their mind to a potential solution. Participants further suggested that this form of aligning and influencing requires high levels of empathy and social cognition as they are required to pitch their messaging at the right level and in an appropriate manner depending on their target audience.

The concept of language and communication presented within the literarture is understood to be any format, system or platform used to communicate or express thoughts or ideas (Helfat & Peteraf, 2015). Distinctions are made between oral (speaking) and printed (written) communication (Helfat & Peteraf, 2015). These are further distinguished between language reception (listening and reading) and language production (speaking and writing) (Helfat & Peteraf, 2015). The results indicate that all

these facets of language and communication are engaged by the middle managers when performing opportunity sensing activities. Language production is done when emails are written to clients and internal teams and when thought leadership is composed for publication. Language reception is practiced during internal knowledge sharing sessions and when both clients and alliance partners are engaged in order to collect data. In glaring contradiction participants leverage language and communication, together with social cognitive capabilities early in the process of strategic change while it is understood within the literature to apply when managers are executing activities to transform.

6.4.2 Seizing opportunities

The research results exhibited two steps with regard to the seizing of opportunities. The first step in the process was converting identified opportunities. Participants admitted that an opportunity identified had to be pursued and converted into a sale for the organisation. The second step was executing on the opportunities once they had been converted. Participants noted that in most cases opportunities resulted in project work and their role in the execution of those projects was critical for the organisation. Participants identified groups of cognitive capabilities that were leveraged in each step as well as cognitive capabilities that were common to both steps.

The ensuing discussion elaborates on each of these steps along with the common cognitive capabilities as they emerged in the research.

In converting opportunities, one of the participants revealed that middle managers are often required to put on different personas based on the context. For this to be done effectively, perception and attention as cognitive capabilities are leveraged (see section 6.4.1.1 for definitions of these capabilities). Some participants referred to this blend of capabilities as lateral thinking. A participant introduced a different context for the use of these cognitive capabilities which were also required in the sensing of opportunities in order to understand the patterns found in data (collected from the market, clients, alliance partners and internal experts). Additionally, being able to clearly communicate to all stakeholders concerned is critical for securing the deal with the clients, obtaining acceptance from internal networks and leaders, and giving direction to delivery teams.

Perception in converting opportunities was considered as the ability of managers to understand their role for different circumstances and stakeholders. A link can be drawn between the participant's reference to perception and attention and the literatures

description of social cognition. The literature describes social cognition as the mental processes an individual leverages towards attending to, perceiving, thinking about, remembering and making sense of the people in their social world (Helfat & Peteraf, 2015). Therefore, the literature examines reasoning, perception and attention individually as modes of cognition for the processing of data to draw insights relating to an opportunity, it groups these capabilities under social cognition where they are leveraged to understand people and social contexts. However the most apparent departure from the literature is that social cognition, including language and communication, is linked mostly to transforming activities where asset reconfiguration is done (Helfat & Peteraf, 2015).

Middle managers are required to provide significant guidance and oversight to project delivery teams when executing projects. This entails planning, team coordination, client management and quality checking. Participants indicated that problem solving and reasoning together with a mental walk through, among others, were the primary cognitive capabilities leveraged in this phase. It was declared that planning a project requires managers to breakdown large, complex issues into smaller chunks for teams to digest and resolve. New issues often surfaced throughout the delivery of projects and required tailored solutions for the success of the engagement. Managers play a critical role in ensuring that these hurdles are overcome. (problem-solving and reasoning discussed in section 6.4.1.2)

The participants' experience is aligned with Helfat & Peteraf (2015) who posit that these two cognitive capabilities are vital for managers when performing seizing activities. These activities, as described in the literature on dynamic capabilities, entails significant decisions that are often irreversible in the short term (Teece, 2018). Strategic change requires management to make investments in order to build the right capabilities and appropriately reconfigure the business model in response to change (Helfat & Martin, 2015; McGrath, 2010; Teece, 2018). However, the results of this research show that middle managers engage in seizing activities which are more focused on short term impacts. Hence their role does not encompass significant capability investment and business model reconfiguration decisions.

Emotional intelligence was identified as a critical component when executing projects for the organisation. A participant identified the need to manage their emotions in order to

show empathy to their teams and remain resilient in the face of adversary. The participant qualified this by pointing out that scope changes, misalignments along with difficult team dynamics tend to emerge in most projects and these situations trigger emotional senses which the participant is expected to manage. The American Psychological Association (2020) defines emotional intelligence as the ability to process emotional information and use it in reasoning, perceiving and several other cognitive capabilities leveraged in decision making. This aligns with the study of Huy & Zott, (2019) which is based on emotion regulation. In addressing the role of emotions, Huy & Zott, (2019) posit that events resulting from moments of strategic change in an organisation evoke several emotions. During these events managers required to not only regulate their own emotions but the emotions of stakeholders around them – staff, superiors, customers, suppliers, etc.

6.4.3 Transforming

Participants in this study acknowledged the need for their organisation to keep up to date with market changes and this required them to drive continuous improvement within their spheres of responsibility. Several elements were identified within their job descriptions that focus on these transformative initiatives (Teece, 2018). These include implementing internal programmes and formal training sessions, tracking and monitoring progress as well as providing performance feedback. Change management was revealed as the overarching theme in relation to transforming activities.

A participant recognised that it was crucial to change the hearts and minds of the important individuals within the organisation and further noted that the change needed to be facilitated and not forced upon the organisation's stakeholders.

Middle managers in this study highlighted the necessity for superior language and communication skills to effectively manage the change required to transform. This aligns with the views of Helfat & Martin (2015) that reorchestrating assets within an organisation requires clear messaging (both audible and written depending on the context). Social cognition was recognised as a prerequisite skill in order to be well received internally and win over all gatekeepers (See discussion on social cognition in section 6.4.2).

Being open to the options of others was acknowledged as a necessary characteristic for change to take root in the organisation. This affirms the literature in recognising the importance of social cognition in the process of introducing change to an organisation

(Helfat & Martin, 2015). Achieving alignment during times of change in the organisation often requires a high level of cooperation and ownership (Teece, 2010). Gaining cooperation depends on the middle manager's social and interpersonal skills (Salvato & Vassolo, 2018). The social cognition capability relies on the manager's ability to listen to and understand the opinions of others (Helfat & Martin, 2015). The results from this study show that incompetence in these cognitive capabilities is likely to result in failure to transform due to resistance to change within the organisation.

6.5 Summary of discussion - Research Question 2

Research question two explored how cognitive capabilities are leveraged by middle managers in performing their role in the organisation. Themes that emerged were related to the key elements of dynamic capabilities; sensing, seizing and transforming (Teece, 2007). In sensing opportunities and threats, managers collected relevant data from interactions with clients, alliance partners and internal engagement (Brandenburger & Stuart, 1996; Schilke, 2014; Teece, 2018). Cognitive capabilities are leveraged to appropriately collect, engage, understand and communicate the data. Engaging the data relies on curiosity and learning ability, perception (which enables pattern recognition) and attention which facilitates prioritised data analysis (Helfat & Peteraf, 2015). Managers leverage problem solving skills in understanding the data along with their ability to make connections contained in the data through reasoning and performing a mental walk through as well as drawing from their experience and intuition to ensure directional accuracy (Gary & Wood, 2011; Miller & Ireland, 2005). Managers are also required to leverage their language and communication capabilities when engaging relevant stakeholders (clients, internal experts, external professional network and alliance partners) in the sensing for opportunities (Helfat & Peteraf, 2015). Language and communication together with problem solving and reasoning are only linked to seizing activities in the dynamic capabilities literature (Helfat & Peteraf, 2015) which is inconsistent with the experience of the participants in this study.

Cognitive capabilities leveraged by the middle managers in seizing opportunities were grouped into two categories, opportunity conversion and opportunity execution. Converting a live opportunity into a sale for the organisation required that the middle managers combine perception, attention and lateral thinking when engaging the relevant parties in the process. Literature terms this combination of cognitive modes as social cognition as it is specifically directed at understanding and navigating various people and

social contexts in order to effect a change (Helfat & Peteraf, 2015). This presents another inconsistency with the literature as Helfat & Peteraf (2015) associate social cognition with the transforming aspect of dynamic capabilities. Middle managers are required to provide significant oversight and manage delivery excellence when executing project work which resulted from opportunities. In this instance the managers draw from emotional intelligence to enable them to show appropriate levels of empathy to project teams which they lead and demonstrate resilience in the face of challenges encountered. The emotional regulation of self and others is required to accomplish this feat (Huy & Zott, 2019). In general, middle managers leveraged problem-solving, reasoning as well as language and communication throughout the process of seizing opportunities (Helfat & Martin, 2015). These capabilities allow them to effectively plan project timelines and work packages, simplify complex issues and resolve them with the team in addition to communication with project teams.

Concerning transforming activities, middle managers of the organisation are required to continuously improve the capabilities of the organisation through involvement in internal programmes, recruitment, and providing performance feedback. The underlying theme is that managers are required to be extremely effective at change management. The study revealed that managing change and minimising resistance requires strong language and communication skills as social cognition which operates at an interpersonal level within the organisation (Helfat & Peteraf, 2015; Salvato & Vassolo, 2018).

6.6 Discussion of results - Research Question 3

Where do the cognitive abilities of middle managers originate?

This research question identified the origins of the cognitive capabilities which middle managers possess. Participants unveiled that their cognitive capabilities predominantly originate from experience which come in various forms (Helfat & Martin, 2015). The researcher drew from various sources in the literature to unpack the views expressed by participants. Further, an assessment of the impact of experience (positive or negative) was explored together with mechanisms relied on by middle manager to mitigate the negative impact when faced with strategic change within the organisation. A number of rich insights were obtained on these points.

6.6.1 Origins of cognitive capabilities

The response to this research question revealed that the origins of the cognitive capabilities leveraged by middle managers in the organisation originate primarily from experience. The participants noted several types of experiences linked to the creation and development of their cognition. Several participants identified nature and nurture as sources. Personality and natural inclinations stemming from experiences in the formative years give rise to certain habits that inform cognition. Others indicated formal training and education as a significant source, particularly the manner in which experience shapes their approach to problem solving. The frameworks and mental structures that were developed by participants was strongly associated with their years of education. The participants also highlighted the significance of their professional experience thus far as the more opportunities they were given to apply their minds to different situations, the easier it became.

The literature supports these responses as Helfat & Winter (2011) note that the level of performance of a particular capability in the organisation is a function of experience gained while doing it. An organisation learns and improves the more it performs a particular activity. This principle applies to individuals within the organisation as well. The experience gained by middle managers over time through education, personal and professional activities impacts the performance of their mental processes (Helfat & Peteraf, 2015). In the prior section (6.4.1.1), the participants explained that pattern recognition happened quite early in the opportunity identification process. This is an example of how leveraging prior experience can enable a mode of cognition (Helfat & Peteraf, 2015).

6.6.2 Mitigation against biases

The participants acknowledged that the types of opportunities pursued in their industry involve a significant amount of technological innovation which results in them having to adopt a dual mind set comprising of exploration and exploitation simultaneously (Tushman & Smith, 2005). However, Miller et al. (2005) caution that an over reliance on experience led intuition and hunches may prove detrimental to an organisation exploring new technologies, innovations or other forms of strategic change. Though subjective, Miller et al. (2005) argues that prior beliefs and knowledge may skew and distort a manger's perception. Participants further recognised that their experience does cause certain thinking dispositions which may negatively impact their innovative thinking. The

literature posits that these thinking dispositions cause certain biases that may have negative outcomes especially given the often unstructured nature of the opportunities pursued (Helfat & Peteraf, 2015).

The participants highlighted the importance of taking purposeful action to identify potential thinking biases as these emerge and systematically deal with them to mitigate against the negative impact. This affirms the literature which suggests that the main mitigating factor to cognitive biases is the intentional practise of mental processing (Helfat & Martin, 2015). Controlled mental processing is the act of fostering careful consideration of alternative options when approaching an opportunity or solving a problem and not solely relying on prior experiences (Helfat & Martin, 2015). The interviews surfaced several initiatives utilised by the participants to assist them in developing a habit of thinking outside their biases. A participant proclaimed the use of education (formally or informally) in unfamiliar fields, cultures and contexts which allows for exposure to different perspectives. A different approach was taken by a supplementary participant who identified an unhealthy bias then made a note of it and intentionally practiced behaviours that would counter that bias. Participants further stressed the importance of soliciting the opinions of others and then filtering the relevant from that which is irrelevant.

6.7 Summary of results - Research Question 3

Research question three sought to uncover the origins of middle managers' cognitive capabilities. The results show that cognitive development is the outcome of various experiences (Helfat & Peteraf, 2015). These experiences include events that shape personality traits in the formative years such as formal education and field of study in addition to work exposure and personal endeavours (Gary & Wood, 2011; Helfat & Winter, 2011). The participants indicated that their experiences have resulted in certain thinking dispositions that lead to biases in their approach to pursuing opportunities and solving problems. They also recognised the potentially negative impact this may have on their ability to be multi modal in their thinking especially in situations of substantial uncertainty and strategic change (Miller & Ireland, 2005; Tushman & Smith, 2005). Initiatives involving controlled mental processing were found to be extremely effective in mitigating against the negative impact of the identified biases.

6.8 Discussion of results - Research Question 4

How does the firm's structures, processes, routines or activities enable and limit these cognitive capabilities?

Research question four sought to understand the influence of organisational structures and activities on middle managers' cognitive capabilities. Helfat & Peteraf (2015) acknowledges that this phenomenon has not been extensively explored in literature. This research question was utilised to unearth themes from the participants' responses. These themes are subsequently discussed in the following section.

6.8.1 Enablers and limiters of cognitive capabilities

The study revealed that aspects of the organisation's structure were both enablers and limiters of middle management's cognitive capabilities. The organisation's ability to collaborate and network internally was noted as a significant enabler by several participants. The accessibility of the global network (which possess experts and skilled thinkers across several fields) stimulated conversation. This affirms Giudici & Reinmoeller (2012) and Salvato & Vassolo (2018) suggestions that productive dialogue coupled with trust among managers is necessary at an interpersonal level in order for organisations to effectively share knowledge and advance their dynamic capabilities. A participant identified the fluid nature of the business model as a factor which fostered the culture of ideation and drives innovation and creative solutions for clients. This aligns with the work of Wilden et al. (2019) which posits that co-creation in general and specifically with clients is necessary in developing innovative products and services for the market.

Johnson (2020) also supports this notion by suggesting that knowledge sharing activities in an organisation strengthens existing professional knowledge. Further, it improves internal work coordination and consistency in employees' behaviour, and effectively integrates diverse team knowledge and experience (Johnson, 2020). Conversely, other participants identified areas in the organisation where collaboration levels were low due to corporate structures that created silos. These silos were driven by misaligned incentive structures that caused dissension and unproductive dialogue in the organisation which led to low interpersonal interaction (Salvato & Vassolo, 2018). As a result, the silos created hierarchy, lack of diversity and a narrowness in thinking as individuals focused on their areas of influence instead of lateral thinking.

An additional enabler identified was on-the-job training and mentorship which allowed participants to be faced with different scenarios and apply their cognitive skills in serving clients. Participants noted that being given autonomy when delivering work gave them the opportunity to put their cognitive skills into practice and develop as professionals. These activities grew their experience and improved their performance as they applied knowledge from feedback received at the end of each engagement (Helfat & Winter, 2011; Winter, 2013). Participants noted in some instances, processes with a high administrative burden and slow feedback worked against the potential cognitive gains made from project work. Tardy feedback does not offer middle managers enough time to course correct. Unaddressed, it had the potential to distort incentive metrics and cause unwarranted demotivation (Barrick et al., 2015; Natarajan et al., 2019).

Processes that are heavily administrative and internally focused (whilst in most cases are required) can be an unintended distraction if their cost to value is not well balanced and if they are not allocated to the right levels within the organisation. Teece (2018) makes a distinction between base level capabilities, which are operational and administrative, second order capabilities linked to the micro foundations of sensing, seizing and transforming, and higher order capabilities which have to do with the reorganisation and reconfiguration of the micro foundations. Each of these capabilities are performed by individuals at certain designated levels in the organisation and a misalignment between activity and personnel may be counterproductive.

6.9 Summary of discussion - Research Question 4

Research question four identified aspects of the organisation that enabled the advancement of cognitive capabilities and those that formed barriers for these capabilities. Collaboration across members of the organisation fosters a culture of ideation and productive dialogue (Giudici & Reinmoeller, 2012). Participants noted that productive dialogue is critical to the sharing of knowledge across the organisation (Salvato & Vassolo, 2018). However, it was further noted that collaboration and productive dialogue are rendered ineffective in an organisation if trust is not instilled among its members (Giudici & Reinmoeller, 2012). The fluidity of the organisation's business model was noted as an enabler as it encourages members of the organisation to rely on each other's learnings more in order to bring structure to unstructured and often complex situations. This notion is affirmed by the literature which posits that co-creation in general and specifically with clients is necessary in developing innovative

products and services for the market (Wilden et al., 2019). Participants also noted the importance of on-the-job experience as an enabler of cognitive growth. Gaining practical training in projects grew their experience and improved their performance as they applied learnings from feedback received at the end of each engagement (Helfat & Winter, 2011; Winter, 2013).

Conversely, the participants noted the limitations caused by isolated behaviour in certain parts of the organisation. This behaviour was driven largely by misaligned incentive models which resulted in monopolising knowledge and resources to limit the spread of commercial outcomes outside a specific team. In addition, isolated behaviour drove a lack of diversity within the organisation. These responses aligned to the views of Salvato & Vassolo (2018) that isolated behaviour reduced productive dialogue and stifled interpersonal interaction within the organisation and by extension, its dynamic capabilities. The responses to this research question showed that heavy administrative tasks can be burdensome and unproductive if they are assigned to the inappropriate level within the organisation and this has the potential to distort incentive metrics or cause unwarranted demotivation if left unaddressed (Barrick et al., 2015; Natarajan et al., 2019).

6.10 Conclusion

This chapter presented a discussion of the results of this study. The results from the study show that the participants' organisation gains and sustains competitive advantage through the creation and capturing of value in its chosen markets and value chains (Brandenburger & Stuart, 1996;Teece, 2018). The middle managers play a crucial role in enabling the organisation to achieve this sustained competitive advantage. It was noted that the routines that are performed by middle managers sit in four main categories. The first of these is relationship management. This applies to both internal and external relationships. External relationships include interactions with clients, alliance partners and external networks. Internal relationships involve the effective sharing of internal knowledge and intellectual property to build capabilities and products that offer relevant solutions to clients (Giudici & Reinmoeller, 2012). Business model agility was also noted as a source of competitive advantage; however this role is assigned to the top management team and not to middle management.

Middle managers leveraged several cognitive capabilities in performing their roles within the organisation. These were grouped into categories of sensing, seizing and transforming according to the writings of Teece (2018). In performing sensing activities, it emerged that middle managers leverage their cognition to effectively engage the data they encounter, to understand and make sense of it and communicate the insights derived appropriately. Engaging the data, required curiosity and inquisition, perception and pattern recognition, attention and prioritisation, and analysis (Helfat & Peteraf, 2015). Understanding the data required problem solving, reasoning and the ability to make connections in the data, a mental walk through, and a level of intuition based on professional intuition (Gary & Wood, 2011; Miller & Ireland, 2005). This is a departure from the literature which associates problem solving and attention with seizing activities (Helfat & Peteraf, 2015). The literature also warns against an over reliance on experience based intuitions and hunches as they may not be the appropriate apparatus required to deal with environments characterised by high levels of strategic change. Middle managers rely on their language and communication skills to present often complex concepts in simple language. Social cognition allows managers to pitch the message at the appropriate level depending on the audience. This represents an additional departure from the literature which links language, communication and social cognition to transforming activities (Helfat & Peteraf, 2015).

Cognitive capabilities leveraged by the middle managers in seizing opportunities were grouped into two categories, opportunity conversion and opportunity execution. Middle managers leveraged perception, attention, and lateral and creative thinking whilst working on converting live opportunities into sales for the organisation. The literature, in contrast, views perception and attention as cognitive capabilities that drive sensing activities and not within seizing of opportunities (Helfat & Peteraf, 2015). This contradicts the experience of the middle managers in this study. Opportunity execution involved project planning, team management and engagement execution. Middle managers leverage emotional intelligence when performing these activities. Emotional intelligence allowed the participants to empathise with clients and project teams.

Several emotions may be invoked by different stakeholders when delivering a project as the environment involves various moving parts. Middle managers are often expected to manage their own emotions and the emotions of others due to their role as project leaders. This affirms the outcomes of Huy & Zott, (2019) on emotion regulation which is

the management of emotions of multiple parties during the process of strategic change.

Engagement delivery requires that middle managers conduct upfront planning. In many instances the solution being delivered may have several components which add to its complexity. Middle managers must demonstrate the ability to take the large and complex issues that come with the projects and break them down into smaller, simpler, consumable chunks that the team can realistically execute. Participants noted that this requires a large amount of problem solving, reasoning and a mental walk-through. Simultaneously, middle managers are responsible to clearly and continuously communicate the relevant messages to both client and team. This also requires that they leverage their language and communication cognitive skills. On the one hand, utilising problem solving and reasoning when performing these activities aligns with the views of Helfat & Peteraf (2015), whilst on the other Helfat & Peteraf (2015) associates language and communication with activities to do with transforming a business. A similar contradiction with the literature was noted from responses obtained regarding sensing activities.

The study revealed that the middle managers understand the need for an organisation to continuously transform to stay aligned to the movements in the markets in which it operates (Teece, 2018). The activities they perform include; the facilitation of training and education for members of the organisation, researching and executing on continuous improvement initiatives, staying abreast of the strengths and gaps in the internal resource pool as well as contributing to recruitment decisions, tracking and monitoring progress, and giving continuous feedback to members of the firm. These tasks require advanced levels of language and communication (social cognition) to be able to craft the message and communicate at the appropriate level to match the audience. These cognitive skills are also used to win over individuals in the organisation who tend to be decision makers or authoritative figures. This is aligned to the literature as Helfat & Peteraf (2015) sees these modes of cognition as vital in the process of change management to ensure that the least amount of resistance is experienced as the organisation transforms itself. Middle managers therefore have to be extremely effective at executing change management. The study revealed that managing change and minimising resistance requires strong social cognition skills (Helfat & Peteraf, 2015; Salvato & Vassolo, 2018).

The study sought to further understand the origins of middle managers' cognitive capabilities. The results show that cognition is primarily acquired and developed from experience. Personality traits, inclinations and any automatic thinking patterns can be traced back to an individual's past experiences such as formal education and professional work. This is aligned to the literature, as it is understood that the level of performance of a capability in the organisation is a function of experience gained during execution. The organisation learns and improves the more it performs an activity. This principle applies to individuals in the organisation as well. The experience gained by middle managers over time through education, personal and professional activities impacts the performance of their mental processes (Helfat & Peteraf, 2015).

Whilst experience forms a large component of the origination and development of middle managers' cognitive capabilities, the study also showed that this lends itself to the existence of biases in thinking. Biases are caused by thinking dispositions as termed within the lierature (Helfat & Peteraf, 2015). Participants in this study agreed that these thinking dispositions existed, and they needed to be managed very carefully. This affirms Miller et al. (2005) who cautioned that an over reliance on experience led intuition may prove detrimental to an organisation exploring new technologies, innovations or other forms of strategic change. The participants engaged in various self-driven initiatives to aid in mitigating against the negative impact these biases may cause. This affirms the literature when it suggests that a significant mitigating factor to cognitive biases is the intentional practise of mental processing (Helfat & Martin, 2015). Such initiatives included self-education in unfamiliar fields, soliciting the opinions and inputs of others and intentionally putting into practise the newly obtained knowledge.

Lastly, this study explored what aspects of the organisation enabled and limited the advancement of middle managers' cognitive capabilities. Collaboration across the members of the firm was vital for the development of cognitions. This activity fosters a culture of ideation and productive dialogue (Giudici & Reinmoeller, 2012). This aligns with the view of Salvato & Vassolo (2018) that interpersonal interaction is a key component of dynamic capabilities and that it is driven by the existence of productive dialogue. Another enabler was the fluidity of the organisation's business model as it encouraged members of the organisation to rely on each other's knowledge in order to bring structure to unstructured and often complex situations. This supported by the literature by the writings of Wilden et al. (2019) which posits that co-creation is necessary

in developing innovative products and services for the market. Participants also noted the importance of on-the-job experience as an enabler of cognitive growth. On the job training done during project delivery was also seen as a key enabler. This practical training grew their experience and improved their performance as they applied knowledge from feedback received at the end of each engagement (Helfat & Winter, 2011; Winter, 2013). The middle managers also noted the limitations caused by isolated behaviour that existed in parts of the organisation which was driven largely by misaligned incentive models. This resulted in a lack of diversity within the organisation. This affirmed the view of Salvato & Vassolo (2018) that this isolated behaviour reduced productive dialogue and stifled interpersonal interaction within the organisation and by extension its dynamic capabilities. Lastly, the study showed that administrative tasks can be counterproductive when assigned to the inappropriate level of personnel in the organisation. This has the potential to distort incentive metrics and cause unwarranted demotivation (Barrick et al., 2015; Natarajan et al., 2019).

CHAPTER SEVEN: CONCLUSION

7.1 Introduction

The study set out to explore and obtain a deeper understanding of the cognitive capabilities of middle managers. Chapter one indicates a significant amount of literature is available on the manner in which firms obtain and sustain competitive advantage in ever changing markets. The initial thinking in this area was put forward by the resource based view which suggests that sustained competitive advantage stems from a firm's ability to acquire or develop resources that are valuable, rare, imperfectly imitable and have a low substitutability (Barney, 1991). Whilst is was a useful understanding of the concept, scholars over the years have become more critical of its one-sided, potentially reductionist perspective (Eisenhardt & Martin, 2000).

In more recent times the literature has progressed towards dynamic capabilities as the basis of thinking about strategic advantage. Teece, (2018) expands on the resource based view by purporting that the firm's ability to take the best advantage of opportunities is by sensing, seizing, transforming and managing emerging threats, risks and uncertainties faced. In an effort to further this academic conversation, Salvato & Vassolo (2018) in their writings begin to explore dynamic capabilities as a multi-level concept in the organisation. Prior to this, the development and leveraging of dynamic capabilities had been understood as residing with the top management of an organisation (Teece, 2018). However, Salvato & Vassolo (2018) suggested that the sources of dynamism in an organisation come from the enterprise level, interpersonal level and individual level. The contribution to the literature by Helfat & Peteraf (2015) was to understand the role of cognition at an individual level. However, by their own admission their examination of this topic remained focused at the top management (enterprise level) of an organisation, thus leaving a gap in understanding of cognition as it pertains to other levels, such as middle managers. This study sought to obtain a deeper understanding of middle managers' cognition as a source of dynamism in dynamic capabilities.

This chapter presents the conclusions drawn from the findings of the research conducted. The research findings are summarised together with their implications for the theory and business. Further, the limitations in the research are recognised with suggestions on areas for potential future research.

7.2 Research Findings

This exploratory research has successfully met the aims of the study which required that the researcher derive rich insights into the workings of the cognitive capabilities of middle managers as they pertain to executing strategic change, thereby attempting to address the existing gap in the literature (Helfat & Peteraf, 2015; Salvato & Rerup, 2018). The key findings of the research can be summarised into three parts. Firstly, the contribution middle managers make towards sustaining an organisation's competitive advantage is largely confined to executional tasks. Secondly, several cognitive capabilities were found to be pervasive throughout the performance of activities involving sensing, seizing and transforming. These cognitive capabilities are seen as foundational for middle managers to effectively execute their responsibilities in the organisation. Lastly, it was discovered that the autonomy given to middle managers in their work experience and the collaboration with other members of the organisation are critical in enabling the advancement of their cognitive capabilities.

7.2.1 The contribution of middle managers to sustained competitive advantage

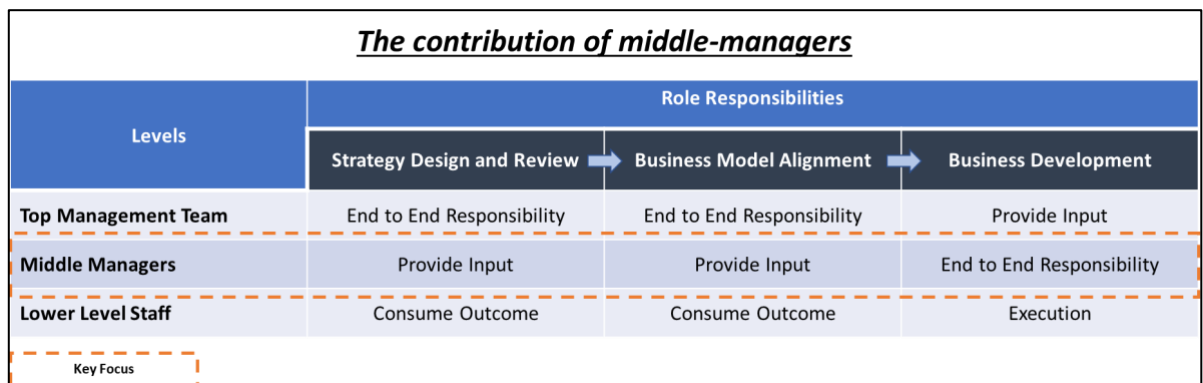| Levels	Role Responsibilities		
	Strategy Design and Review ➡	Business Model Alignment ➡	Business Development
Top Management Team	End to End Responsibility	End to End Responsibility	Provide Input
Middle Managers	Provide Input	Provide Input	End to End Responsibility
Lower Level Staff	Consume Outcome	Consume Outcome	Execution
Key Focus			

Figure 7.1: The contribution of middle managers

The study found that the role of middle managers within the organisation is very distinct. Figure 7.1 illustrates the existence of three layers within the organisation – the top management, middle management, and lower-level staff. The role of top managers is to design and review the organisations strategy, adjust and align the business model accordingly and oversee or provide this as input into the execution of this strategy (McGrath, 2010; Teece, 2018). The activities at this level align to Teece (2018) with regards to higher order capabilities, which are concerned with orchestrating the

organisations resources to align with strategic changes being made. The lower level staff are required to understand the strategy in relation to their day to day tasks and execute against this strategy as they receive guidance from middle managers and other superiors. These tasks typically involve base level capabilities such as administrative tasks, executing on an already sold project or building a new product for a particular client (Teece, 2018).

The study also shows that the role of middle managers falls in the realm of lower order capabilities where tasks relating to the micro foundations of sensing, seizing and transforming occur (Teece, 2018). Middle mangers' focus is on business development which is the execution of the organisation's strategy via revenue generating activities in order to grow the value captured by the organisation within its value chain (Brandenburger & Stuart, 1996; Teece, 2018). This is done through the management of internal and external relationships. External relationships refer to clients where the revenue is sourced, alliance partners with whom revenue generating cooperatives are formulated, and external networks from which critical market intelligence is often acquired (Schilke, 2014; Teece, 2018). Internal relationships should be nurtured to keep open the channels of knowledge and intellectual property sharing (Giudici & Reinmoeller, 2012).

The research presented middle managers as the bridge between strategy formulation and implementation. Strategy execution is the point where value to clients is delivered and simultaneously captured (Brandenburger & Stuart, 1996; Teece, 2018). This involves several tasks such as communicating the strategy to members lower down in the organisation, managing the quality of their delivery and general performance, and building the right culture for members of the organisation to thrive. The achievement of business agility is considered to be the role of the organisation's top management team, however middle managers (due to their practical operational experience) give valuable input into the crafting and reviewing of the firm's business model as affirmed by McGrath (2010) and Teece (2018).

7.2.2 Foundational middle managerial cognitive capabilities

The foundational middle managerial cognitive capabilities									
DC Micro-foundations	Pervasive Cognitive Capabilities								
	Analysis	Perception	Attention	Problem-solving	Reasoning	Empathy & EQ	Social Cognition	Language and Communication	Mental Walk-throughs
Sensing	✓	✓	✓	✓	✓	✓	✓	✓	✓
Seizing	✓	✓	✓	✓	✓	✓		✓	✓
Transforming							✓	✓	

Super Cognitive Capability   Additional Capabilities

Figure 7.2: The foundational middle managerial cognitive capabilities

A firm achieves and sustains competitive advantage from the strength of its dynamic capabilities (Teece, 2018). Dynamic capabilities refer to the firm's ability to respond to strategic change through sensing opportunities and threats, seizing those opportunities and nullifying those threats and transforming the organisation to acclimatize to the new normal (Teece et al., 2016). The results of the study affirm this as it was shown that middle managers perform several activities under each of the micro foundations. Sensing opportunities is done through relationship management (section 5.3.1.2) and capability development activities such as research and proposal responses. This requires managers to engage the data they encounter, understand the data to make sense of it, and communicate the opportunity appropriately. Activities relating to seizing opportunities involve the actual conversion of an opportunity that has been sensed and executing it to derive value for the organisation. This requires that middle managers manage relationships, develop product and capabilities, oversee delivery and manage the organisation's talent. In transforming the organisation, middle managers pursue initiatives for continuous improvement and change management along with tracking and monitoring of progress of these initiatives.

Helfat & Peteraf (2015) expand on the literature of the cognitive capabilities required to effectively execute on each dynamic capability micro foundation element. The position they hold is that managers leverage perception and attention when sensing opportunities. Problem solving and reasoning are leveraged when seizing opportunities. Language, communication and social cognition are leveraged when transforming opportunities. As per Figure 7.2, the findings of this study affirm that middle managers leverage each of the mentioned modes of cognition within micro-foundations.

However, the study builds on the literature in two ways. Firstly, three additional cognitive capabilities emerged – analysis, empathy or emotional intelligence, and the ability to perform a mental walk through. Analysis is the detailed examination of the elements or structure of data which appears after engaging in attention and before engaging in reasoning. Attention being the prioritisation of elements to focus on in the data, and reasoning referring to the ability to take a step back and draw conclusions about the data (Helfat & Peteraf, 2015). Empathy and emotional intelligence both relate to the managers ability to manage and regulate their own emotions and the emotions of others (Huy & Zott, 2019). This requires high levels of self-awareness, which would engage one's cognition. Mental walk-through is the ability to envision a process from problem to solution. This is done by leveraging mental information structures and mind maps (Gary & Wood, 2011).

The second contribution to the literature is that the study shows that the relationship and link between the cognitive capabilities and micro-foundations is not on a one-to-one basis as posited by Helfat & Peteraf (2015). As per Figure 7.2, nine cognitive capabilities (analysis, perception, attention, problem-solving, reasoning, empathy, social cognition language and communication and mental walk-throughs) were identified as overlapping over at least two micro foundations. This means that middle managers significantly leverage these cognitive capabilities when performing more than one micro foundational activity. Notably, middle managers use language and communication across all elements of strategic change.

Therefore, the results of the study indicate that the nine identified cognitive capabilities are foundational requirements for middle managers to effectively execute their contribution to the organisations sustained competitive advantage. Language and communication are deemed as a significant cognitive capability because it is required throughout the process of strategic change.

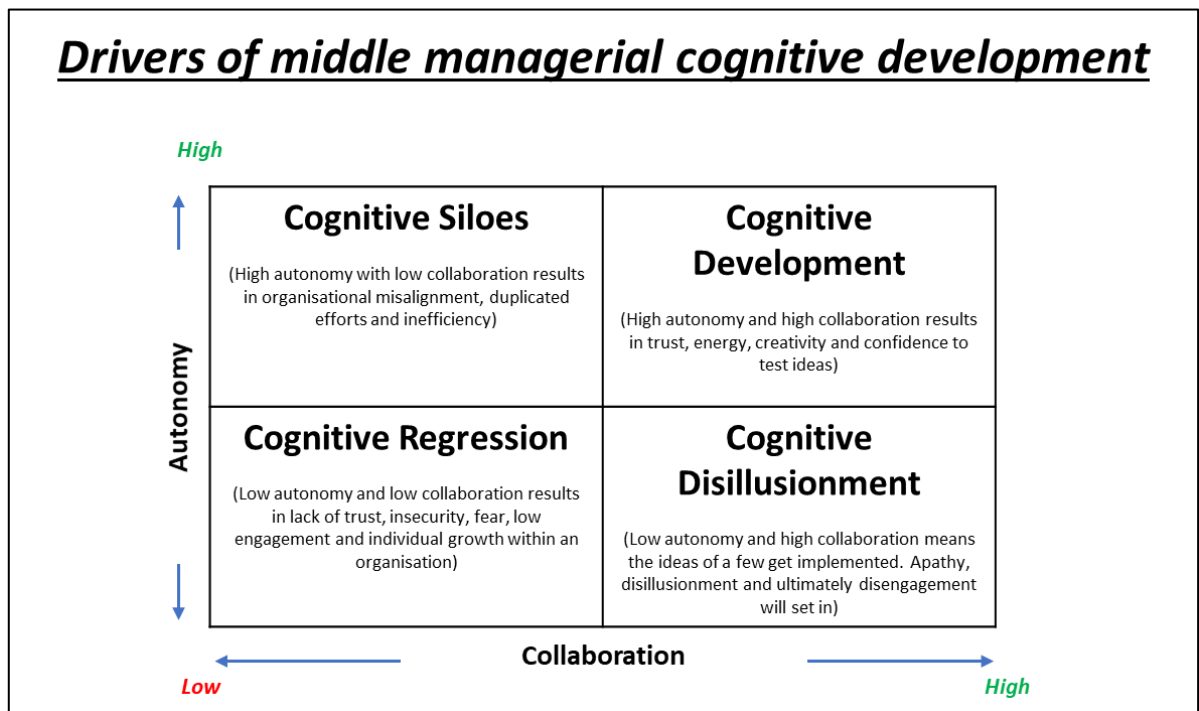### 7.2.3 The drivers of middle managerial cognitive development

Figure 7.3: Drivers of middle management cognitive development

The study revealed collaboration and autonomy as two critical enablers of cognitive development. The types of problems faced by middle managers varies in nature. Knowledge sharing through collaboration makes it easier to collectively solve problems and build client solutions in addition to advancing the managers cognition as they learn from others. Giudici & Reinmoeller (2012) and R. Wilden et al. (2019) support this idea by noting that collaboration within an organisation fosters a culture of ideation and innovation. Salvato & Vassolo (2018) further suggests that productive dialogue is critical to the sharing of knowledge across the organisation. However managers are required to build trust within the organisation for effective, constant and productive dialogue to take place (Giudici & Reinmoeller, 2012). The antithesis to collaboration results in silo behaviour and this is detrimental to the cognitive development of middle managers. This behaviour is typically a result of misaligned incentive models within an organisation that cause capturing of knowledge and resources to limit the spread of commercial outcomes outside a specific team. This behaviour also drives mistrust and a lack of diversity within the organisation. This affirms the views of Salvato & Vassolo (2018) that a lack of collaboration reduced productive dialogue and stifles interpersonal interaction within the organisation and by extension, its dynamic capabilities.

Autonomy as an enabler is within the context of delivering against the ideas and solutions derived from the collaborative thinking. Middle managers require the opportunity and trust from their leadership and teams to work independently on the implementation of the organisation's strategic plans. The practical experience gained from being given the space to apply themselves, obtain timeous feedback and adjust based on the feedback knowledge has the result of an improvement in cognition (Helfat & Winter, 2011; Winter, 2013). Autonomy granted to managers when delivering work provides them the chance to put their cognitive skills into practice and develop as professionals.

Therefore, as per the scenarios depicted in Figure 7.3, low autonomy and low collaboration results in lack of trust, insecurity, fear, low engagement and individual growth within an organisation. Low autonomy and high collaboration mean the ideas of a few get implemented. In this scenario, apathy, disillusionment and ultimately disengagement will set in. High autonomy with low collaboration results in organisational misalignment, duplicated efforts and inefficiency. Lastly, high autonomy and high collaboration results in trust, energy, creativity and confidence to test ideas.

7.3 A proposed framework

A proposed model for understanding the middle manager cognitive capability continuum is presented.
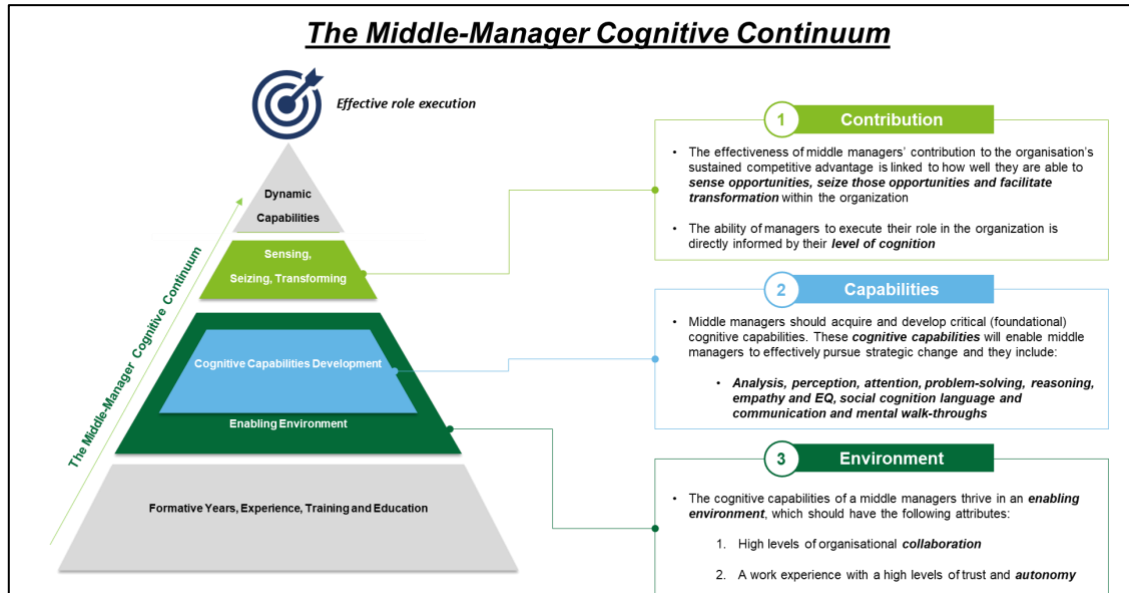

Figure 7.4: The middle manager cognitive capability continuum

The model illustrated in Figure 7.4 above incorporates the critical findings obtained from this study. The model depicts all the key elements that constitute a middle manager's building blocks which enable them to (through their role) effectively contribute to their organisation's pursuit for sustained competitive advantage with dynamic capabilities. The model begins by showing the origins of middle managers' cognitive capabilities at the base of the pyramid. Based on the outcomes of this study, these cognitive capabilities stem from experiences from the formative years, professional exposure, formal education and any other training. The next building block illustrates the importance of the environment within which middle managers operate, this has a direct impact on their cognitive development. The results of this study show that the cognitive capabilities of middle managers thrive in an enabling environment. This environment should possess high levels of organisational collaboration and a working experience with a high level of trust and autonomy.

The next building block highlights the requirement for middle managers to acquire and continuously develop nine specific cognitive capabilities identified in this study as foundational to their success. These cognitive capabilities will enable middle managers to effectively pursue strategic change and they include; analysis, perception, attention,

problem-solving, reasoning, empathy, social cognition language and communication and mental walk-throughs. These capabilities may only develop if the environment allows.

The next block in the pyramid highlights the point at which the effectiveness of middle managers' contribution to the organisation's sustained competitive advantage is linked to their ability to sense opportunities, seize those opportunities and facilitate transformation within the organization. However, as noted, the ability of managers to execute their role in the organization is directly informed by their level of cognition. Lastly, by addressing every building block, middle managers will become a source and a driver of the organisation's dynamism and ultimately its ability to gain and sustain competitive advantage.

7.4 Implications for business

The research has highlighted the importance of the role of middle managers and their specific contribution to the organisation's dynamic capabilities. The study further shows how the cognitive capabilities of middle managers significantly contribute to their ability to be effective in their role in the organisation. Along with the middle manager cognitive capability continuum, the research also provides the following additional insights for practitioners:

1. Middle managers form an integral part of an organisation's ability to gain and sustain competitive advantage. They sit between strategy formulation and execution. This gives them a unique vantage point within the organisation as they have a depth of understanding of the organisation's strategy and the operational considerations. They can close the gap between the articulated direction and the steps required to get there. As such, the leaders of organisations should make an effort to involve them more in the process of strategy formulation and review as they are able to offer a very valuable perspective.

2. The primary focus of middle managers is to develop the business. This requires that they manage internal and external relationships, build products and capabilities, manage delivery, and the organisation's talent. These activities are supported by their abilities to sense opportunities, seize these opportunities and transform the organisation. This study showed that there are nine cognitive capabilities that are imperative for middle managers to effectively execute their duties in the organisation. These capabilities are; analysis, perception, attention,

problem-solving, reasoning, empathy, social cognition language and communication and mental walk-throughs. As such leaders of organisations should ensure that these foundational cognitive capabilities are acquired and are continuously developed by their middle managers. Organisational leaders should add a learning experience to the middle managers past experiences from their formative years, formal education, professional experience and training.

3. The study found that the foundational middle manager cognitive capabilities can be nurtured only if the organisation strives to create an enabling environment for them to thrive. The research highlighted several practical ways of creating an enabling environment for middle managerial cognitive capabilities:

   a. Increase collaboration and limit siloes. Leaders of organisations should examine their incentive models to ensure that they do not cause unintended misalignments between accountability structures and the need for knowledge sharing. Behaviours that support a culture of co-creation should be prioritised in the reward structures.

   b. Middle managers should be allowed enough work exposure, however, autonomy and trust must be incorporated in the ways of working. Middle managers want the freedom to implement their ideas independently with minimal micromanagement. Organisational leaders should provide this freedom and trust to increase the confidence of middle managers to test new ideas and concepts. The focus of top-level leadership should be to provide mentorship, guidance and give timeous, honest feedback to ensure that middle managers can incorporate it in their learning.

   c. Administrative burden should be reduced. Middle managers often find themselves spending a disproportionate time satisfying the organisation's administrative and governance requirements. Whilst these requirements are necessary, they move the attention away from their primary role which is to develop the business through revenue generating activities. Top management should continuously review the organisation's administrative and governance processes as some may be outdated and inefficient and either require refreshing or removal. Top management should also ensure that middle managers are supported with appropriate resource capacity for them to spend the bulk of their time and efforts on business development activities.

7.5 Limitations

The study was exploratory in nature and therefore generalisability of the results was limited. Qualitative research has often been found to be limited by the subjective nature of findings due to various factors (Saunders & Lewis, 2012). The limitations to this research paper are identified as follows:

1. The researcher has very close professional links to the firm being researched which may have limited objectivity when drawing insights from the data due to preconceptions that may have existed.

2. The researcher does not posess interviewing expertise which may have impacted the collection process of the data during the field work.

3. The generalisability and transferability of the research may be limited due to the following factors:

    a. The sample size of fifteen interviews limits generalisability to other contexts.

    b. The sample was limited to the range of levels deemed most suitable to the objectives of the study. Levels lower than manager and those that are above associate director may have additional insights to share based on their exposure and understanding of the business which may have been relevant to the advancement of this research.

    c. The research was conducted on a single firm which introduces a level of homogeneity. Although the sample spanned across multiple business units within the company, replicability of the study may be limited by its focus on a single entity.

    d. The participants in this study were concentrated in the region of Johannesburg, Gauteng, South Africa.

7.6 Recommendations for future research

Based on the outcomes of this research study, the following recommendations for future research would add significant value to the existing literature:

1. A deeper understanding of the relationship between the role of middle managers and top leadership. This should focus on identifying factors required for middle managers and the top management team to effectively manage the organisation's strategy from formulation through to execution.

2. An exploration of the antecedents of individual or clusters of cognitive capabilities. This study identified experience in general, from formative years, formal education and training as the source of cognition. Research into which types of experiences result in which types of cognitive capabilities would be a valuable addition to the current knowledge.

3. An investigation into which cognitive capabilities are most prominent or foundational in different industries and why those differences exist.

4. A further investigation into the most effective organisational initiatives which create an enabling environment for cognitive capabilities to thrive.

5. A deeper exploration of the drivers of middle managerial cognitive development in other industries.

7.7 Conclusion

The literature on dynamic capabilities as a source to sustained competitive advantage has grown over the years. The conceptualisation of dynamic capabilities was initially focused on enterprise wide routines set into motion by the top management team of an organisation. The literature on the topic evolved in more recent years to incorporate interpersonal interactions and individual level capabilities. Individual level dynamic capabilities are understood to stem from habitual behaviours, emotions and cognition. However even at an individual level, the literature's focus has been on members of the top management team. Literature has largely overlooked individual level capabilities exhibited by middle managers, which has left a gap in the academic conversation. The research study set out to close this gap which existed in the literature by focusing on gaining a deeper understanding of the cognitive capabilities of middle managers. The findings that emerged from the fifteen middle managers interviewed established a clear understanding of the cognitive capabilities they leverage to effectively execute their role in gaining and sustaining the organisation competitive advantage.

The report unearthed a number of insights from the research conducted which culminated in the development of the middle manager cognitive continuum model. This model incorporates the three major findings that explain the role of middle managers, the modes of cognition they leverage, and the enablers and limiters of these modes. As such, the study contributes to the literature through empirical research which provides key insights into the workings of the different middle manager cognitive capabilities. Furthermore, it is hoped that this research contributes to management practise through the application of the middle manager cognitive continuum by leaders and consultants who are seeking to drive improved performance within the middle management layer of organisations.

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Annexure A – Interview schedule and consent form

<u>Informed consent letter</u>

To whom it may concern

I am currently a student at the University of Pretoria's Gordon Institute of Business Science, and I am completing my research in partial fulfilment of an MPhil (Corporate Strategy). I am required to complete a Research Project as part of my Master's qualification. The title of my research is, "The missing-middle in strategic change – Understanding cognitive capabilities of middle managers as a source of dynamism in dynamic capabilities." In this context, dynamic capabilities refer to the organizations ability to remain competitive in its chosen markets by sensing opportunities and threats, seizing those opportunities, and addressing the threats, and reconfiguring itself to align with the requirements of the change thrust upon it. One of the sources of dynamic capabilities is the cognitive or mental processing capabilities that its individuals have to sense, seize, and transform – which is what we will be covering.

Our interview is expected to last about an hour. The research's main objectives are to explore the cognitive capabilities middle to senior management (leadership) require to execute on an organisation's strategic changes. Your participation is voluntary and anonymous, and you can withdraw at any time without penalty. All data will be reported without identifiers. If you have any concerns, please contact our supervisor or a member of our syndicate. Our details are provided below.

Researcher Name: Lutho Sotashe   Supervisor: Hayley Pearson

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Signature of participant: _____

Date: _____

Signature of researcher: _____

Date: _____

<u>List of semi-structure interview questions</u>

Understanding the context:

1. Please describe how your organisation gains and sustains competitive advantage in a continuously changing environment (Researcher to explain dynamic capabilities – taking advantage of opportunities and addressing threats)? Please give examples of each.

2. Please describe your role in the organisation and what it is that you do?

Contribution to competitive advantage – cognitive capabilities:

Please think of examples of situations you have dealt with in your role for the next set of questions. Try and make a distinction between physical actions and the mental processes you go through.

1. What activities do you drive in order to ensure that you and your organisation are sensing emerging opportunities and risks?

    a. What mental processes (processing activities) do you rely on to ensure you are able to sense these opportunities and threats

2. What activities do you drive in order to ensure that you and your organisation are seizing emerging opportunities and risks (responding to the changes)?

    a. What mental processes (processing activities) do you rely on to ensure you are able to seize these opportunities and threats

3. Once you have responded to the opportunity/threat, what activities do you drive in order to ensure that the business adapts to the changes that emerge from the opportunities and risks?

    a. What mental processes (processing activities) do you rely on to ensure you are able to sense these opportunities and threats

4. How did you acquire these mental processing abilities? What has helped you hone/improve them?

5. What impact has your experience (professional and otherwise) had on your mental processing for the above?

6. How do you reduce your bias from the outcomes?

7. Can you describe the kinds of firm structures, processes, or activities that enable these capabilities' flourishing?

    a. Follow up question – are there any processes that are currently not in existence that you feel would be an enabler to these capabilities?

8. Conversely, can you describe those structures, processes or activities that limit these capabilities?

Annexure B – Consistency matrix

Research questions / propositions / hypotheses	Sections in literature review	Data collection tools	Analysis technique
What managerial cognitive capabilities do middle managers leverage in pursuit of strategic change within the organisation	(Salvato & Vassolo, 2018) (Helfat & Peteraf, 2015)	Questions 1 and 2 from interview questionnaire	Thematic content analysis on open ended questions, to determine range capabilities and where they show up most in the organisation
What are the contextual characteristics of these cognitive capabilities	(Salvato & Vassolo, 2018) (Helfat & Peteraf, 2015)	Questions 2 and 3 from interview questionnaire	Thematic content analysis on open ended questions, to determine possible descriptions, distinct or generic. Frequency analysis to determine most prevalent capabilities, apply content analysis again to determine reasons.
Where do these cognitive abilities come from (where do they originate or how do they come into existence)	(Salvato & Vassolo, 2018) (Helfat & Peteraf, 2015)	Questions 4, 5 and 6 from interview questionnaire	Thematic content analysis on open ended questions, to determine emergence of the capabilities
What processes, actions or mechanisms enable (support) or limit these cognitive capabilities	(Salvato & Vassolo, 2018) (Helfat & Peteraf, 2015)	Questions 4, 5 and 6 from interview questionnaire	Thematic content analysis on open ended questions, to determine possible causal links between structure and actions and capabilities

Annexure C – Ethical Clearance

Gordon Institute of Business Science
University of Pretoria

Ethical Clearance Approved

Dear Lutho Sotashe,

Please be advised that your application for Ethical Clearance has been approved.
You are therefore allowed to continue collecting your data.
We wish you everything of the best for the rest of the project.

Ethical Clearance Form

Kind Regards

This email has been sent from an unmonitored email account. If you have any comments or concerns, please contact the GIBS Research Admin team.