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Individual ambidexterity: a critical capability towards innovativeness in organisations

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ABSTRACT

Innovation activities vary over time as organisations evolve towards more exploitative innovation to extract maximum performance from existing knowledge and operations. This is a natural evolution, where past innovators become the leaders, capital allocators and managers. Well-run and continuous improvement programmes deeply embed organisational preferences, inadvertently raising barriers to explorative innovation which seeks new knowledges and, with it, a divergence from current thinking. The prospect of new discovery induces paradox as it threatens obsolescence. It seeks high variance, in the face of a low variance focus. Enabling an ambidexterity capability will synergise these tensions and gain the benefits of both types of innovation. Synergising both offers long-term sustained innovation and enhanced performance, and so ambidexterity capability is of significant importance. The researcher's objective is to explore how an individual ambidexterity capability is able to improve an organisation's ability to synergise the paradoxical tensions in the innovation process.

This thesis has a focus on how organisations may scale their internal ambidexterity capabilities. Individual ambidexterity proposes a reframing of the role of the individual towards taking a far more central role, and one from which the ambidexterity capability is scaled. It promises a richer, more generative capability which breaks beyond the limits and boundaries of the structural or leadership limitations. This thesis heeds a call for more theorising on how individuals experience paradox tensions and provides revelatory ambidexterity insights into real world of work situations.

The work of this thesis has been to enter the real world of work through the interviewing of 12 participants from a selected case study on an explorative innovation, in an environment more familiar with exploitative innovation performance. The researcher also interviewed 3 functional experts to gain insights into current individual capability support and enablement.

Through this thesis the researcher's findings contribute that the paradox tensions are complex layers of interrelated tensions, that they have severe implications for the individual in their ability to respond, that this ability to respond should be deliberately supported by competency, trait, behavioural and other capability models, but also that leaders play a critical role in creatings a supportive context for the individual to enact ambidexterity and

lastly that there is also a need for the right instrumental support for the varying needs in the innovation process.

This thesis supports the notion that with a lack of awareness and intentionality for ambidexterity, individuals are left to face complex paradoxical tensions but their response is left to chance or individual intuition. Their individual ambidexterity is a rich source of sustained innovation capability but requires a strategic approach to enable it. It requires the reframing of the role of the leader in shifting to a supportive and enabling role, emancipating the agency of the individual in creating a supportive organisational context, a context which normalises the empowerment of individuals, exploration, divergence and experimentation. It is critical to ensure that personal career risks do not inhibit the exploration or agency of individuals.

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1.1 Introduction

The researcher's work life as an executive business leader inside a large corporation is characterised with the many challenges of balancing the running of effective operations while also driving innovation. Running effective operations includes extracting further productivity gains from the existing operations and knowledge through operations excellence and continuous improvement programmes. These drive incremental innovation, which is important for defending the organisation against inflationary and other cyclical threats. As this becomes a larger focus, a systemic familiarity with the process, skills and cadence is embedded. Incremental or exploitative innovation is not enough to ensure sustained success, and organisations must also drive exploration for more radical innovation as this will more likely offer sources of market place relevance and competitive advantage.

Pressure on organisations to sustain innovation is increasing, as the ability to do so has become a source of competitive advantage, where not only the outcomes are valuable but also the capability that delivered them. The modern business context sees increasing market place competition, the rapid change cycles driven by technology deployment and its disruptive impact on business models. There is also increasingly a shift in customer and employee expectations, and the pressure of expectation is on organisations to contribute to society's work in attempting to solve the many 'grand challenges', of inequality, environmental crises and universal healthcare, among others. These contextual dynamics provide a stimulus for organisations to improve their ability to sustain innovation. The aim of this research is directed at that improvement, but with a specific interest in how to best synergise the different innovation activity choices.

There are several obstacles or challenges that organisations face in responding to the stimulus to innovate, and these obstacles drive varying strategies to overcome them. These strategies in organisations are diverse and include structural, resource, procedural, skills and leadership strategies. Innovation choices invoke contradictory tensions, the nature of which is subject to varying theoretical perspectives that impact on the resulting strategies to manage, solve or overcome these tensions. Primarily the most significant opposing tension is provoked by decisions to innovate through incremental improvement in exploitative innovation or to explore opportunities for radical or new value from explorative innovation activities.

Essentially, these choices are about exploiting existing knowledge or exploring new knowledge, but with substantive variations in their implications for organisational focus, prioritisation, and resource allocation as well as for organisation skill.

The main scholarly positions are that these tensions are either momentary, solvable and opposing or that they are persistent, interrelated, more orthogonal and unsolvable binds (Hargrave & Van de Ven, 2017; Sheep, Fairhurst, & Khazanchi, 2017). Both perspectives hold that these tensions are potentially dangerous for innovation success and agree that a positive response to them is highly desirable, but their strategies diverge significantly due to the nature of their theoretical origins. Ambidexterity is defined as an organisational capability to effectively manage both sides of these tensions, synergising them and having a positive impact on sustaining innovation. In the one perspective where tensions are regarded as contextual and solvable, ambidexterity tends to be focused on structural and sequential strategies that effectively split or group organisational resources by innovation activity type. In this more contingency-based model, the role of the leader is key to exhibit ambidexterity as they become the decision makers with regard to resource allocation and the integrators of the innovation activities which have been structurally differentiated. In the other perspective where tensions are seen as persistent and unsolvable, strategies for ambidexterity tend towards more complex models of living with both sides of an orthogonal tension (Sheep et al., 2017). In this strategy the concept is that tensions are not problems but rather opportunities that hold significant enhanced value for innovation outcomes if embraced, synergised and where the organisation is able to fluidly engage both sides and switch between them. In this model, complexity and a reframing of the role of the individual, learning orientation and the role of a supporting environment are introduced. The role of the leader shifts to creating that supporting environment, where individuals are empowered to work autonomously in an environment that encourages risk-taking creativity, a socially formed learning orientation, and work which encourages iterative experimental work.

An increasing convergence of scholarly perspectives on the tensions is emerging, as well as a growing interest in the role of the individual in theories on ambidexterity and innovation capability. Perspectives vary substantively on the value of the role of the individual in a ‘bottom-up’ innovation capability versus that of a ‘top-down’ innovation capability where leadership, structural and resource strategies are both more central in the strategies and more dominant in literature. There has been a growing convergence over the past number of years

in respect of the idea that an individual level innovation capability is an important mechanism in scaling creativity, new knowledge and ambidexterity capability.

There is increasing pressure on organisations to sustain innovation through effectively harnessing the paradoxical tensions present in the process, gaining the advantages of the virtuous cycle of positive responses or experiencing the negative effects of a vicious cycle of distrust and inertia (Hargrave & Van de Ven, 2017). The contingency-based approaches of leveraging differential strategies have value to offer innovation, but are highly reliant on the skill and ability of leaders in the top-down model of ambidexterity while potentially losing value when scaling ambidexterity from lower down in the organisation. The individual ambidexterity strategy offers a scaling of ambidexterity through creating an organisation of ambidextrous individuals beyond the boundaries of the leadership skill limits and offers the idea that the opposing tensions offer each other enhanced value if synergised. This strategy has substantive implications for the reframing of the role of the individual and the leader, for learning in organisations and for creating a supportive context for individuals, who perhaps induce more complexity rather than simplicity for organisations to engage with. These individuals introduce ambiguity, complexity and duality, and in doing so present organisations with the challenge of reconsidering the skills, traits, behaviours and cognitive abilities of the individuals as well as to reconsider the learning models (Smith et al., 2017).

The researcher aims through this thesis to contribute to the understanding of how ambidexterity enables innovativeness at the individual level of the organisation. The researcher's interest stems from the fact that there is a vast body of knowledge and research on the organisational level, there is a growing dialogue on developing implementable theory at the individual level where the researcher hopes to contribute (Caniëls, Neghina, & Schaetsaert, 2017; Cunha, Bednarek, & Smith, 2019; Smith & Tracey, 2016). The researcher intends, through the use of a case study, to observe the paradox phenomenon experienced by individuals and to explore how ambidexterity is used in real life.

To achieve the aims and objectives of this research, a case study of an explorative innovation project was conducted, comprising 12 semi-structured interviews with key project team members and 3 structured interviews with functional specialists within the organisation. The objective was to engage in explorative conversation through the semi-structured interviews to enable the participants to share insights, experiences, observations, opinions and personal

nuances, in order to capture what is beyond processual, transactional or historic accounts only (Gioia, Corley, & Hamilton, 2013). Such explorative conversation with the participants of the case study would yield rich insights into their experiences of the case, thus enabling the researcher to gain deeper qualitative and personal insights. The researcher would become immersed into the world of the participants and able to observe, describe and interpret the data towards finding insights and to contribute to furthering the current understanding of how individual ambidexterity impacts on the organisation's ability to sustain innovation.

1.2 Research context

In more recent years there has indeed been an increase in research focused on the individual level of analysis for a deeper understanding of the sustainable implementation of ambidexterity, but several of the researchers nevertheless suggest that more theorising is needed at this level (Brix, 2019; Cunha et al., 2019; Van Assen, 2019). There is a call for an improved understanding of how paradox tensions manifest at the individual level and how ambidexterity enables their navigation. Furthermore there is a need to further understand how the individual is enabled to display that ambidextrous behaviour, and what its implications are for the organisation. With the increasing focus on individual level ambidexterity, there is also a need for more theorising and a deeper understanding of the variables beyond just behaviour (Cunha et al., 2019; Smith et al., 2017; Kauppila & Tempelaar, 2016).

Several more recent research efforts have focused on the individual's ability as the foundational or "bottom-up" unit of an organisation's ambidexterity capability, while earlier research tended towards the organisational level or "top-down" view of the capability. These more recent scholars have been indicating the need for more theorising on the individual's role and ability in enabling a positive response to tensions (Battilana, 2006; Kauppila & Tempelaar, 2016; Turner, Swart & Maylor, 2013; Van Assen, 2019). Research on individual agency, autonomous work, cultural openness and trust building has contributed theory on the reframing of the individual at the centre of the organisational capability, within a focus on individual ability and on creating a supportive environment towards building individual ambidexterity (Battilana, 2006; Kauppila & Tempelaar, 2016; Turner et al., 2013; Van Assen, 2019). Where leadership and culture are important in their role as enabling or inhibiting change responsiveness, individual agility, individual decision making and more socially

formed modes of learning take a more central role in the capability (Battilana, 2006; Smith et al., 2017; Mabey & Zhao, 2017; Smith, Besharov, Wessels & Chertok, 2012). If these paradox tensions are persistent over time and also complex, and if the ambidexterity required is to synergise both innovation types, then this induces organisational complexity – an organisational complexity that requires a reframing of learning, behaviour and culture, and which places a more complex demand for individual ability. Two key questions then are how ambidexterity is enabled at the individual level and how is it impacting the navigation of the paradox tensions at that level?

The researcher found that real implementable strategies for building individual ambidexterity are lacking and that the various theoretical perspectives are not well integrated in a way that enhances the understanding of how organisations may enhance their ambidexterity at that level (Brix, 2019; Turner et al., 2013). The complexity induced by the integrative paradox theory accommodating the "both-and" construct and its implications for the individual's role in organisations in contrast with more traditional organisational logic may perhaps be the reason for this lack of implementable strategies (Smith et al., 2017).

The project selected for the case study was an explorative innovation project in a retail organisation, where the team comprised four full-time employees accountable for existing operations, but also five specialised employees whose roles are more biased towards explorative work, and then also three team members from two external organisations – two of whom have senior leadership roles in an operational unit. The project aimed to radically change the transport planning model, process, system, operating model and change roles and organisational structure. It presented the researcher with a complex explorative innovation example which was executed by people with a wide diversity in their roles between explorative and exploitative innovation work.

The broader organisational context is that the retail organisation is arguably highly innovation focused and is regularly referred to as such from the perception of customers and stakeholders. It invests large amounts of capital annually in projects but it can be argued that the biggest portion is towards exploitative innovation activities as it seeks to grow its existing revenue streams, in its current markets and with its current products but also in driving continuous improvement for incremental value. The project selected for the case study was part of a larger programme of investment into the supply chain over a number of years, and

this programme too saw approximately 85% of the investment aimed at exploitative innovation with the other 15% being focused on explorative innovation. This context is of interest simply due to the reality that while the organisation and its people are very innovation focused and accustomed to innovation and change, the bias has been towards exploitative innovation activities. The researcher thus considered it a good opportunity to observe tensions provoked by the explorative innovation in the project selected for the case study. The prevailing organisational innovation context is that the strong embedment of a continuous improvement operating framework has been a great source of success for many of the team members. This project offered the first explorative innovation opportunity for many years. The project spanned approximately three years and has progressed through various lifecycle stages, with many of the participants at this point having gained a richness of experience and insight from that period. This research setting offers the most promising ground for the wisdom of hindsight and the opportunity to explore the views of the participants on the outcomes resulting from choices made during tensions, since enough time has passed.

1.3 Research aim and contribution

Many researchers have written about the vicious cycle that may be experienced, characterised by inertia, resistance to change, inability to capitalise on opportunities and internal division or trust deficit, as a result of negative responses to the paradox tensions (Hargrave & Van de Ven, 2017; Smith & Tracey, 2016). Researchers have also theorised on the unfavourable defensive responses by leaders to these paradox tensions when they are not aware or equipped with the right leadership skills to enable individuals to work within the complexity and ambiguity (Zacher & Rosing, 2015). Where the leaders' responses are to over-index on control, governance and consensus as a stress response is negative for organisational ambidexterity as it stifles explorative innovation (Zacher & Rosing, 2015). These present dangers or threats to innovation in organisations and as such an ambidexterity capability must mediate for these threats. Not doing so might trap an organisation in largely exploitative innovation activities only.

This focus on individual ambidexterity theorising is in an aim to contribute towards an improved understanding of how organisations are possibly able to grow their ability to

become more innovative in both types of innovation. The researcher chooses to focus on individual ambidexterity but in so doing does not argue against differential ambidexterity strategies. This allows room for both having value for organisations in their quest to sustain innovation performance. While many Western-based learning models and organisational theorists have shown a tendency towards contingency constructs focused on differential, structural and sequential ambidexterity, increasing developments in the more Eastern-based concepts of "both-and" constructs are more focused on synergy than difference (Hargrave & Van de Ven, 2017; Smith & Tracey, 2016). This more complex "both-and" construct focuses on the individual's ability to accommodate and engage both sides and raises questions on how to enable that ability from the individual's perspective and from a context perspective.

1.3.1 Enabling individual ambidexterity

The researcher's first interest is to observe what contradictory tensions are experienced by individuals in the innovation process of the case study project. Taking a lens agnostic of theoretical perspectives, the researcher's aim is to gain these field insights into the paradox tensions the individuals experience and then to observe any ambidexterity behaviours or activities. The researcher's intent is to observe and explore without this differentiation to allow individual experience insights to emerge (Smith et al., 2017; Lewis & Smith, 2014; Smith & Tracey, 2016). Both theoretical perspectives on paradox tensions have implications for the individual, for leaders and for organisational culture, and therefore observing instances, experiences or opinions from individuals may reveal more about these tensions in a real organisational context. Irrespective of the perspective, both view a positive response as enabling a virtuous cycle and avoiding the vicious cycle, where the virtuous one has positive benefits for the organisation's innovativeness.

The researcher seeks specifically to observe examples of ambidextrous behaviour by individuals and to explore both how these impact the innovation and how they are enabled. The role of the individual is central to individual ambidexterity theory and minor to the differential or sequential ambidexterity theorists. The individual's ambidextrous behaviour is the focal point, but understanding that the individual's behaviours are interdependent with the organisational culture and leadership and so observing the phenomenon of individual ambidexterity must be done with a contextual awareness of those variables (Brix, 2019; Caniëls et al., 2017; Kauppila & Tempelaar, 2016). In this theoretical framework, the

research attempts to sharpen the focus on the individual and conceptually zoom out on the theoretical approach, and in so doing hopes to build on the works of others to integrate the diverse theoretical perspectives on paradox, ambidexterity and strategic responses to building it (Hargrave & Van de Ven, 2017; Smith et al., 2017; Turner et al., 2013; Zacher & Rosing, 2015).

Building individual skill to enable an embracing of the ambiguity and complexity, to fluidly switch between innovation activities and to have the ability to freely form social learning networks beyond functional boundaries and to be able to work autonomously, has significant implications for competency and learning models (Caniëls et al., 2017). This is a material challenge to the organisational models of learning, the work and value of the individual, the role of leaders in enabling and empowering individuals, the value of self-developed social networks and organisational values and cultural norms (Brix, 2019; Caniëls et al., 2017; Cunha et al., 2019; Van Assen, 2019; Zacher & Rosing, 2015). A review of the literature reveals a limited volume of work on implications for individual cognitive, social, behavioural and competency models, and so there are limited insights for implementation in learning and development, recruitment competency models, work design models, cultural models and leadership models.

1.3.2 Individual behaviour, cognition, skills and traits

Some scholars have theorised at the individual level of analysis, developing some insights into behaviours, traits and some cognitive aspects, and some have worked at pedagogical approaches but they remain limited (Brix, 2019; Cunha et al., 2019; Kauppila & Tempelaar, 2016; Smith et al., 2012). As previously stated, the scholars in these works lament the lack of sufficient theorising combined with a need for quantitative work to build positive linkages in the theories through data gathering in practice. If the role of the individual is so critical to enabling a more complex but potentially more valuable form of ambidexterity to enable innovation for organisations, what then are the implications for the individual? There is a need for building on the existing work of these theorists towards a further understanding of how these paradox tensions manifest to the individual and how they respond, which may potentially offer insights into future implementable designs for individual behaviour, cognition, skills and trait models (Brix, 2019; Kauppila & Tempelaar, 2016). If the individual is empowered to make decisions and to work autonomously, encouraged to be creative

without the threat of punishment for errors in an open and learning culture, how then will they deploy behaviours, skills, cognition and social abilities to bring to bear this integrative individual ambidexterity (Brix, 2019; Cunha et al., 2019; Kauppila & Tempelaar, 2016)? In this more complex world of work where individual ambidexterity implies an ability of individuals to switch between innovation activities, embrace and synergise the tensions and fluidly re-organise, more understanding is required of the implications for how to build the necessary traits, behaviours and social capabilities.

1.3.3 Research question

It is the objective of this thesis to explore individual ambidexterity in organisations in an effort to deepen the current understanding of and as a contribution to implementable theoretical models, frameworks and strategies towards sustained innovation. The researcher's ambition is checked by a combination of his own constraints as well as recognising the growing body of knowledge already in existence, and as such hopes to reflect this thesis as an incremental scholarly work, asking this core research question:

How is ambidexterity demonstrated as a sustained capability at the micro level of the organisation?

With an intent to contribute to the body of knowledge on individual ambidexterity theory, the researcher also hopes for an improvement in implementable knowledge for organisations, particularly to the benefit of organisations in South Africa given the greater need for innovation in the face of mounting challenges. The researcher is aware of the fact that this thesis work being so personally motivated brings with it risks of bias or tunnel vision, but has made efforts to mitigate the bias – understanding full well that learning in itself presents the paradoxical tensions of learning requiring unlearning of pre-conceived ideas, paradigms and personal views built through experience-based learning (Vince, 2018).

2. LITERATURE REVIEW

2.1 Innovation in organisations

In their works the authors explain Schumpeter's economic theory of innovation where the development of new products or services or their introduction into new markets requires innovation, but it is also argued that further innovation is required to enhance returns from them or prevent diminishing returns (Hanes, 2013; McGraw, 2007). Innovation is required to not only sustain profit performance but it is also critical in defence against fading into marketplace obsolescence due to existing or new competitor innovations (Hanes, 2013; McGraw, 2007). Competing on price alone is not enough and companies are driven to customisation and innovation as competitive levers as customer expectation continue to shift (Prajogo & Ahmed, 2006). Innovation is a source of an organisation's long-lasting survival and success (Chesbrough & Van Alstyne, 2015; McGraw, 2007; Wang & Ahmed, 2004). The ability to sustain innovation brings into focus the organisation's capability strategies as business cycle priorities naturally evolve innovation activities away from exploration as it seeks to exploit operating leverage instead (Hanes, 2013; McGraw, 2007). The original innovators often turn into organisational managers and capital allocators with a role evolving towards ensuring high performance from existing inputs of production, reducing variance, reducing risk and extracting the maximum from the current models (Hanes, 2013; McGraw, 2007). The duality of professional management of existing business models together with the sustained ability to innovate has received significant amounts of focus from scholars with various strategies (Chesbrough & Van Alstyne, 2015; Hanes, 2013; Hospers, 2005).

Innovation researchers agree that innovation demands are growing and its importance for organisational success and survival is emphasised increasingly as the 21st century is said to have brought with it a hyper cycle of change and complexity (Gao et al., 2017; Smith et al., 2017; Lewis & Smith, 2014). The increasing pressure to change is said to be stemming from globalisation, the infusion of rapid technological advancement, changing consumption patterns, shifting cultural changes and a growing urgency for society and business to converge in solving the urgent societal "wicked problems" of environmental crises, distribution of wealth disparities, alienation and crime (Gao et al., 2017; Smith et al., 2017; Lewis & Smith, 2014). With this many scholars have suggested that innovativeness is not only increasingly important but is also a fundamental source of capability, enabling the

organisation to be in a position to respond to the contextual shifts and increasing stimuli (Brix, 2019; Garud, Tuertscher, & Van De Ven, 2013; Lewis, Andriopoulos, & Smith, 2014).

Several scholars have focused their work on externalisation strategies to enable radical innovation, beyond the limits of the organisations to counter balance the natural internal orientation towards incremental innovation in pursuit of extracting more from the current operations (Chesbrough & Van Alstyne, 2015; Hospers, 2005). There are scholars who have focused on collaborative or open models of innovation, theorising that the organisational priorities and orientation naturally limit innovation (Chesbrough & Van Alstyne, 2015). In both of these instances, the focus has been on externalised scaling of explorative innovation, with leaders driving the commercial strategies of funding and resource allocation, and with leaders being responsible for strategy alignment between internal and external (Mabey & Zhao, 2017; Schumpeter et al., 2008; Senyard, Baker, Steffens, & Davidsson, 2014; Wang & Ahmed, 2004).

The premise that the organisation is limited and cannot exhibit high degrees of the duality is not shared by all scholars, and several scholars have focused on strategies of organisational structure, leadership ability, behaviours and individual ability in seeking internal solutions to sustain both exploitative and explorative innovation (Hargrave & Van de Ven, 2017; Smith et al., 2017; Sheep et al., 2017). Here scholars have theorised on the internal variables in seeking to support an ability for the organisation to frame the effective deployment of strategies towards the ability to sustain innovation and overcome the natural barriers.

2.1.1 Innovation influenced by context and stimulus

Scholars seem to agree on the demand for organisations to innovate in order to survive and succeed, and several scholars have focused on the contextual drivers or stimuli for the organisation (Hanes, 2013; McGraw, 2007; Scheuer, Joens, Chen, Chaudhuri, Nayir & Durmusoglu, 2018). External stimuli comprise changes in customer demands, changes in market conditions but importantly of competitor innovation activities (Hanes, 2013; McGraw, 2007; Scheuer et al., 2018). Competitor innovation activities, relative to an organisation's own, plays out in the market place where failure is the threat, but can also provide a positive stimulus for a new wave of innovation but dependent on the organisation's response and

ability to respond adequately (Hanes, 2013; Hospers, 2005; Scheuer et al., 2018; Wang & Ahmed, 2004).

Innovation has internal dimensions such as process innovation, which could be driven by improved technology, production methods, strategic innovation through reconceptualisation of the business, behavioural innovation in openness and adaptability to new knowledge (Caniëls et al., 2017; Chesbrough & Van Alstyne, 2015; Kauppila & Tempelaar, 2016; Scheuer, 2018). So innovation is desirable for an organisation to satisfy its customer's changing demands as well as to remain competitive in a market with shifts in product offering, technology usage and services (Hanes, 2013; Hospers, 2005). Its ability to innovate to continue to satisfy customer demands is the organisation's source of continued success and survival, and so scholars agree that organisations must innovate (Chesbrough & Van Alstyne, 2015; Hanes, 2013; Hospers, 2005; McGraw, 2007). The ability to respond is an outcome of an organisation's innovation capability and that is a critical focus area to ensure sustained success (Brix, 2019; Chesbrough & Van Alstyne, 2015; Lewis et al., 2014).

2.1.2 Sources of innovation

Innovativeness and the focus on innovation sources varies from research and development activity to product enhancements, technology deployment in production, process improvements, idea generation and innovative behaviours (Scheuer et al., 2018; Senyard et al., 2014; Wang & Ahmed, 2004). Scholars have very early on identified the paradoxical nature of innovation, where in some instances new ideas replace the existing ones and in many cases simply improve on the current ideas, but always invoking both an opportunity and a threat (Hanes, 2013; Lewis & Smith, 2014; McGraw, 2007). The innovation of new ideas to replace the current ideas can be a destructive force which affects the supporting ecosystem of suppliers, individual careers, remuneration, market relevance and the acclaim of innovators (Hanes, 2013; Hospers, 2005; McGraw, 2007). Simultaneously the new ideas offer new innovators success, new learning, new growth and all of the associated benefits (Hanes, 2013; Hospers, 2005; Wang & Ahmed, 2004).

Some scholars, particularly early on theorised that the ability to sustain an organisation's innovativeness was inherently difficult because innovation required autonomous exploration, divergence of thinking and stimulus, while organisations would naturally start to inhibit these

as priorities shifted to extracting maximum returns and performance (Hospers, 2005; McGraw, 2007). Their theories drove the need to externalise or structurally enable sustained innovation through mergers, acquisitions, joint ventures or through separating research and development from operations in structure (Hospers, 2005; McGraw, 2007; Scheuer et al., 2018). This theoretical basis has received much attention in the literature over the past few decades. One notable extension has been where the organisation itself can achieve far greater transformational innovation if more open and collaborative strategies are employed where knowledge and insight is less proprietary (Chesbrough & Van Alstyne, 2015). This collaborative model has received great attention over the past few decades with the advent of the "start-up" model of businesses in technology organisations, where small and nimble units have had an almost networked impact on the technological innovations in various sectors and many of these small businesses have become large ones later on (Chesbrough & Van Alstyne, 2015). This networked and collaborative model is a furtherance of the externalisation theory, but converges on the abilities of employees who are able to work across boundaries and brings behaviour and individual variables into focus (Chesbrough & Van Alstyne, 2015). The other shift in theoretical focus has been to challenge the idea of externalisation of innovation and rather focus on what the internal barriers are, in so doing producing theories focused on structure, leadership traits, behaviours, skills and other internal variables (Alt & Craig, 2016; Brix, 2019; Engel, Dirlea, Dyer, & Graff, 2015; Knight & Paroutis, 2017; Zhou & Wu, 2018).

Some scholars have focused on the ability to build internal knowledge or to combine internal and external knowledge and skill as a source for innovation (Lin, 2014; Lucena & Roper, 2016; Mirvis et al., 2016). Leadership and top management as sources or drivers of sustained innovation have also received substantial attention from scholars (Barton Rabe, 2006; Caniëls et al., 2017; Dargan & Shucksmith, 2008; Rickards & Moger, 2006; Zacher & Rosing, 2015). In the research on leadership much focus has been placed on leadership style, leadership traits, leadership skill and the expert knowledge of leaders, and how they make personal contributions or reorganise or stimulate innovation. Scholars have also focused on organisational resource or structural sources of innovation such as internal technical ability, external partnerships, resource and capital allocation and instrumental tools such as funding, compensation and incentives (Jamali, Yianni, & Abdallah, 2011; Keil, Autio, & George, 2008; Loorbach, Whiteman, Van Bakel, & Rotmans, 2010; Turner et al., 2013). Several scholars have focused on internal innovation where teams and individuals are the source and

where the critical variables to innovation are culture, leadership, behaviour and skills (Smith et al., 2017; Scheuer et al., 2018; Tian, Deng, Zhang & Salmador, 2018; Zacher & Rosing, 2015). The internal strategies for innovation extend beyond just research and development, technology or product investment strategies, where the innovation capability is not merely a measure of the outcome but rather the effectiveness of the capability that generated the ideas, and then designed, funded, built and implemented them (Garud et al., 2013). This infers that the innovation process, structure, learning models, the innovative behaviours, the individual traits, individual skills, the internal ability to sense-make, the internal culture and the leadership abilities are critical variables in driving a deeper understanding of strategies to improve sustained innovation within the organisation (Smith et al., 2017).

2.1.3 Internal innovation strategies

There is a growing focus on internal organisation innovation capability, largely focused on strategies involving structure, leadership style, leadership traits, culture, knowledge management, learning and change readiness (Prajogo & Ahmed, 2006; Rangus & Černe, 2017; Scheuer et al., 2018). Much of this is aimed at organisational level as a focus on structure, leadership, culture and knowledge management, and when it comes to the individual level, the focus typically is on change readiness, influence of the leader, and culture with regard to the individual's ability to be innovative (Hargrave & Van de Ven, 2017; Scheuer et al., 2018; Smith & Tracey, 2016). Innovative capability is also about the individual's agility in learning, ability to generate, design and implement new ideas while simultaneously ensuring performance from the current sources of revenue (Knight & Paroutis, 2017; Sheep et al., 2017; Zacher & Rosing, 2015). There is growing focus on the challenges, obstacles and difficulties regarding the internal innovation strategies and on how to overcome them (De Jong & Den Hartog, 2007; Knight & Paroutis, 2017; Woodhill, 2010).

One of these challenges is said to be the contradictory tensions invoked by the innovation process due to choices of whether to undertake explorative or exploitative innovation (Lewis & Smith, 2014; Sheep et al., 2017).The organisational ability to navigate these tensions provoked by the innovation choices has been the source of divergent perspectives of their nature and influencing the theoretical approach for overcoming them (Smith & Tracey, 2016; Turner et al., 2013). These paradoxical tensions have attracted from the attention of scholars from various areas of specialisation, and there is increasing congruence on the importance of

the organisation needing an ability to manage these tensions effectively, especially so for organisational innovativeness (Lewis et al., 2014; Smith & Tracey, 2016; Turner et al., 2013). The focus on the internal strategies for sustaining innovation must include the ability to manage paradox tensions and includes understanding how to effectively utilise the internal variables of organisational culture, leadership, learning, behaviour and ability (Knight & Paroutis, 2017; Turner et al., 2013; Van Assen, 2019).

2.1.4 Innovation behaviour

At the root of organisational innovativeness is innovation behaviour, which the authors define as the multi-dimensional and overarching construct that captures all of the behaviours through which employees can contribute to the innovation process (De Jong & Den Hartog, 2007; Zacher & Rosing, 2015). Innovation includes the generation of ideas, their design and implementation, and the ability to repeat that process (De Jong & Den Hartog, 2007). In technology focused innovation works, the focus tends towards a resource based view with research and development, knowledge management, technical skills and technology variables of innovation ability (Arlbjørn, De Haas, & Munksgaard, 2011; Lucena & Roper, 2016; Prajogo & Ahmed, 2006).

Another significant research focus tends towards more structural choices at the organisational level with external collaborations, acquisitions, and organisation level resource structure choices (Demircan & Ert, 2010; Engel et al., 2015; Loorbach et al., 2010; Pauleen, 2007; Senyard et al., 2014). Strategies splitting or separating the different innovation activities through structure as a means of overcoming the paradox tensions, require innovation behaviours that have the ability to accept, positively respond to and work within these functional structures. In institutional theory there is a large focus on institutional logics of purpose, culture and values for the enablement of innovation with complex internal or external structure strategies (Bertels & Lawrence, 2016; Dacin, Dacin, & Tracey, 2011; Pache & Santos, 2013).

With a focus on the enabling of internal innovation strategies not derived purely through structural means, some scholars have pointed to the enabling of individual behaviour and organisational context to ensure high levels of change, duality of purpose and mission, and to enable the organisation to operate with ambiguity and complexity (Caniëls et al., 2017;

Cunha et al., 2019; Smith et al., 2017). This is based on the theoretical premise that sustaining innovation invokes complex tension which requires a reframing of the internal ability to manage the tension (Cunha et al., 2019; Smith & Tracey, 2016; Turner et al., 2013). This premise draws into focus a deeper understanding of the traits, skills, culture, leadership, values and psychological frameworks to enable duality of logic, high levels of change, multiple speeds, high rates of learning and high levels of ambiguity (Cunha et al., 2019; Smith et al., 2017; Lewis & Smith, 2014). Scholars have focused on the individual behaviours required to sustain innovation through ability, traits and behaviours of each individual as the micro unit through which to scale an organisational capability to sustain innovation that is characterised by persistent complexity, ambiguity and paradox (Cunha et al., 2019; Smith et al., 2017).

2.1.5 Innovation invokes contradictory tensions

Organisations need to sustain innovation in order to succeed and survive, and scholars have emphasised the intensifying pressures for innovation in the modern era, but innovation invokes severe contradictory tensions (Brix, 2019; Cunha et al., 2019; Smith & Tracey, 2016; Turner et al., 2013). While the researcher found that there is an argument for the increasing pressure on organisations to innovate, the idea of contradictory tensions due to innovation is not new. The early economics scholars posited the idea of creative destruction, which is paradoxical in its construct of creating something new but destroying something current (Hanes, 2013; McGraw, 2007). In this process, new knowledge renders the existing knowledge obsolete, overshadows other priorities and redirects organisational resources, all of which invokes tension (Hanes, 2013; Hargrave & Van de Ven, 2017; Sheep et al., 2017).

The first tension is the stimulus to win or survive or overcome a difficulty, which triggers the energy to create and innovate. However, this response threatens the existing products, services or knowledge even if it is an internal threat(Hargrave & Van de Ven, 2017; Hospers, 2005; McGraw, 2007; Sheep et al., 2017). The innovators of the past become powerful in the organisation because of their past successes, but evolve to roles as stewards or leaders and they create organisations of professional managers to take care of the performance of their operations and to explore or create anew, which invokes a threat or tension within that organisation (Hanes, 2013; McGraw, 2007; Sheep et al., 2017).

Scholars agree that innovation invokes tensions, but vary in their theoretical constructs and therefore in their approaches in diagnostic theorising. Paradox theories posit that paradox tensions exist outside of innovation, but innovation does not live without paradox tensions while dialectic theories are based on a paradox tension which manifests due to a specific stimulus at a specific point in time (Hargrave & Van de Ven, 2017; Smith & Tracey, 2016). The knowledge of how individuals contribute to managing tensions is sparse, as many scholars have focused their work at the organisational level (both internal and external) and on contextual ability relating to culture and leadership (Knight & Paroutis, 2017; Mabey & Zhao, 2017; Pauleen, 2007; Turner et al., 2013; Ulrich, Kryscynski, Ulrich, & Brockbank, 2017; Van Assen, 2019). Scholarly interest in the individual's contribution is growing, but tends towards the role of the individual as recipient, respondent or collaborator. The deeper understanding of individual capability through the individual's ability to effectively manage paradox tensions is an area where a growing number of scholars have focused their attention in more recent years, but less integrated knowledge is available (Brix, 2019; Cunha et al., 2019; Kauppila & Tempelaar, 2016). Individual agency, competencies, behaviours and traits are critical variables requiring further theorising in order to better understand how to improve innovativeness (Cunha et al., 2019; Garud et al., 2013; Kauppila & Tempelaar, 2016). Dilemmas are faced by individuals when generating new ideas within the context of the dual mission within the organisation, while simultaneously being occupied with providing highly effective value for current revenue (Caniëls et al., 2017; Garud et al., 2013; Smith & Tracey, 2016). These paradoxical dilemmas are critical to consider at an organisational level and leadership level, but even more so at the individual level where many such dilemmas are said to manifest in the innovation process or cycle (Caniëls et al., 2017; Cunha et al., 2019; Smith et al., 2017; Kauppila & Tempelaar, 2016).

2.2 Sustaining innovation and the impact of tensions

2.2.1 Dialectic and paradox theories

Innovating once-off and disrupting markets with radically new products or services can be as a result of a response to an opportunity, risk or internal stimulus and is not without its paradox tensions, as the creation of the new inevitably threatens the existence of the current (Hanes, 2013; Hospers, 2005; McGraw, 2007). Sustaining innovation through both exploitative and explorative innovation is desired, as it drives improvement and protection of

existing revenue and offers radically new revenues from new products, services or processes; however, sustaining innovation is said to be inherently fraught with even greater tensions than just the once-off or novel innovations (Chesbrough & Van Alstyne, 2015; Hanes, 2013; McGraw, 2007). Invariably the existing operations delivering existing revenues require specific focus, processes, skills and strategies which seek to drive operational success through continuous improvement, and operations excellence programmes driving investment into standardisation, minimising variance, enabling predictable forecasting and limiting the cost of non-conformance (Hanes, 2013; McGraw, 2007; Sheep et al., 2017). This is in stark contrast to the creativity, experimentation, autonomous working and lopsided evolution of exploratory learning, where brilliant innovations are not so predictable and cyclical and require an enabling focus and context, different skills and work methods (Chesbrough & Van Alstyne, 2015; Scheuer et al., 2018). Attempting to sustain both explorative and exploitative innovation within the organisation holds rich potential for performance and value, but to achieve that the organisation must be able to successfully manage those tensions (Caniëls et al., 2017; Cunha et al., 2019; Turner et al., 2013; Zacher & Rosing, 2015). Importantly, organisations must realise that individuals are faced with these tensions that invoke either a positive or a negative response, or apathy.

The idea of "paradox perspectives" refers to the coexistence of the two contradictions in an interdependent relationship within a "both-and" construct (Hargrave & Van de Ven, 2017; Smith & Tracey, 2016). The dialectic perspective is about a dialogue to work through the conflicting positions to arrive at the dominant one, or a completely new one as an outcome which has more of an "either-or" construct (Hargrave & Van de Ven, 2017; Smith & Tracey, 2016). Irrespective of the theoretical differences, both view the tensions as being a vital variable in sustaining innovation. The conflicting affirmation and provoked negation drive the energy or stimulate the forces toward innovation or a new idea, although there are theoretical differences in construct and implication (Hargrave & Van de Ven, 2017; Smith & Tracey, 2016). Organisations are fundamentally formulated with contradictions such as views on control, purpose, resources and other such key choices, which all provoke a conflict through each affirmation tabled (Hargrave & Van de Ven, 2017; Smith & Tracey, 2016). Contemporary organisations have increasing levels of conflicting tensions due to factors such as limited resources, accelerated rates of change and dynamic pressures in the organisation and society, and environmental and community role or impact (Smith et al., 2017; Sheep et al., 2017; Smith & Tracey, 2016). The ability of the organisation to manage both sides of the

paradoxical tensions is referred to as ambidexterity, which is a term borrowed from everyday use where it simply refers to the ability to use both hands equally well (Brix, 2019; Turner et al., 2013; Zacher & Rosing, 2015).

An integrative theoretical perspective on these tensions is that they are far more complex, offering both enhanced value or dangers for innovation (Hargrave & Van de Ven, 2017; Lewis et al., 2014; Smith & Tracey, 2016). The two different theoretical lenses lead to variations in the strategies to manage them and have varying implications on the individual level of analysis (Hargrave & Van de Ven, 2017; Smith et al., 2017). These differences in theoretical construct and in variances to the approaches are increasingly converging in more recent works, where scholars have pointed to the value of both in an integrative approach to understanding these tensions (Cunha et al., 2019; Hargrave & Van de Ven, 2017; Smith & Tracey, 2016; Van der Have & Rubalcaba, 2016).

The paradox lens focuses on the ambidexterity ability of the leaders and individuals, since paradox requires individuals to have the skill to synergise or differentiate the coexistence of both sides of the contradiction in their "both-and" approach (Hargrave & Van de Ven, 2017; Smith & Tracey, 2016). The skill of the individuals is emphasised, in their sense making or conflict management style, but in isolation paradox theory ignores that power is not always symmetrical, which dialectic theory contributes in this model (Hargrave & Van de Ven, 2017). Importantly, this proposes that a bottom-up capability to manage tensions is valuable, but limited if not integrated with a top-down empowerment or awareness – which infers a vital interplay between individuals and leaders towards sustained innovation (Cunha et al., 2019; Hargrave & Van de Ven, 2017; Kauppila & Tempelaar, 2016). The integrated and more complex paradox construct versus that of the contingency-based one has varying implications for organisations in building an ambidexterity capability. Most notably, the more complex paradox model induces a central focus of the individual's ambidextrous ability within the framework of the importance of leadership and context (Brix, 2019; Kauppila & Tempelaar, 2016; Turner et al., 2013; Zacher & Rosing, 2015).

2.2.2 The value of complex paradox tensions and the role of the individual

The more complex theory of integrated paradox has many substantial implications for organisations, but also offers a value proposition in its framing as opposed to only being a threat (Smith et al., 2017; Lewis et al., 2014). As organisations seek the certainty of long-term performance from their existing operational strategies, the contradictory need to respond to a new stimulus as it arises, offers organisations the opportunity to benefit from the value of both being strategic and being agile (Lewis et al., 2014; van Assen, 2019). This infers an ability to synergise the tensions between both objectives, supported by an underlying capability for both innovation activities seeking to leverage existing knowledge and seeking to explore new knowledge (Cunha et al., 2019; Kauppila & Tempelaar, 2016; Lewis et al., 2014; Smith & Tracey, 2016). This paradoxical tension and its origin is clear, but also its offer of a promise of enhanced value from synergy, overcoming the perilous dangers and sustaining innovation (Caniëls et al., 2017; Smith et al., 2017; Lewis et al., 2014; Sheep et al., 2017). The pressures to respond are invoked by the innovation stimulus, with individuals facing them and actually being forced to respond, resulting in either one of the two possible cycles – the vicious or virtuous – for organisations (Lewis et al., 2014; Sheep et al., 2017). Recognising that having the internal capability to synergise the tensions overcomes the inherently difficult barrier to sustaining innovation, this has complex implications for the conceptualisation of organisational capability (Chesbrough & Van Alstyne, 2015; Smith et al., 2017; Kauppila & Tempelaar, 2016; Knight & Paroutis, 2017; Schumpeter et al., 2008). More recently scholars have argued for a more complex reconceptualisation of the organisational capability, avoiding contingency-based thinking and temptations to simplify, but rather embracing an integrative and holistic conceptualisation (Cunha et al., 2019; Hargrave & Van de Ven, 2017; Smith et al., 2017; Knight & Paroutis, 2017; Sheep et al., 2017). The foundation for this must be the integrating of theoretical perspectives and considering how an organisation may embrace more ambiguity in breaking traditional boundaries and explore a richer model where tensions are viewed as valuable, orthogonal rather than oppositional, and where they can be both inherent, persistent and contextual (Caniëls et al., 2017; Smith et al., 2017; Lewis & Smith, 2014; Sheep et al., 2017). Rather than arguing theoretical origins, this integrative model offers a more holistic perspective of the paradox tensions and creates a richer opportunity for reconceptualising the organisational capability (Hargrave & Van de Ven, 2017; Smith et al., 2017; Knight & Paroutis, 2017; Sharma & Bansal, 2017; Sheep et al., 2017)

A choice towards simplification of paradox theory misses the value from a nuanced understanding about the complex interdependencies and enhanced potential value for organisations (Smith et al., 2017; Sheep et al., 2017). Systemic power, environmental influences, individual cognitive abilities and sense-making variables are far more complex systemic variables and are potentially a richer source of critical knowledge for building an integrated organisational, leadership and employee capability towards enabling ambidexterity for sustained innovation (Battilana, 2006; Smith et al., 2017; Kauppila & Tempelaar, 2016; Sheep et al., 2017). Reframing these variables systemically is challenging and understandably the bias has favoured the idea of simplification and clarity, but then misses the potential richness of taking the harder and more complex path (Smith et al., 2017; Sheep et al., 2017). Supporting the integration of the different paradox lenses and arguing for a an embracing of the complexity introduced by it, the authors propose a strategy for synergising towards gaining the value from doing so (Smith & Tracey, 2016):

1. Salience of competing demands: The value of a better understanding of and vocabulary for the environmental factors, their impacts and strategies, combined with the value of the theory of tension surfacing from leadership and individual sense-making (Smith & Tracey, 2016). This emphasises the role of the individual but also the interplay of context and the role of leaders in intentionally normalising the salience of paradox.
2. Static and dynamic responses: The integration of the more structural, mechanistic or instrumental approach of institutional theory and the more dynamic responses such as how individuals have the ability to respond to the tensions they experience through ambidexterity, and cognitive, intuitive or emotional abilities (Smith & Tracey, 2016). There is value in the integration of both strategies through synergising their strengths.
3. Research work tends to be devoid of the value of real world experiences, while the value of the real-life experiences of individuals is important in improving an understanding of both the structural drivers, individual sense-making and structural and individual responses (Smith & Tracey, 2016). The insight value would be paradox tensions as seen from the eye of the individual.
4. As the contextual and societal challenges continue to increase in intensity, the grand or unsolved societal issues can be both a source of creativity and positive change, or destructive polarisation and division (Smith & Tracey, 2016). The proposition is that reframing boundaries of inclusion and exclusion is limited through current conceptual

frameworks, and unbounded exploration offers opportunities for more inclusive innovation.

2.3 Ambidexterity for sustaining innovativeness

2.3.1 Ambidexterity as a critical capability

To define ambidexterity the researcher has considered contributions from the combined knowledge of various scholarly works: Ambidexterity is both the use and furtherance of current knowledge through exploitative innovation and the overcoming of knowledge deficits or barriers to develop and use new knowledge through explorative innovation (Turner et al., 2013; Van Assen, 2019; Zacher & Rosing, 2015). Pointing to a lack of implementable strategies for organisations to build ambidexterity, Table 2.1 below depicts an integrated framework of ambidexterity as a capability (Turner et al., 2013).

Table 2.1: Integrated, multi-level categorisation of ambidexterity mechanisms

Levels of analysis	Intellectual capital resources		
	Organizational capital	Social capital	Human capital
Organization	Structural configuration and separation. Development and maintenance of inter-organizational relationships. Coexistence of formal and informal structures.	Knowledge-sharing relationships with new and existing external parties. HR practices supportive of ambidexterity.	Individuals reconcile and coordinate exploitative and exploratory functions. Management ability to reconfigure organizational assets. TMT behavioural integration and complexity.
Group	Reward systems to support ambidexterity. Processes for creating dense social relationships and informal coordination. Formal and informal managerial integration and control mechanisms.	Complex network of strong and weak ties for effective knowledge-sharing, supported by formal and informal behaviours. Relationships supportive of ambidexterity. Shared values and goals.	Strong, compelling vision. Participation in cross-functional interfaces. Transformational leadership.
Individual	Multiple cross-functional interfaces to accommodate formal and informal coordination. Use of both 'best-practice' and local managerial discretion and judgement.	Individuals creating and supporting the context for ambidexterity. Both relational- and task-focused leadership.	Taking the initiative; cooperative behaviour; multitasking; brokering.

Source: Turner et al. (2013)

The complexity induced by paradox tensions creates a need for effective network relationships between employees across internal functional barriers, which are more socially organised (Caniëls et al., 2017; Kauppila & Tempelaar, 2016; Turner et al., 2013). The social skills to collaborate effectively enhance organisational knowledge and learning through

combinative value, but also through breakthroughs made possible by the enhancement of diverse perspectives (Cunha et al., 2019; Kauppila & Tempelaar, 2016; Turner et al., 2013). More loosely organised social bonds tend to generate more openness and idea sharing, leading to new knowledge and improved cooperation which are beneficial to both types of innovation (Brix, 2019; Kauppila & Tempelaar, 2016; Turner et al., 2013). The individual's ability to perceive the two types of innovation as orthogonal and complementary, and therefore to leverage effective social capital to create working groups, better enables ambidexterity (Brix, 2019; Caniëls et al., 2017; Kauppila & Tempelaar, 2016). Leaders should be focused on how to enable that individual and the team-level deployment of social capital (Turner et al., 2013).

The complexity of synergising and seeking discovery relies on the sense-making ability of individuals as they reframe in order to deploy the appropriate skill or action towards reorganising or enacting the right response, as it enables a more dynamic response (Brix, 2019; Kauppila & Tempelaar, 2016; Turner et al., 2013). This sense-making ability of individuals enables the balancing of knowledge types (explorative and exploitative) through socially constructed networks (Brix, 2019; Kauppila & Tempelaar, 2016; Turner et al., 2013). The individual's sense-making skill cannot be deployed effectively in isolation as it requires the enablement of individual agency, empowerment and contextual support since there are real risks to the individual without it (Brix, 2019; Caniëls et al., 2017; Kauppila & Tempelaar, 2016; Turner et al., 2013). The link between the individual sense-making skill, alongside other critical skills and underlying traits as well as the link to contextual support, has not been sufficiently explored and researchers have called for more work in this area (Brix, 2019; Cunha et al., 2019; Kauppila & Tempelaar, 2016; Turner et al., 2013). While ambidexterity behaviours have received attention from scholars, the other variables are also important in a more holistic conceptualisation of the role and enablement of the individual (Brix, 2019; Cunha et al., 2019; Kauppila & Tempelaar, 2016; Turner et al., 2013).

2.3.2 Individual ambidexterity and its implications

2.3.3.1 Leadership behaviour's impact on subordinate innovative behaviour

Leadership that models an ambidexterity ability has a positive impact on employee ambidexterity behaviour as it drives openness, models divergence and sharing (Brix, 2019; Kauppila & Tempelaar, 2016; Zacher & Rosing, 2015). Explorative activities require an

increasing variance in behaviours, ideas, knowledge and risk appetite, while exploitative activities require a closing of variance in those variables (Zacher & Rosing, 2015). Leaders modelling behaviour such as an openness to a variance of ideas, exploration and new learning, as well as exhibiting an ability to switch to higher certainty, narrower variance and more consensus, will positively influence individual ambidexterity behaviour (Kauppila & Tempelaar, 2016; Zacher & Rosing, 2015).

Individual ambidexterity comes strongly into focus as a key capability for sustained innovation; however, the interplay between the individual and leadership is undeniable (Kauppila & Tempelaar, 2016; Knight & Paroutis, 2017) . A demand to learn to live with tensions in the "both-and" model offers the promise of long-term sustainable performance while threatening dangers to performance if not well managed (Lewis & Smith, 2014). Rather than simplifying or solving contingency-based models, it is more valuable when leaders shift towards making tensions salient and towards the enablement of individual ambidexterity to better manage the complexity of the tensions (Kauppila & Tempelaar, 2016; Knight & Paroutis, 2017; Lewis & Smith, 2014). The leader's role in this perspective relates more to the role of modelling ambidexterity, and importantly also in as far as their knowledge and ability to build or enable a supportive environment for individuals to practise ambidexterity are concerned (Kauppila & Tempelaar, 2016; Knight & Paroutis, 2017; Lewis & Smith, 2014). Individuals may have a defensive or a strategic response to the tensions, where the defensive (resistance) response is either cognitive, behavioural or institutional, and the emphasis is on management strategies to enable the positive individual response by overcoming the defensive hurdles (Kauppila & Tempelaar, 2016; Knight & Paroutis, 2017; Lewis & Smith, 2014). There is a strong recognition of the complexity of the interrelatedness and challenge of the absurdity, ambiguity, strong emotions and provocation which individuals need to be able to deal with in accommodating the tensions rather than solving them, where leaders play a critical supportive role (Kauppila & Tempelaar, 2016; Lewis & Smith, 2014). Importantly, leaders play that important role not in solving the tension but in enabling and supporting the individual to autonomously manage all the sides of the tension in an enactment of their ambidexterity (Caniëls et al., 2017; Kauppila & Tempelaar, 2016; Zacher & Rosing, 2015).

The individual ambidexterity intentionality requires leadership skills and traits to support individual autonomy and more networked learning to enable a switching between innovation

activities. A risk for leaders is responding defensively through attempts to either over-simplify or over-control due to a trust deficit or concerns of risks (Kauppila & Tempelaar, 2016; Lewis & Smith, 2014; Zacher & Rosing, 2015). The outcome of these attempts is ineffective decision making, disempowerment, stifled exploration leading to organisational performance decline, characterised by senior executives or board members clinging more firmly to their positions of control – which further entrenches the tensions (Brix, 2019; Caniëls et al., 2017; Lewis & Smith, 2014; Zacher & Rosing, 2015).

Leaders play a materially impactful role in employee behaviours generally, and this extends to individual ambidexterity too (De Jong & Den Hartog, 2007). While it is generally accepted that a leader's behaviour and style have an impact on employee innovativeness, there is less understanding of the leadership role in enabling individual ambidexterity (De Jong & Den Hartog, 2007). This is perhaps due to the dominance of more top-down approaches in scholarly works on ambidexterity strategies, although with a shift in interest more recently to discover bottom-up models (Caniëls et al., 2017; De Jong & Den Hartog, 2007; Smith & Tracey, 2016). Leaders enable bottom-up ambidexterity through enabling the autonomy and empowerment of individuals through consultation, delegation and monitoring behaviours (De Jong & Den Hartog, 2007; Kauppila & Tempelaar, 2016; Zacher & Rosing, 2015). To enhance individual ambidexterity, leaders should seek to consult their employees more often; they should ensure employees have sufficient autonomy and decision-making opportunities in how they go about their work, and they should support and recognise every employee's innovation efforts (De Jong & Den Hartog, 2007; Smith et al., 2017; Kauppila & Tempelaar, 2016). Leaders should encourage a safe atmosphere that enables openness and risk taking, while also finding a balance in the right level of monitoring, since it has benefits but also downsides if over-practised (Brix, 2019; De Jong & Den Hartog, 2007; Zacher & Rosing, 2015). Leaders play a key enablement role rather than just a directing or controlling role, and the interplay with a positive individual response to tensions is a result of both the individual's ability and the supporting role of the leader (Kauppila & Tempelaar, 2016). The navigation of the tensions induces opportunity and risk, and individuals who are encouraged toward risk taking, creativity, networked learning orientations, with high levels of self-motivation and enabled by autonomy and a safe environment, are likely to be more successful in navigating the tensions (Brix, 2019; Kauppila & Tempelaar, 2016; Zacher & Rosing, 2015).

Internal barriers to innovation include the inflexibility of managers, or the inability of managers to stimulate the employee, but also include an organisation's inability to attract, select and reward the right talented individuals to improve innovativeness (Scheuer et al., 2018). In defining the right talented individuals, if there is an ambidexterity naivety then it is unclear how the recruitment criteria would accommodate it (Kauppila & Tempelaar, 2016; Rangus & Černe, 2017; Scheuer et al., 2018). Several scholarly works have focused on understanding the impacts of leadership styles and traits, such as the transformational leadership style's positive impact on employee motivation and innovation behaviour (Fu, Li, & Si, 2013; Rangus & Černe, 2017; Scheuer, 2018; Zacher & Rosing, 2015). Authoritarianism and paternalistic styles are highly biased toward top-down control, monitoring and absolute decision making, and have been proven to not cultivate the right environment for explorative innovation, but rather for a bias toward exploitative innovation (Fu et al., 2013). Openness, autonomy, delegation and the creation of a less punitive context is more supportive of explorative innovation (Fu et al., 2013; Kauppila & Tempelaar, 2016; Zacher & Rosing, 2015)

Increased explorative innovation results largely from individuals and teams having the ability to generate and to implement new ideas, and leaders have the important role of creating a supporting environment. Individual openness and social orientation to collaborating, connecting and sharing with other employees from different functional domains, hold higher potential for exploration and flexibility as these establish trust and respect, and have learning benefits (Caniëls et al., 2017; Rangus & Černe, 2017; Zacher & Rosing, 2015). Leaders should intentionally enable this type of individual behaviour and culture in the organisation, but also foster collaboration and openness through the use of open coalitions across internal and external boundaries (Rangus & Černe, 2017). More unstructured socially organised learning stimulates creativity and risk taking, and offers learning benefits also through more structured coalitions, combining internal and external provocation, idea sharing, diversity of views and of other knowledge (Cunha et al., 2019; Kauppila & Tempelaar, 2016; Rangus & Černe, 2017). Such open collaborative networks have been used to wide effect in technology innovations in the market, and organisations have used models like crowd sourcing to scale learning. However, these have tended towards the external environment only, with very little focus on such free and open collaborations like crowd sourcing internally, where individuals might have an opportunity to display their full potential (Chesbrough & Van Alstyne, 2015). Culturally, the motivation is the openness, trust, improved learning and the reduction of

resistance and defensive responses, and the new cultural norm and tone mediate against it (Caniëls et al., 2017; Kauppila & Tempelaar, 2016; Rangus & Černe, 2017). Leaders who succeed in creating the enabling environment for individual ambidexterity enable individuals to make decisions to switch between innovation activities, and in so doing enable the scaling of ambidexterity beyond their personal limitations.

A leader capable of sharing a clear vision, emancipating individuals through delegation, motivating them through a transformational style and through the creation of a non-punitive and socially constructed learning environment, is more likely to enable sustained innovation through the deployment of individual ambidexterity (Brix, 2019; Caniëls et al., 2017; Van Assen, 2019). Leadership styles, tactics and traits which enable individual decision making, risk taking and exploration, and encourage openness and sharing, lead positively toward individual ambidexterity in innovation but requires a renewed focus on supportive leadership abilities, traits and styles (Brix, 2019; Fu et al., 2013; Kauppila & Tempelaar, 2016; Zacher & Rosing, 2015).

2.3.2.2 Challenges in leading ambidextrous individuals in organisations

This challenge of an individual ambidextrous response is challenging the existing institutional logic of a logical, rational and linear organisation of resources toward the achieving of objectives to become more dynamic albeit ambiguous, requiring an alternative set of capabilities more attuned to intuitive, behavioural, sense-making and alternative socially organised learning (Jay, 2013; Smith et al., 2017; Lewis & Smith, 2014). Within this frame of the emergence of multiple institutional logics and inherently increased organisational complexity, the existing models of leadership and employee learning, knowledge management, processual models but also their cognitive, behavioural, social and learning models are challenged (Jay, 2013; Smith et al., 2017; Turner et al., 2013), in particular the sense-making capability within the framework of competing institutional demands but within multiple institutional logics and identities (Jay, 2013). The latter author proposes a model to offer some integration of process certainty and agility through its interpretive and iterative nature, based on the people in the organisation responding to the complex tensions with their ability to sense-make or reframe in iterations, leading to "both-and" solutions for the tensions which could then have innovations as an outcome (Jay, 2013). Scholars emphasise the importance of intentionality in the existence of paradox tensions and

the potential dangers or rewards emanating from them, as well as the importance of an ambidexterity ability; however, there is little in the way of a holistic model for enablement (Brix, 2019; Jay, 2013; Knight & Paroutis, 2017; Sheep et al., 2017). How the organisation enables individual sense-making skills and agency to exercise these skills, is critical in the building of an ambidexterity capability (Brix, 2019; Kauppila & Tempelaar, 2016; Sheep et al., 2017). In the lack of intentionally building the awareness of paradox and importance of ambidexterity, the risk of a negative response by individuals presents a danger to innovation and can be decretive to trust and learning (Brix, 2019; Jay, 2013; Sheep et al., 2017)

Structural ambidexterity choices is where effectively resources are structured separately by innovation type, using space and distance in the organisation to diffuse innovation tension (Cunha et al., 2019). In this strategy senior leadership is the focal point as they become the integrators of the structurally separated innovation activities (Cunha et al., 2019). Similarly, sequential ambidexterity strategies effectively use space and time to divide the tensions into groupings where different choices are made at a point in time. While the ability to integrate these resides lower down in the organisation, this strategy also tends to lead to separate roles, skills and processes (Cunha et al., 2019; Turner et al., 2013). While these strategies offer the organisation value through splitting and simplification, it misses the synergy benefits because it is premised on differences and then broken down by those differences (Cunha et al., 2019; Turner et al., 2013). A preference for this can perhaps avoid the complex reframing of the individual and leadership roles and retain more traditional models but it assumes that the differential strategies completely resolve paradox tensions and it ignores the barriers to gaining organisational integration synergies (Turner et al., 2013).

Individual ambidexterity demands changes to the organisational learning model since exploration requires heightened divergence, cross-boundary thinking, less boundedness to current models of work, alternative processes, and exploring new learning and unlearning (Cunha et al., 2019; Kauppila & Tempelaar, 2016). Exploiting requires convergence in adherence to standards, focusing on performance, measurement of key metrics and continued learning of the existing knowledge to enable one to exploit it further (Cunha et al., 2019; Kauppila & Tempelaar, 2016). Exploration across boundaries or the unlearning of existing knowledge could also be enhanced by the learning of the existing knowledge firstly, to have full and complete knowledge of the boundaries to enable exploring beyond them. Similarly, exploitation could benefit from the combination of that focus on extracting more from the

existing while also looking beyond the boundaries for new learning or unlearning (Cunha et al., 2019; Lewis & Smith, 2014). This unlearning-learning or converging-diverging process of learning can be likened to zooming in and zooming out, and offers enhanced organisational innovation benefits as the ambidexterity capability is integrated and complementary (Cunha et al., 2019). To achieve this utopian ideal, a key dependency would be the ability of those at work with these choices in the real world – are they capable and how could they be enabled (Cunha et al., 2019; Kauppila & Tempelaar, 2016; Sheep et al., 2017; Smith & Tracey, 2016)? A further challenge in enabling individual ambidexterity is that not only must the learning model shift, but it must also be a more dynamic learning model, adjusting to new learning and enabling individual adaptability (Cunha et al., 2019; Kauppila & Tempelaar, 2016; Sheep et al., 2017).

2.3.3 Building individual ambidexterity: A skills-based and trait-based approach

Towards the goal of implementation, the authors propose three supportive processes in their model, which are novelty, agility and improvisation, and suggest underlying skills in support of the processes (Cunha et al., 2019).

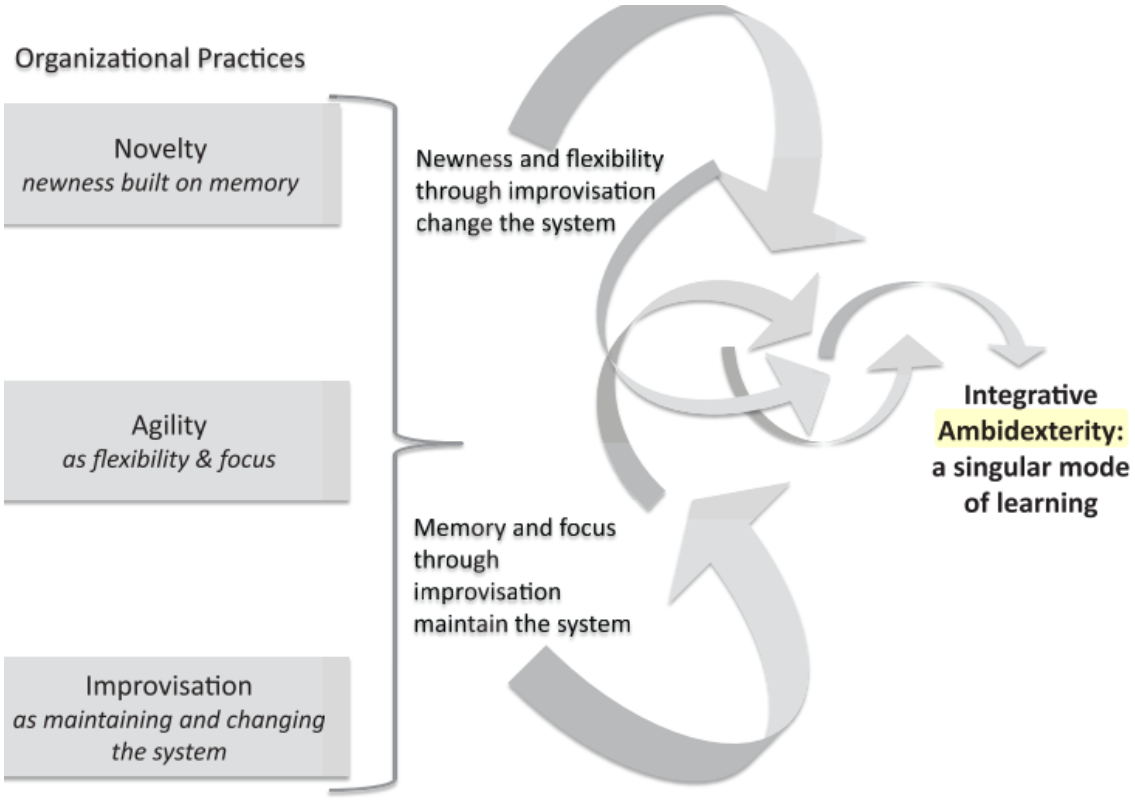

Figure 2.1: Integrative Ambidexterity Model

Source: Cunha et al. (2019)

In their model, the authors show how both novelty and flexibility support improvisation which enables exploration and the ability to change the system, while memory and focus support improvisation to enable exploitation of the system (Cunha et al., 2019). Novelty can emerge from having great access to memories, but there are also great design benefits if a balance can be kept between appreciating the past and existing knowledge, process or products, perhaps finding new exploitation but also exploring the completely new (Cunha et al., 2019; van Assen, 2019; Zacher & Rosing, 2015). Organisations need to create access to the past for teams, but they must also free employees up from hierarchical decision making on deviating from what is current or novel, and empower the employees to explore this temporal space (Brix, 2019; Cunha et al., 2019; Van Assen, 2019). There is high complexity in the learning model, where agility and focus are delivered through the same model and where strategic work requires a high degree of certainty, while agility requires regular iterations of small increments of work (Cunha et al., 2019; Lewis et al., 2014). Improvisation is present in both exploration and exploitation as innovation processes and is about the ability to make adjustments in a situation that arises without any plan for it (Cunha et al., 2019).Whether from newness or memory, agility or focus stimuli, the improvisation learning ability means a positive response through making adjustments, furthering existing learning or creating new learning (Cunha et al., 2019; Smith et al., 2012). The learning model challenge to the organisation is evident in enabling individual ambidexterity, and there is some scholarly work offering learning strategies and pedagogical tools for its implementation, but it is limited in establishing a skills-based and cognitive-based perspective in support (Cunha et al., 2019; Smith et al., 2012).

In a contribution offering insight into a skills-based and trait-based view of the enablement of individual ambidexterity, Kauppila and Tempelaar (2016) developed a model showing the value of a key trait, the importance of the learning orientation and the value of the interplay between the individual and the leader.

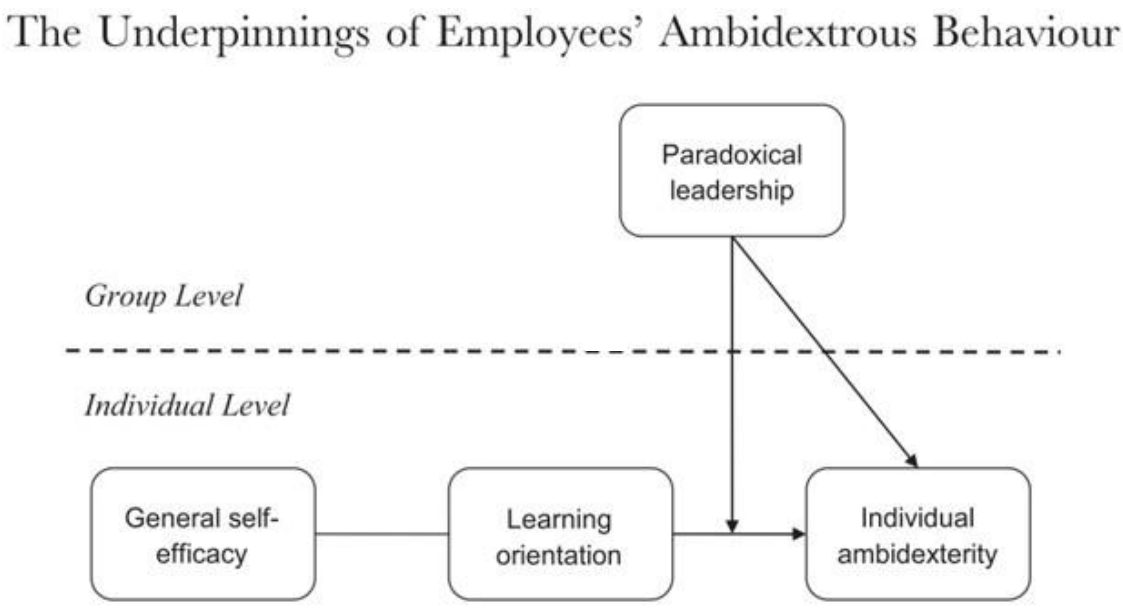

Figure 2.2: Conceptual model of employees' ambidextrous behaviour
Source: Kauppila and Tempelaar (2016)

In their model, general self-efficacy is the critical psychological trait and learning orientation, which includes individual motivations and means of developing new knowledge and skills, while the positive influence of leadership style, traits and behaviours is established (Kauppila & Tempelaar, 2016). Enabling integrative ambidexterity places the individual's ability in the focal point and so individual traits, competencies, behaviours and learning orientation are critical (De Jong & Den Hartog, 2007; Kauppila & Tempelaar, 2016; Rangus & Černe, 2017; Turner et al., 2013). Balancing innovation tension choices is a serious challenge for individuals, and general self-efficacy has been positively correlated as a focus trait enabling the individual to manage that complexity (Kauppila & Tempelaar, 2016). This trait supports ambitious goal setting and high levels of effort, helping the individual to balance these competing and complex demands (Kauppila & Tempelaar, 2016). The individual's learning orientation supports their motivations and goal setting, through the adaptability to seeking new knowledge or skills (Cunha et al., 2019; Kauppila & Tempelaar, 2016; Smith et al., 2012). Leadership support for individual ambidexterity is critical as individual ambidexterity lower down in the organisation is harder to achieve and may lead to a natural bias towards exploitation if individuals lack agency, support and ambidexterity ability (Cunha et al., 2019; Smith et al., 2017; Kauppila & Tempelaar, 2016). The leadership support provides enablement and agency for the individual to make autonomous decisions (Brix, 2019; Kauppila & Tempelaar, 2016; Knight & Paroutis, 2017). While the challenges for

organisations in managing individual ambidexterity are clear, there is a need for deeper understanding of the enablement at lower levels in the organisation, and in particular in understanding the real-life experiences of individuals, in particular in reference to their agency in the organisation.

There is little in the way of a skills development approach for individual ambidexterity, but perhaps what is needed is to integrate individual ambidexterity learning and skills development with other organisational skills development frameworks, or reconceptualising them (Cunha et al., 2019; Kauppila & Tempelaar, 2016; Sheep et al., 2017; Smith et al., 2012). Smith and Besharov (2012) explain that the acceptance skill is primarily about seeing both sides of the competing demand paradox as necessary and that while they cause tension, both have value to add to each other rather than being forced to choose one over the other. The authors furthermore propose that this meta-skill is associated with two other skills: 1) adopting an abundance mentality 2) embracing paradox thinking (Smith et al., 2012). Abundance mentality is about the ability to frame resources in the organisation as plentiful, regenerative and enabling rather than scarce and limited, which helps with reframing towards opportunity or possibility rather than problem solving (Smith et al., 2012).

Differentiation meta-skill is critical to develop because in order to appreciate the value of integrating the tensions from the opposing demands, one must first be able to appreciate the distinct difference between them or their respective uniqueness (Smith et al., 2012). Conceptually the ability strongly to argue for either one, creates for each individual the clarity of understanding of the strengths, weaknesses, unique opportunities and characteristics of each side and therefore the opportunity to perhaps enhance the one with insights from the other when integrating them (Smith et al., 2012).

Important skills enabling the synergising of the two sides of competing tensions towards a productive outcome are where the integration is more than just the value from integrating two parts but also in the potential upside or enhancement of value from the contributions of process, skill, behaviours, etc. to the other (Caniëls et al., 2017; Cunha et al., 2019; Kauppila & Tempelaar, 2016; Smith et al., 2012). Skills such as developing trust, openness and cultural sensitivity are important skills to create the right learning environment and to create the right social conditions where ideas, information and perspectives on competing demands can be shared and dialogued (Cunha et al., 2019; Kauppila & Tempelaar, 2016; Smith et al., 2012).

Perhaps also creating an awareness are tendencies towards single truths, linear logic or cause and effect relationships which underpin "either-or" constructs, while importantly not discarding these but enhancing them through the awareness of complexity, paradoxical "both-and" models (Brix, 2019; Cunha et al., 2019; Kauppila & Tempelaar, 2016; Smith et al., 2012). Shifting mental models is difficult work and might explain why the preference in leaders has been to rely on transformational experience and personal growth, rather than informational knowledge and skills development (Smith et al., 2012). That shift in mental model towards paradoxical thinking to build individual level ambidexterity, would require greater sophistication in interpersonal skills and in emotional intelligence (Cunha et al., 2019; Kauppila & Tempelaar, 2016; Smith et al., 2012).

Learning formats such as field work, action learning or transformation circles or groups within the classroom also create opportunities for the development of trust, openness and cultural sensitivity (Cunha et al., 2019; Kauppila & Tempelaar, 2016; Smith et al., 2012). The autonomous working and more freely formed and cross-boundary learning is a critical part of enabling explorative innovation and individual ambidexterity (Cunha et al., 2019; Kauppila & Tempelaar, 2016; Smith et al., 2012). These settings in the classroom or field are deliberately used for fostering the skills through practical exercises and behaviour modelling (Smith et al., 2012).

The contribution of a skills-based approach to building individual ambidexterity is valuable, but several scholars support other forms of learning for the individual such as socially oriented learning through formal and informal networks, and experiential learning (Cunha et al., 2019; Kauppila & Tempelaar, 2016; Smith et al., 2012).

2.3.4 Building individual ambidexterity: Creating a supportive organisational context

There is a mutually dependent and mutually rewarding relationship between leaders and employees in individual ambidexterity (Caniëls et al., 2017). When leaders stimulate, motivate and empower employees an organisational culture of improvement is generated which is the source of innovation, inferring an assumption that employee empowerment will also enhance employee ambidexterity (Caniëls et al., 2017; Kauppila & Tempelaar, 2016; Zacher & Rosing, 2015). A culture of knowledge sharing will encourage individuals to

disseminate and share ideas, routines and learning, where the interaction and openness will positively support individual ambidexterity (Brix, 2019; Caniëls et al., 2017; Kauppila & Tempelaar, 2016). Empowerment of the individual is an important psychological frame for employee autonomy and generative work, where these employees are autonomously capable of switching between types of innovation and create the openness and social networks which are beneficial (Brix, 2019; Caniëls et al., 2017). It is this open culture which provides the higher likelihood of challenging routines, processes and models as individuals experience a more supportive and less punitive culture for doing so (Brix, 2019; Caniëls et al., 2017; Cunha et al., 2019). Motivation is important for generating the energy to overcome task barriers and to seek out task solutions. More importantly, individuals who are allowed autonomy by leaders who trust them and encourage them to take risks without punishing mistakes, are stimulated into explorative innovation (Brix, 2019; Caniëls et al., 2017; Kauppila & Tempelaar, 2016). Trust, enablement and empowerment combine into a powerful force generating motivation to find solutions and show the willingness to learn; however, the link to reward or punishment in the face of errors or failure to meet expectations can similarly be a demotivating force (Brix, 2019; Caniëls et al., 2017; Kauppila & Tempelaar, 2016). Demotivation is often due to the risk of failure but also due to the individual's concerns about how they are perceived while undertaking these tasks (Caniëls et al., 2017). There is a connection to financial reward, livelihood and the ability to motivate individuals towards ambidextrous behaviour through the reward of success and even through monetary incentives (Caniëls et al., 2017; Kauppila & Tempelaar, 2016; Knight & Paroutis, 2017). A culture of empowerment is positively linked to individual ambidexterity due to its emancipatory and motivating impacts (Caniëls et al., 2017). This supports the theory that leaders who show an open attitude, who encourage employee contributions to decision making, help them overcome their own doubts in expressing new ideas or challenging existing ways of doing things (Caniëls et al., 2017; Zacher & Rosing, 2015).

There is agreement on the general lack of holistic implementation strategies for individual ambidexterity (Brix, 2019; Caniëls et al., 2017; Cunha et al., 2019; Smith et al., 2017; Kauppila & Tempelaar, 2016). Brix (2019) uses organisational capacity building literature to form the theoretical framework for individual ambidexterity and defines that capacity building framework as the activities that strengthen the knowledge, skills and behaviour of individuals as well as improve the organisational structures and processes with the aim of meeting organisational objectives (Brix, 2019). The researcher found the contributions on

enablement through the capacity building framework valuable since there are few other such contributions. Leadership empowering actions effectively promote individual confidence, enable autonomy through delegation and through how this power is distributed amongst individuals (Brix, 2019; Caniëls et al., 2017; Kauppila & Tempelaar, 2016; Zacher & Rosing, 2015). When leaders exercise too much control, monitoring and decision-making at levels that are perhaps natural during operational or exploitative innovation activities have a disempowering effect on individuals (Brix, 2019; Caniëls et al., 2017; Kauppila & Tempelaar, 2016; Zacher & Rosing, 2015): Disempowerment versus empowerment is a critical supportive context variable as individual ambidexterity requires high empowerment, high consultation and delegation, and lower levels of monitoring and control (Brix, 2019; Caniëls et al., 2017; Knight & Paroutis, 2017; Zacher & Rosing, 2015).

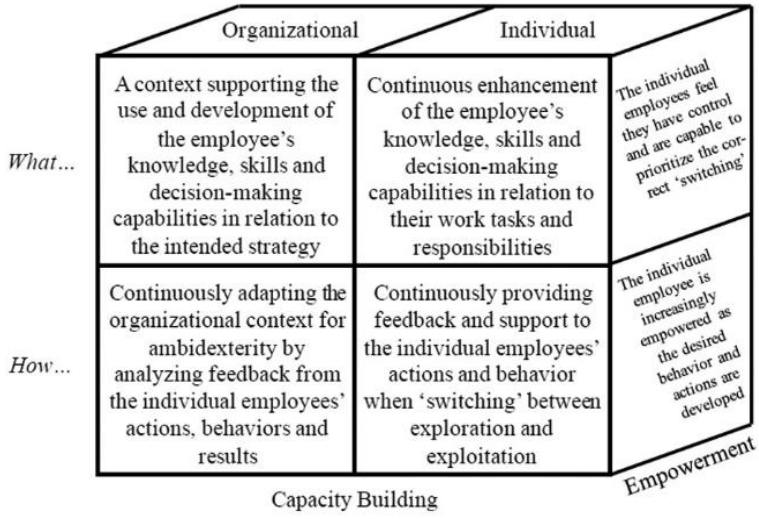

Figure 2.3: Innovation capacity building conceptual model

Source: Inspired by Krogstrup and Brix (2019)

The model (Fig. 2.3) emphasises that capacity building at organisational level and individual level is context dependent, and stresses the importance of the role of management in creating an enabling environment for employees through either direct or indirect means, where direct is the investment into formalised learning and indirect requires a deliberate experiential learning intervention, including feedback loops (Brix, 2019; Cunha et al., 2019; Kauppila & Tempelaar, 2016). Intentionally building capacity is important, and the fact that ambidexterity skills and tools are not very visible in organisational learning and development

models is indicative of a problem (Brix, 2019; Cunha et al., 2019; Kauppila & Tempelaar, 2016; Smith & Tracey, 2016).

2.4 Conclusion

Organisations must innovate to survive, and succeed by exploiting existing knowledge for incremental value from existing products, markets or process and through exploring new knowledge for new value from new products, markets or process (Chesbrough & Van Alstyne, 2015; McGraw, 2007; Prajogo & Ahmed, 2006; Scheuer et al., 2018; Wang & Ahmed, 2004). The stimulus for innovation is heightened through intensified competition, the disruptive deployment of technology, shifting customer and employee behaviour, and increasing awareness of the role of organisations in solving difficult societal issues (Chesbrough & Van Alstyne, 2015; Lewis et al., 2014; Smith et al., 2012).

The hyper cycles of change intensify the innovation stimulus and perhaps the need for organisations to excel at innovation. The innovation process invokes paradoxical tensions as the discovery of radical new things threatens the existence of current things and these compete for management attention, capital and other inputs of production. Paradoxical tensions in the choices between innovation types can offer enhanced value and advantage to sustained innovation, if the tensions can be synergised. Ambidexterity is a critical capability which offers that ability to synergise both sides of the tensions (Cunha et al., 2019; Sheep et al., 2017; Smith & Tracey, 2016). While a more traditional approach based on differential strategies which effectively split the innovation activities has value for organisations, increasingly there is interest in the value offered by an internal integrative ambidexterity (Hargrave & Van de Ven, 2017; Smith & Tracey, 2016). This type of ambidexterity proposes a more complex and integrative construct of ambidexterity where the individual ambidexterity capability of an organisation becomes the central focus as a more boundless, rich and generative source capable of synergising the tensions (Hargrave & Van de Ven, 2017; Smith et al., 2017; Smith & Besharov, 2012). This more complex integrated ambidexterity capability brings the role of the individual into central focus as it seeks to scale ambidexterity through creating an organisation of ambidextrous individuals, where innovation activity and decision making switching between innovation types and sides of the

paradox, are made from the bottom-up (Cunha et al., 2019; Smith et al., 2017; Kauppila & Tempelaar, 2016).

The implication for organisations is that they have to reframe the role of the individual as a capable autonomous decision maker, a creative resource and able to be a source of regenerative knowledge (Cunha et al., 2019; Smith et al., 2017; Kauppila & Tempelaar, 2016). This reframing has to overcome the existing systemic barriers of hierarchy, entrenched through an organisation design characterised by defined levels of work, specialisation of roles and functional silos (Caniëls et al., 2017; Cunha et al., 2019; Kauppila & Tempelaar, 2016). This requires a deep understanding of the skills, traits, behaviours and cognitive ability of the individual in order for organisations to build this capability (Cunha et al., 2019; Smith et al., 2017; Kauppila & Tempelaar, 2016).

There are also substantive implications for organisational learning, requiring a shift towards enabling individuals through more dynamic, adaptive and open learning models that include structured and unstructured, formal and informal, traditional and socially formed learning, breaking existing learning boundedness (Battilana, 2006; Cunha et al., 2019; Kauppila & Tempelaar, 2016). Individual sense-making, adaptability, social skills in forming cross-boundary networks for knowledge sharing and the ability to develop trust come sharply into focus, but so too individual agency and psychological safety (Battilana, 2006; Kauppila & Tempelaar, 2016; Sheep et al., 2017).

Leaders in differential ambidexterity models are central in their ambidexterity ability, their decision making in allocating resources and in their ability to direct and exert control over innovation activities (Fu et al., 2013; Turner et al., 2013; Zacher & Rosing, 2015). The individual ambidexterity capability offers a model which can transcend the limitations of the leader's ambidexterity capability through scaling it at the individual level lower down in the organisation, but requires a shift in the leader role towards enabling a supportive context for individuals to explore, take risks, work autonomously, create socially constructed learning and learn through more iterative experimentation (Brix, 2019; Cunha et al., 2019; Kauppila & Tempelaar, 2016; Knight & Paroutis, 2017). This proposes a shift in mental model in awareness and intentionality and then a shift in practice too. There is a call for more theorising at this level to deepen the understanding of how these paradox tensions are experienced in real-life situations and how individual ambidexterity is utilised to manage

them. In support of building individual ambidexterity more work is required towards implementable strategies to identify key traits, cognitive abilities, and build critical skills and behaviours for individual ambidexterity (Brix, 2019; Cunha et al., 2019; Smith et al., 2017; Kauppila & Tempelaar, 2016).

3. METHODS

3.1 Research design

Neither exploitative nor explorative innovation activities are framed as problematic, nor is either type the one most desired, although scholars do portray exploitative innovation as attracting the most natural preference in organisations due to an almost natural evolution towards extracting more from existing products and operations. In that vein, the aspiration to increase exploration activities within the frame of limited organisational resource and change capacity, means it invokes tension as a reduction of exploitative innovation is required (Hargrave & Van de Ven, 2017; Zacher & Rosing, 2015). Understanding the enablement of the organisational ability to manage those paradoxical tensions through the building of individual ambidexterity is an area of research several scholars have highlighted (Brix, 2019; Hargrave & Van de Ven, 2017; Smith et al., 2017; Kauppila & Tempelaar, 2016). How the paradoxical tensions are experienced in the real world of work within organisations during the innovation process, as well as how the individuals respond to them, is a specific area where insight is required (Smith & Tracey, 2016). While the dominant form of paradox tension is the exploit or explore tension, there are several more complex paradoxical tensions which individuals experience and which have implications for individual ambidexterity (Sheep et al., 2017).

In order to gain deeper real world of work insight into the tensions and ambidexterity enacted in the innovation process, but in such a way as to avoid narrowing or inferring the tension type, the researcher will use a qualitative inductive research methodological approach (Gephart, 2017; Gioia et al., 2013). The researcher's aim is to seek a deeper understanding of how tensions are experienced, how they impact on individuals, how they impact on the process and how they are overcome. In seeking out real world insights into how a phenomenon occurred and into experiences, observations, opinions and understandings, an inductive study best allows the richness to emerge from the social context (Gephart, 2017; Gioia et al., 2013). The choice made is taking an inductive constructionist grounded theory philosophical approach due to the need for the real experiences from the innovation process to emerge from the real or perceived individual accounts of those experiences (Bickman, Rog, & Yin, 2014; Cassell et al., 2018; Gioia et al., 2013). The constructionist grounded theory approach is best used in observing such complex social phenomena as experience and perception as it allows for deep, nuanced, subjective and personal truth to emerge,

unconstrained by the structure of directed or proposed ideas (Gioia et al., 2013; Swanborn, 2019). Gathering real world of work insights, experiences and opinion requires researcher participation and interpretation, which an inductive study enables rather than abductive study (Charmaz, 2014; Gephart, 2017; Gioia et al., 2013).

Case study methodology fits such a research problem and intent, where within a defined organisational frame of the case, participants can be more intensely observed for their perspectives, opinions, and views of the variables within the case subset of the organisation (Baxter & Jack, 2008; Bickman et al., 2014; Yin, 1981; Swanborn, 2019). To gather data on complex social, experiential and individual phenomena, the researcher chose to use semi-structured interviews and appreciative inquiry because the conversational style would reduce any specificity or boundedness and free up the participant towards broader and deeper insight (Bickman et al., 2014; Piekkari & Welch, 2019). The researcher runs the risk of proximity bias as a leader in the organisation, and using appreciative inquiry was crucial in enabling trust creation for conversational flow and to enable the emergence of the participant's perspectives (Mirvis et al., 2019).

While acknowledging that in inductive methods like grounded theory an early suspension of knowledge of existing literature is useful in order for the researcher to avoid inferring existing thoughts onto the data or limiting the full revelatory potential of the data, at some point in the coding, the inclusion of coding and existing literature starts a shift from inductive to abductive (Gioia et al., 2013). There is an important emphasis of the creative and revelatory benefits of grounded theory to be supported by validation techniques as part of good scholarly rigour (Gioia et al., 2013).

3.2 Grounded theory methodology

Although grounded theory is not exclusively inductive, it begins with the researcher making sense of inductive observations that the researcher shapes to seek answers to the emergent questions (Charmaz, 2014; Gephart, 2017; Gioia et al., 2013). Pioneered in social studies at a time when positivist quantitative studies were the dominant frame in sociological study, and where qualitative study was deemed not to measure up to the demands of validity, reliability and repeatability offered by quantitative methods in the 1950's and1960's (Charmaz, 2014;

Gioia et al., 2013), this methodology emphasises the value of theorising and exploring "how" questions, seeking to enable a more creative and revelatory research process (Gioia et al., 2013). This iterative process of researcher observation, exploration, sense-making, organising and sense-giving, and ultimately arriving at an emerging grounded theory, is also characterised by a different style of presentation and writing, where the researcher's interpretations, inductive contributions and presence make their way into the work (Charmaz, 2014; Gioia et al., 2013; Piekkari & Welch, 2019). For an inductive study where the researcher uses the grounded theory method, it is a challenge to ensure rigour and validity to overcome the criticism that the researcher's theorising, sense-making or sense-giving is nothing more than loosely held selected quotes and thinly connected explanations (Gioia et al., 2013; Piekkari & Welch, 2019). Qualitative research validity and rigour are also about the researcher displaying care in data collection, data handling, process and skill (Gioia et al., 2013).

Having used semi-structured conversational style interviews to gather primary data, the researcher's focus has been on the participants and the richness offered in their perspective of experiences; however, there is a high need for the researcher to use sound structures and methods in handling the data to ensure rigour (Gioia et al., 2013). There are several methodological differences in grounded theory scholars, with tensions held largely in how structured or not the interview to data handling method is in ensuring rigour and validity (Charmaz, 2014; Gioia et al., 2013).

The researcher opted for an iterative process of primary data collection from the semi-structured interviews, multiple waves of data analysis, referencing literature and then back for more data collection from structured interviews, followed by more analysis and further literature reviews (Charmaz, 2014; Gephart, 2017; Gioia et al., 2013). This process allowed for the data model to emerge and alter through the various iterations towards the conceptual model (Charmaz, 2014; Gephart, 2017; Gioia et al., 2013). This iterative, backward-forward repetitive process supports the validity of interpretive science through the build of 2nd order constructs and interpretations through inductive and abductive analysis of participants actual 1st order constructs as framed in the data model (Gephart, 2017; Gioia et al., 2013).

The constructivist approach means the researcher participates in the conversation, adapting to the research situation, aware of its context and setting out the process and structure, but most

importantly harnessing the value of the participation in the interviews as it values the whole conversation and expects interpretation (Charmaz, 2014; Gioia et al., 2013; Piekkari & Welch, 2019). This emphasising of the value of the researcher's many different means of gathering observations, inflections, view points and nuance is attractive, given the complex organisational environment and research question (Charmaz, 2014). The attraction of this approach is the value of rich real world perceived or real experiences emerging, enabled by the flexibility, openness and value of the researcher interpreting nuance and meaning (Charmaz, 2014; Gephart, 2017; Gioia et al., 2013; Piekkari & Welch, 2019). There is an emphasis on the value of the interviewer, the researcher's awareness and preparedness (Charmaz, 2014; Gioia et al., 2013). Emphasising therefore the importance of the researcher's powers of observation and interpretation but also having the awareness of the risks of methodological bias and proximity bias, the researcher has deliberately structured additional methods to assist with validation and rigour (Charmaz, 2014; Gioia et al., 2013).

3.3 Data collection

The research question is the key driver of the selected choices for the research approach (Charmaz, 2014; Gephart, 2017; Gioia et al., 2013). In this research work, the question being asked is aimed at attaining a deeper understanding of the real world of work experience of an individual, and so not only establishing what occurred, but rather also attempting to understand how it occurred, how the individual experienced it, what their insights were and how they perceived the choices made in dealing with that phenomenon (Charmaz, 2014; Gephart, 2017; Gioia et al., 2013). The intention is to gather qualitative, subjective, personalised and nuanced data drawn from personal experience, insight and opinion (Gephart, 2017; Gioia et al., 2013).

Starting out, the researcher recognised that he has an experienced-based social research question located at the individual level of the organisation and therefore selected a constructivist grounded theory approach to engage in a rich conversational process of intensive interviews. Good practice for qualitative researchers is to use a combination of different data sources in a triangulation of data (Charmaz, 2014). The researcher used semi-structured interviews with case study participants as the primary data source, gathering data from each participant's own narration of events through quotes but also leveraging any access

to archival data as well as using data from structured interviews with subject matter experts (Bickman et al., 2014; Gioia et al., 2013). Although an interviewee's account of events is not sacrosanct or necessarily the truth, it is a narration from their own perspective, or differently stated, their truth (Bickman et al., 2014; Piekkari & Welch, 2019; Swanborn, 2019). Real world of work individual insights are sought to deepen the understanding of how paradox tensions are experienced during the innovation process and to identify how ambidexterity is enacted and enabled. The researcher's access to archival documents was primarily utilised for project charter documents providing organisational diagrams. Accessing archival data such as meeting minutes did not prove particularly insightful. There were pointed corroborations of incidents or decisions but these were of minor value, given the need for insights providing understanding.

There are criticisms that semi-structured interviews are imbued with subjectivity, hindsight and inconsistency where there is a difference between what participants say and do (Charmaz, 2014; Gioia et al., 2013). These are important data points and the richness is not only based on what they have said but also on why they have said so (Bickman et al., 2014; Charmaz, 2014; Gioia et al., 2013). This process of engaging is a rich source of opportunity to observe micro-level social process interactions and behaviours from every participant's account in a case framework (Charmaz, 2014; Gioia et al., 2013; Swanborn, 2018b). This richness comes from the conversational flow during the semi-structured interviews, where participants are very willing to share detailed observations, points of view, inflections in their accounts once they are made to feel safe by the promise of anonymity and by the researcher's willingness to provide transparency (Gioia et al., 2013). A risk or challenge for the researcher is in dealing with his role in the conversation. Ideally the researcher wants to manage or negate any relationship dynamics such as power, gender, race, language and culture, which all may have an influence not only on the willingness to share truthfully but also in shaping the responses (Charmaz, 2014; Gioia et al., 2013).

With research variables such as traits, skills, behaviours, cognitive abilities, leadership and culture, the first-person account of their observations is described as the researcher getting their hands dirty through participation in the process where the researcher gaining the insights, interpreted into their own words, as far as possible, is the promise to uncover more depth of insight (Charmaz, 2014; Gephart, 2017; Gioia et al., 2013). The undulating process of discovery unfolds when interview insights help evolve the questioning, allowing or

enabling the responses to shape the direction but always keeping sight of the research question (Gioia et al., 2013). There is a warning by grounded theory scholars against the practice of rigidly attempting to keep question structure and format the same for the sake of uniformity, as it risks the missing of an opportunity to discover new insights (Gephart, 2017; Gioia et al., 2013). In this pulsating process the authors also suggest that those insights not only shape the flow of the questioning but also could impact or shape the research question itself (Gephart, 2017; Gioia et al., 2013). The researcher's risk of proximity bias or power dynamics due to the researcher's role in the organisation, is dealt with through engaging in an open conversation about it with participants, calling out the dynamics, the risks from it and the desire for trust and openness (Baxter & Jack, 2008; Gioia et al., 2013). The researcher emphasised his role as researcher, spoke at great length about anonymity and the freedom to express views. This took place at the start of each interview along with the descriptions of the protocols and ethical processes, and the anonymity promise seemed to have the necessary effect as the interviewees seemed to express excitement at the opportunity to share their views (Bickman et al., 2014; Gephart, 2017; Gioia et al., 2013).

3.3.1 Semi-structured interviews

A key objective for the researcher was to gain rich generative interview insights, which required the participants to be at ease, to feel free from risks of judgement and to trust the process of the interview. The researcher opted to craft a conversational style to enable this, where the use of appreciative inquiry style questions helped to set the tone early on and then using the conversation to further shape questions. The participants seemed comfortable and willing to generously provide their insights and opinions, which encouraged the researcher as it was an indication of having achieved trust with the participants (Barros-pose & Laszlo, 2014; Gioia et al., 2013).

The researcher conducted the 12 project participant interviews in an office on-site in Cape Town at the organisation's Head Office, and they were all face-to-face interviews held between November 2019 and February 2020. Each of the interviews was recorded digitally to enable the researcher to avoid note taking and for him to rather engage in conversation. Each of the interviews lasted more than one hour. The researcher later paid for transcription services to enable the analysis of the data using the electronic interview transcripts, and used the voice recordings to replay any specific parts of conversations to aid recollection.

While the researcher had a guide to types of questions to assist his facilitation, these were not specific or structured questions. Here is an example of the opening questions which helped to achieve the generative conversational flow:

- *Can you tell me about what you think are the highlights or successes to celebrate about the project?* This helped set the tone for appreciation, and in most cases triggered a rich descriptive contribution at the start, which then led to follow-on questions shaped by the answers.
- *Can you describe how you experienced the project approach and process and what did you enjoy about it?* This led to generative experience, opinion and reflective discussions about choices made in process and approach. This opened up opportunities for follow-up questions about those points of view, experiences and perspectives of the alternative choices. As these conversations went, the level of insight and opinion deepened as the researcher could ask more insight questions such as *"why do you think that was the case or choice"*. This type of questioning seeks insight into personally held truths, whether perceived or real.

Appendix C contains more questions which the researcher created after the interviews by going through the transcripts of the interviews. The questions were not consistently asked of all the participants as there was a high level of customisation of each interview, largely informed by the direction of responses and offerings from the participants. It was the responsibility of the researcher to continue to shape follow-on questions, while keeping them broadly aligned to the research question. The researcher experienced a high degree of willingness from the participants to offer their opinions and insights, and they contributed richly in their sessions of more than one hour each. All of them also offered to be available for any further time required post the interview. The researcher's own role as participant in these rich generative discussions was crucial in establishing the necessary environment of trust and openness, but also as a participant influencing the direction and shape of each interview through questioning (Gephart, 2017; Gioia et al., 2013).

3.3.2 Structured interviews

The researcher used the emerging data model from the initial analysis to identify more specific questions relating to the individual experiences of paradox tensions and

ambidexterity. The first action was to undertake a further level of coding using the same primary data, to identify references or examples relating to these more specific questions. This process again uses the researcher's interpretive value in re-reading the transcripts, remembering the parts of the conversations and interpreting meaning related to the specific questions emerging (Gephart, 2017; Saldaña, 2013). With the new level of coding contributing to refining the data model and to the more specific questions which emerged, the researcher framed the following questions using a PowerPoint format for an online interview with targeted functional experts in the organisation. These interviews the researcher conducted between July and August 2020, using the MS Teams online meeting application due to COVID-19 risks requiring social distance practices and therefore avoiding in-person meetings. These online interviews were recorded for later transcription and each lasted more than one hour.

The questions were asked within the framework presented to them:

- An introduction to paradox theory within the innovation process and then a discussion of the emerging data on paradox experiences within the case study. Questions were posed on views about the paradox tensions experienced.
- An introduction to individual ambidexterity as a strategy to manage paradox theory and then the emerging questions on ambidexterity. Questions were directed at individual opinion on individual ambidexterity, insight into whether implicit or explicit knowledge or skills, insight into traits and insight into how the organisation enables ambidexterity.

Table 3.1: Theoretical framework and structured questions

Questions	**Theoretical Construct**
What are your views on paradox? Any additional views?	Individual experiences and perspectives on paradox tensions
Is there an organisational framework, model or toolset for projects? An explicit methodology or mechanic to assist?	Insight into organisational innovation activity capability, skills and instrumental support
How intuitive or implicit is the knowledge or ability to successfully navigate the choices in set structure, team, culture, team ways of working?	Exploring views on reliance on individual implied or implicit knowledge and skills in innovation choices

How much of that ability to a build or an acquire strategy?	Organisational capability building insight into implicit or explicit approach
How do the organisation's competency models, learning and development and recruitment models align to the strategies for enabling this ability?	Exploring awareness and intentionality in building organisational individual ambidexterity capability
How important do you think the ambidexterity ability to manage paradox tensions are to innovativeness?	Expert insight into individual ambidexterity value to innovation
How do you think the organisation's strategies enable this?	Organisational intentionality for ambidexterity capability building
How might alternative approaches be applicable?	Individual opinion
Is there anything missing or anything you disagree with in the model for individual ambidexterity?	Individual opinion

3.3.3 Appreciative inquiry

With the intention to gather personal experience insights, opinions and perspectives with the grounded theory methodological design, the objective to create rich generative interviews was critical. When researchers approach interviews seeking insights and views on a case study there is the risk of judgement for the participant, and the researcher deliberately made choices to seek to overcome any inhibition through creating openness, trust and candidness (Barros-pose & Laszlo, 2014; Gioia et al., 2013). Establishing the right tone to imbue the sense of non-judgement, to trigger an abundant and unconstrained flow of responses and to enable the participant to offer personal reflection, was critical. The researcher opted to use the appreciative inquiry method where an important benefit is achieving a positive and generative tone through the framing of positive questions affirming or appreciating successes (Barros-pose & Laszlo, 2014; Gioia et al., 2013; Piekkari & Welch, 2019). The researcher used this effectively by asking participants to start by describing the project and what they experienced as the highlights worth celebrating. This triggered generative narrating about the project through its various phases, where participants highlighted what went well. This proved to set the tone for the rest of the interview, and the researcher shaped several other questions towards the positive or appreciative first before asking for any diagnostic or alternative perspectives but found that often the appreciative style of questioning naturally led participants to offer both positive and negative insights.

Appreciative inquiry is defined as inquiry where value is derived from participants' willingness to describe in an unrestricted way their views and inputs, when the researcher starts by asking them to describe what they valued (Barros-Pose et al., 2019; Swanborn, 2019). Its value in organisational or institutional study became evident and the understanding that individuals are highly influenced by their expectations and that of others and how positive questioning results in positive behaviour and willingness to contribute more creatively or openly (Barros-pose & Laszlo, 2014; Swanborn, 2019). Appreciative inquiry aligns itself more with the idea of the organisation from a constructivist perspective where it evolves or is constructed from the interpretations, views and influences between individuals and organisation, rather than from the positivist perspective where the organisational study is merely observation of existing phenomena (Barros-pose & Laszlo, 2014; Swanborn, 2019). The simultaneity principle that inquiry and change occur simultaneously where inquiry stimulates reflection which energises change, the poetic principle that individuals shape the organisation based on what they value in their stories, the anticipatory principle that the potential people perceive in their future shapes their response towards it, and lastly the positive principle which describes how people are more engaged and included through positive reflection are all at play (Barros-pose & Laszlo, 2014; Bright, 2014; Swanborn, 2019).

This positive inquiry process enables the narrative style capturing of participant truths from a perspective of narrating incidents, views, behaviours, and inflections in hopefully an open, creative and generative manner (Barros-pose & Laszlo, 2014; Swanborn, 2019). This method assisted the researcher to collect rich personal experiences, insights and opinions. The potential of higher cognitive contributions, rich generative and creative engagement from appreciative inquiry is attractive to the researcher, where the safety, warmth and quality of the engagement mitigate for the potential negative energy of fear and anxiety (Barros-pose & Laszlo, 2014; Bright, 2014).

A further relevant theme is that of the researcher's position in the study – that of an organisational insider or outsider, a theme emphasised due to its impact on the researcher's role as collaborator in the appreciative inquiry method (Gioia et al., 2013; Reed, 2019). The trade-off between being an insider turned researcher or being external to the organisation is that the insider has the advantages of organisational knowledge, access to existing

relationships, access to data, existing trust versus the weaknesses of a potential lack of objectivity, or a critical lens relative to real world (Gioia et al., 2013; Reed, 2019).

3.3.4 Sampling method

The researcher selected 12 participants in a purposive sampling method and targeted semi-structured interviews to gather data (Charmaz, 2014). Purposive sampling was used as the researcher deliberately targeted individuals for the case study from across various organisational functional areas, specialists and a variation of organisational levels, as well as a mix of project specialist and operational leadership roles. This participant diversity is important to gain a diversity of experiential insights and opinions. After initial analysis of the data from these interviews, the emerging data model led the research back to the field to conduct structured interviews with 3 more participants, selected through purposive sampling and identified for their organisational role as functional experts relevant to the subject of questioning.

In line with the research question, the sampling did not focus on demographic diversity but rather functional skill and role diversity in an attempt to enrich the diversity of perspectives (Bickman et al., 2014; Charmaz, 2014). Within the case study, the purposive sampling of individuals for interviews was undertaken using the researcher's own knowledge of the project, using archival documents and identifying specific people who would have the best level of experience, knowledge and insight. In a qualitative study using the case study method this purposive sampling method is more like selection than pure sampling, as the researcher sought out those participants who might enrich the research goal (Farquhar, 2019; Piekkari & Welch, 2019).

As the researcher worked through the iterative process of coding data, the data model started emerging along with more definitive questions. These questions directed a further line of inquiry but towards a specific functional expertise in the organisation. In his planning approach, the researcher held a discussion with a senior leader in that functional area to discuss the question concepts and his goals, and she was able to help select specific individuals to include into his selection or sample for a structured interview process. This further purposive sampling for identifying the participants for the structured interviews, follows the same logical decision making used for the interview population selection process.

It is premised on gaining access to the specialised functional insights held by a very specific few individuals due to their specialised roles in the area of inquiry, the quality of their understanding being of far more value than any other research goal in this process.

3.3.5 Case selection

The case study selected is a project called the Logistics Integration Centre, which was aimed at the transformational redesign of the transport planning model into a digitally enabled model. This project was part of a larger investment programme operated by the Supply Chain and Logistics business unit within the retail organisation.

The researcher used these three criteria for deciding on the selection of the most appropriate project for the case study (Baxter & Jack, 2008; Farquhar, 2019):

- The case presents highly complex explorative innovation – system, process, organisation, operational accountabilities and a high degree of access to project resources – documents and people. This offered value to the researcher due to the intention to gain insights from individual experiences, observations and insights.
- The case presents the collaborative efforts of various functional role players where the historical bias is exploitative innovation activity. This offered fertile ground for potential observations of the manifestation of paradox tensions. This offered the researcher a lot of potential for individual experiences of paradox and the use of individual ambidexterity.
- The researcher had access to people who have been involved over the entire 3-year timeline. The researcher would benefit from hindsight observations and a variation of perspectives over time.

In order to remain aligned to the ethical commitments made, many of these documents have been added as supporting documents where some details have been redacted by the researcher to protect confidentiality. Outlined here is some of the pertinent information to contextualise the project selected for this case study:

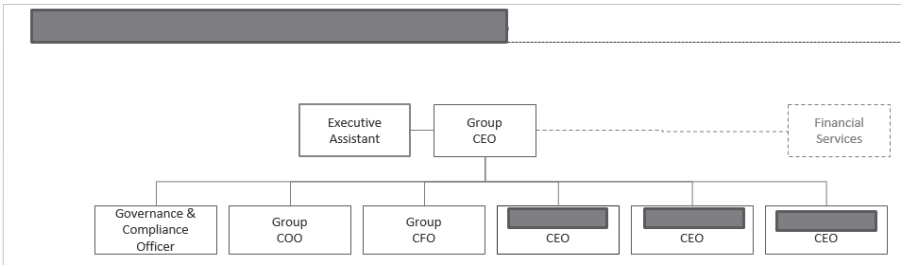

Figure 3.1: Group organisational structure

Within the Group Chief Operating Officer (Group COO) structure sits Supply Chain and Logistics South Africa as a business unit with its own Executive Head (see Figure 3.4).

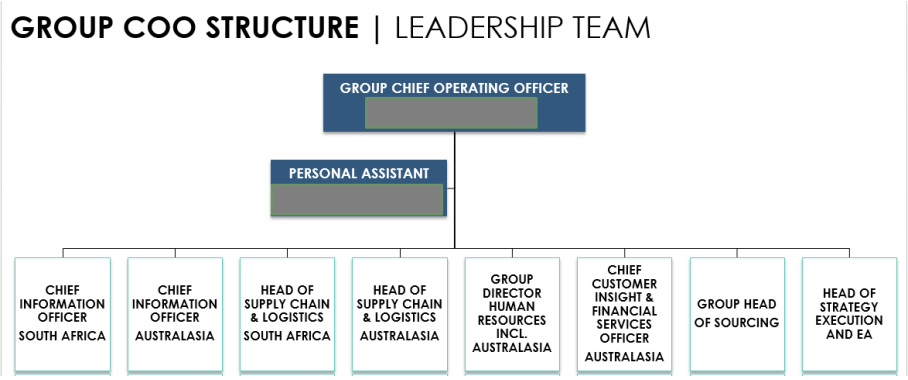

Figure 3.2: Group Chief Operating Officer structure

The Supply Chain and Logistics business unit is structured as follows in Figure 3.5 below.

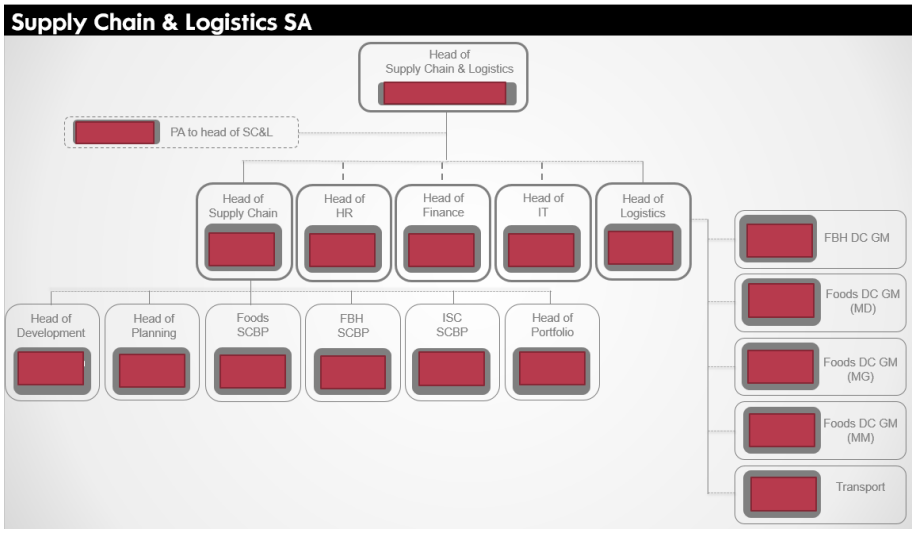

Figure 3.3: Supply Chain & Logistics SA organisation

The Supply Chain and Logistics business unit is accountable for a retail product distribution network consisting of international shipping, freight forwarding, and distribution centre and transportation fleet operations. Over the past five years this business unit has been executing a large investment programme to build new capacity and improve its capabilities. The structure of this programme is shown in Figure 3.4 below and highlighted in green is where the project selected for the case study, a project called Logistics Integration Centre, is located within that investment programme.

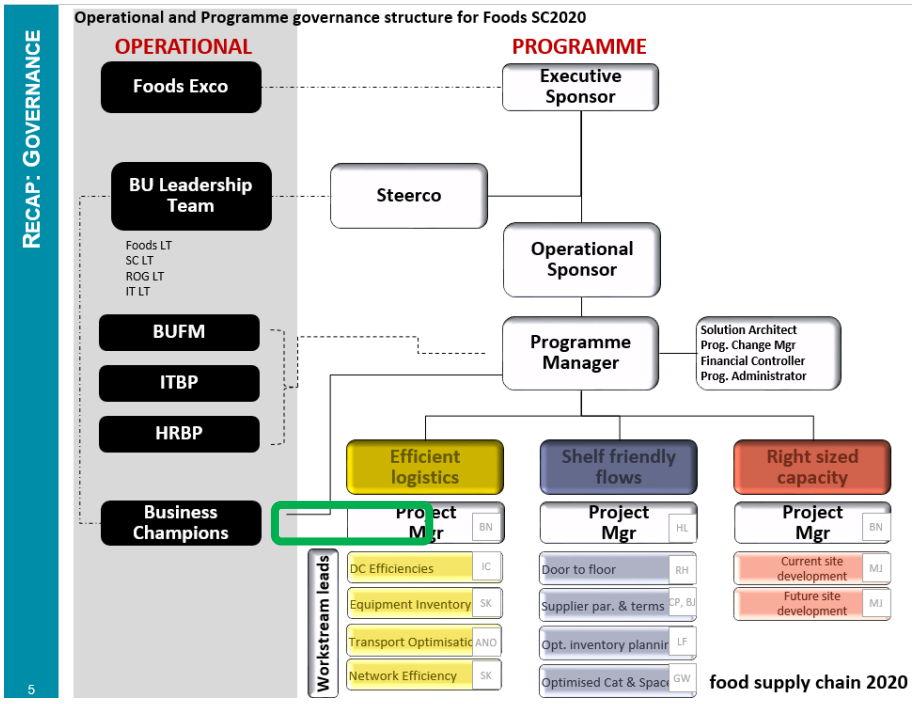

Figure 3.4: Programme organisation

The Logistics Integration Centre project objective was the development of a specialised centralised and digitised transport planning and execution capability, with the aim of optimising the effectiveness of the fleet operations. The benefits of this capability would be improved service execution, optimisation benefits of cost, increase of fleet efficiency and reduction of carbon emissions. This was a transformational project as defined in strategy documents obtained, where the organisational structure, the roles and accountabilities, the skills, the processes, the systems and the business functions would be radically changed. From the relevant documents and discussions, the researcher learned that this innovation would be the first explorative innovation activity in the transport model for many years, as the team have been very successful with exploitative innovation through a continuous improvement framework. This offered the potential for observing paradox tensions due to the novelty of the explorative innovation scope, process and approach relative to what the team

might have been more accustomed to. As previously mentioned, the intention of the project was to undertake a complete transformation of operating model, which would have presented significant change and challenges to the team.

3.3.6 Selecting interviewees

Selecting participants and ensuring a diversity of innovation activity experience offered the researcher the opportunity to work with a diversity of perspectives on experiences of this explorative innovation project. The table below shows the representation of the participants selected for the semi-structured project participant interviews, which formed the initial round of interviews.

Table 3.2: List of project interview participants

Code	Job title	Org level	Role on project	Role Category	Organisation	Gender	Race
P01	Senior Executive	Exec	Steering Committee member	Governance	A	Male	White
P02	Senior Operations Leader	Senior	Steering Committee member	Governance	A	Male	White
P03	Head of Planning	Senior	Steering Committee member	Project Decision maker	B	Male	White
P04	Head of I.T	Senior	Steering Committee member	Governance	B	Female	White
P05	Head of Supply Chain	Middle	Programme Sponsor	Stakeholder	B	Male	White
P06	Senior Planning Manager	Middle	Operations Committee Member	Project Decision maker	B	Male	Coloured
P07	Transport Operations Manager	Middle	Operations Committee Member	Stakeholder	B	Male	Black
P08	Planning Manager	Specialist	Team lead	Core project team member	B	Male	Coloured
P09	Solutions Architect	Specialist	Solutions Architect	Core project team member	B	Male	White
P10	Distribution Operations Manger	Middle	Key stakeholder	Stakeholder	B	Male	Black
P11	I.T Manager	Middle	Operations Committee Member	Core project team member	B	Female	White
P12	Senior Operations Executive	Exec	Steering Committee member	Governance	B	Male	Coloured

Post the data analysis of the interview data, the initial data model and more focused questions led to the selection of the subject matter expert participants for structured interviews. Their selection was based on the identification of their specialised roles in the organisation as they were the ones with the functional accountabilities for the areas where these questions would be directed to. The researcher consulted with a senior member of the Human Resources functional area and she provided guidance in identifying the individuals who would possess the required insights. Table 3.3 contains the list of subject matter participants (4 were targeted, but only 3 agreed to participate).

Table 3.3: List of subject matter expert interview participants

Code	Job title	Org level	Functional Accountability	Role Category	Gender	Race
E01	Change Manager	Middle	Organisational Development	Specialist	Female	White
E02	Organisational Development Specialist	Middle	Organisational Development	Specialist	Female	Indian
E03	HR Executive	Executive	Human Resources	Generalist	Female	White

3.4 Ethical consent

The researcher followed the same ethical protocols with his project participant interview group and with the subject matter expert participant group. In each of the interviews he asked

the interviewees to sign an acknowledgement of agreement to participate, which included a statement of the ethical protocols, promise of anonymity, care in data use and a reminder of their freedom to withdraw their participation at any point, and then he provided each with a copy of this agreement. Both anonymity and confidentiality were clarified in order to ensure that there would be no obstacle to publishing any of the data or insights later. The researcher undertook all interview planning, conducted each interview which he voice recorded, and paid a transcription service provider to transcribe the interviews into Word documents. As part of his documentary support, he holds all of the consent forms, voice recordings and transcripts in safe-keeping electronically.

3.5 Data analysis

The researcher's approach being one of grounded theory meant following methods that are iterative and interpretive, requiring the researcher to work through the data in a line by line fashion. The aim of this coding process was to help identify, organise, summarise and label distinct themes or ideas in the data. With the grounded theory approach that process is different to other methods in that it does not apply already existing codes, frameworks or themes to the data, but instead allows the codes and themes to emerge from working with the data (Charmaz, 2014; Gioia et al., 2013; Powell & Baker, 2017).

The researcher analysed the interviews, using primarily the Nvivo software programme but later also Excel to further categorise and refine. In the initial coding, the process was an open one without the hard application of pre-existing structures in code but rather an iterative working through which the codes, themes and categories would be revealed (Charmaz, 2014; Gioia et al., 2013). In this process the researcher worked through waves of understanding, comparing and identifying similarities and combining them in loose clusters and a continuous re-organising. The researcher used descriptive coding which is best described as loose or effectively "what came to mind" in the mind of the researcher based on what was said relative to the question asked (Gioia et al., 2013; Swanborn, 2018a). The initial loose or open style of coding in the early stages led to a large number of seemingly unstructured codes, which the researcher continued to work through to refine and reorganise in an iterative manner, evolving towards a saturation point. The process did allow for the researcher to

achieve a first observer's reading of what was said, which refreshed the mind of the interviewee's emphasis, tone and ideas (Charmaz, 2014; Gioia et al., 2013).

Once this point of saturation of the open coding process had been reached, an initial data model with the connections between the codes emerged. The researcher adopted the data model which connects the key concepts from the data to 2nd order themes and then to aggregate dimensions (Gioia et al., 2013). This initial process focused on the experiences of paradox tensions from the participant data, and so the initial data model was only a framework of paradox tension experiences which framed key themes and more specific questions for individual ambidexterity. This part of the process was the start of theoretical coding, which was where the researcher applied his own understanding to the data (Charmaz, 2014; Gephart, 2017; Gioia et al., 2013). This part of the process is less concerned with loose descriptions or organising and sorting, but rather is where the researcher starts to code the themes to his understanding of the existing body of knowledge (Charmaz, 2014; Gioia et al., 2013). It is through this process that an initial hypothesis can emerge and the existing knowledge and the emerged themes from the data are brought together and argumentation starts to form (Charmaz, 2014; Gioia et al., 2013; Saldaña, 2013).

With having gathered participant experiences of paradox theory and having identified more specific questions for ambidexterity, the researcher undertook further coding focused on the same primary data, but coding for the examples of ambidexterity and specifically whether there were indications of it being an intuitive or explicit ability. After coding for ambidexterity the researcher completed the organising of themes, which supported more specific questions for how ambidexterity is enabled in a further refined data model. The researcher then targeted four subject matter experts in the organisation to gather new data through structured interviews. The researcher used purposive sampling identifying people who are responsible for organisational development, effectiveness, learning and development and recruitment. The approach was to use a structured interview process to expose the data model to them, along with some supporting literature and to frame key questions to them to enable a structured dialogue (Gioia et al., 2013). The aim of this dialogue was to enable the participants to engage with the data model, to offer critique but also to explore connections to their understanding of the organisational models and practice. It was the objective of the researcher that this dialogue would provide further refinement of the data model through testing the validity of data to theory connections, and mine for richer or alternative insights.

The data from these interviews was coded and the researcher converged the coding from the primary data and the secondary data, organising the emergent concepts into an enhanced and complete data model. This further data coding and refinement of the data model enabled the analysis to move towards bringing the model back to the main body of literature and advance theoretical coding.

While researcher objectivity and self-awareness was practised by the researcher, several grounded theory experts advocate for the immersion benefits of the researcher to immerse into the case allowing the emergence of understanding and perspective, given the ground level experience through the process (Charmaz, 2014; Gioia et al., 2013; Piekkari & Welch, 2019; Saldaña, 2013). The researcher thus took the approach of trying to remain objective and resist rushing to inferences, while being careful not to practise complete detachment and value the benefits of the researcher's own immersion (Charmaz, 2014; Gioia et al., 2013).

3.5.1 Emerging data model

3.5.1.1 Insights on paradox tensions

After coding through the 12 semi-structured interviews with the project participants, there were several theoretical categories which emerged from the data and this enabled the formation of an initial data model (Gioia et al., 2013). The data model continued to be refined through further data gathering and further waves of coding. Below is the first version after coding for paradox tension experiences:

Table 3.4: Initial data model focused on coding for paradox examples with the project participants

1st ORDER CONCEPTS					2nd ORDER THEMES	AGGREGATE DIMENSION
Tensions in structure, roles or skills alongside dedicate or shared	Tension of project team success versus the risk of the negative impact	Tension of project objectives versus the broader organisational	Tensions of "safe space" where caring and embracing divergent		**Team Paradox (Us)**	Intuitive ability - traits, behaviours. Strategies for building or acquiring?
Tension from ambition scope and complexity tensions choices.	Tensions from building internal talent and capacity versus using	Tension between creativity and technical project skills	Leadership tension of enabling versus directing	Tensions from choices of known methodologies or new	**Skills Paradox**	
A time-speed paradox where the ability to adjust time/speed depending on context of need	Tension experienced from pushing for consensus versus seeking further divergence	Tension experienced from risk/reward from the innovation process	Tensions when needing to navigate successes and failures, enabling learning, allowing slippage or failure as		**Risk / Reward Paradox (Experience)**	Contextual ability - cultural, leadership. Strategies for enabling.
Tension from pre-project phase choices - problem/project definition, benefits/business case	Tension from choices to gain faster incremental benefits from exploit innovation versus the slower process to	Tensions from various approach and method choices	Design process choices - unconstrain first then constrain or constrain first		**Process Paradox (How)**	Explicit ability - skills, methods, frameworks. Strategies for building or acquiring?
Tensions from members being intimidated by risk of erring on the wrong side of debates and damage to relationships or career impacts.	Tensions from how to enable objective provocation - External/internal people need to assimilate or die. Uniformity and sameness	Tensions where trust is low and very high levels of resistance	Tensions from energy and effort to build relationships and trust for temporary project period		**Culture Paradox**	

With the research intention to gain insights from the real experiences of individuals in the workplace in order to better understand how ambidexterity enables sustained innovation, it was important to observe individual experiences of paradox tensions. As the researcher undertook coding, the trade-offs, opposing forces and any other conflicting tensions described by the participants were identified. Within each of the themes these tensions were coded, but it was again done in the interpretive process of the researcher. The paradox experiences shown in the 1st order concepts on the initial data model were then themed into the 2nd order themes. The aggregate dimensions frames contain questions seeking examples and insights into the ambidexterity used to overcome or manage those tensions.

3.5.1.2 Insights on individual ambidexterity

The researcher used these aggregate dimensions as refined questions requiring the researcher to go back to the primary data and code for examples of individual ambidexterity in identifying specifically if they are examples of an intuitive or explicit ability. This process led to new codes and themes focused on examples of ambidexterity used in overcoming the paradox tensions experienced and which the researcher used in framing the questions used in the structured interviews with the subject matter experts.

The data gathered from these structured interviews was then also processed in Nvivo and the researcher again firstly undertook open coding of this data before again undertaking the process of organising, theming and theoretical coding in a repeat of the process but now covering the new data. This process entailed working through the primary data from project participants for their experiences of tensions, then for examples of ambidexterity. Then using the themes from the paradox and ambidexterity coding to gather data from the subject matter expert interviews and then to code again for ambidexterity ability. The final data model which emerged is shown in Table 3.5.

Table 3.5: Data model adopted from Gioia et al. (2013)

1st ORDER CONCEPTS					2nd ORDER THEMES	AGGREGATE DIMENSIONS
Paradox of experience: feelings of anxiety-safety, risk-reward	Paradox of Process: from choices of method, approach, time-scope	Paradox of structure: from choices of role, internal-external, high-low control	Paradox of skills: choices of expert-operational, technical-creative, control-enable leadership	Paradox of culture: from divergence-consensus, organisational memory-disruption, openess-control	**Complex layers of interelated paradox invoked**	Building a more complex, valuable role of the individual
Individual intuitive ambidexterity	Individual explicit ambidexterity skills model	Individual cognitive ambidexterity model	Individual traits supporting model	Individual ambidexterity behaviours model	**Individual trait, cognitive, skills and behavioural model for ambidexterity**	
Leadership style, behaviours enablement of individual ambidexterity	Leaders enabling autonoumy, delegation and consultation	Leadership enablement of individual learning orientation	Leader ambidexterity and openess	Leadership behaviours	**Leadership role shift in towards enablement**	Leadership & Supporting Context
Organisational vision for ambidexterity (bottoms up and top down)	Organisation valuing autonoumy and individual emanicpation from extreme control	Culture enabling socially formed networks and learning	Creating non-punitive culture, encouraging experimentation, psychological safety	Creating cultural value of opennes, transparency and welcoming complexity	**Organisational enablement of supporting context**	
Innovation Process support instruments	Ambidexterity implementation tools	Ambidexterity language, diagnostics	Ambidexterity saliency tools	Modelling behaviours for positive response	**Individual ambidexterity instrumental support**	Instrumental tools, models and enablement

This refined data model connects the participant insights on paradox tensions experienced, examples of ambidexterity exhibited and insights on ambidexterity ability to key concepts. The contributions from both sets of participants were allowed to emerge through the coding process before the researcher took these back to the main body of literature. This data model enabled the structure of those insights necessary for the researcher to conduct the next phase of work which was to code back to existing knowledge. Through this process the researcher was able to identify key emerging findings through combining the data model and existing knowledge. This theoretical coding process shows how the waves of primary data coding created the foundational basis for the later theoretical coding towards identifying the key findings. Those findings then became the critical theoretical foundation for this thesis and this is framed within the conceptual framework derived from the findings.

4. RESEARCH FINDINGS

4.1 Introduction

This section deals with the research findings framed by the final data model shown in the previous chapter, which had evolved from the various iterations of the coding of case study data. The coding process initially focused on paradox tensions experienced, then on individual ambidexterity and then converged into the final data model framework. The structure of this research findings section follows a first revealing of the paradox tension experience findings and then the individual ambidexterity findings. While the subject matter experts provided their opinions on paradox tensions, it is the real world experiences of the project participants that are more valuable in the first section. Both the project and subject matter participant data is used in these findings on paradox tensions and ambidexterity.

4.2 Complex layers of paradox tensions

A key finding is that complex layers of paradox tensions are evident and there are some key types of paradox tension themes which the researcher identified from the data. While perhaps some of these tensions are inherent, it is evident that the individuals participating in this project were confronted with several interrelated tensions. Exploring the source of these experiences as well as how they responded is covered in this section and aligns to the research intent. The approach by the researcher was to identify themes from the discussions, and use interpretive understanding to name and describe these themes.

4.2.1 Paradox of experience

Paradox of experience is a theme which describes the experiences of individuals from their participation in the project, where several personal goals or intentions confronted by choices made in the project saw tensions invoked. There are several examples of these invoked tensions, such as that of the need for safety to express opinion and explore, and the opposing dynamic of conservatism and defensiveness. The result is anxiety from the personal intentions of offering a diverging view and the risks associated with a strong defence of the currently held view. While some used the word anxiety often (18 times), others described a reluctance to challenge with a divergent view, or where they opted for a safe choice to avoid

the risks induced. Another experience-based paradox is that of personal excitement about the career opportunity to be involved in the innovation, but then the risk of personal or team failure and how that impacted decisions in the innovation process. Personal motivations to be part of the team, to look after relationships, build careers and other personal objectives come into the equation when the individual needs to make a decision which might put those objectives at risk. Another experience paradox is the need to contribute and to be seen as having the right skills, but during periods of ambiguity, tensions invoke an insecurity and frustration at not knowing how. Here are some of the key quotes from the interviews:

Note: Interview participant names have been codified for anonymity: P denotes project participant (e.g. P01) and E denotes expert participant (e.g. E01)

"…we don't want to rock the boat in front of people…" (P04, Head of IT)

"Because now you are up against that knowledge, it can actually become now disabling, because now you are thinking about how you are transforming into the future and are they able to have the skills and are they able to take us through a process where we can find the transformation or is it going to be incremental, because now, all I am doing is, we already know it works like this so we are going to take it incrementally forward and not transformational, so that is interesting. So big cultural thing, a big thing around risk. I suppose, from a risk point of view, as you say, a lot of that is personal and how safe you feel, is the culture in the project or in the team working, is it safe for me to be curious and to ask questions, to challenge the opinion." (P04, Head of IT)

"That's it, and some people have spoken out maybe in a way that is actually, they are marked and they are a bit scared right, and instead of telling them, but we need you to be different right, and then you feel like OK, now I need to get into my box again and not say anything, otherwise you know…..you must encourage that it is OK to be scared right" (P04, Head of IT)

Participant P04 expressed how the explorative innovation prospect was exciting but as it progressed towards needing to challenge the existing process and oppose current thinking, a fear or anxiety was induced. P04 also offered descriptions of knowledge gatekeepers that one

would need to challenge, and how the personal motivations versus facing the risk of doing so invoked feelings of anxiety and risk avoidance.

"this integrates, all the parts start getting together, so for me, I don't think, for me personally there was a short space in time where I thought, yes I am going to get exposed here, that was the risk for me, as a person." (P02, Senior Operations Leader)

Participant P02 offered a description of a leader expressing eagerness to show their contribution to the innovation process and how that invoked a frustration and insecurity when the project entered a particularly challenging period where there was ambiguity and some inertia or "spinning" due to difficult choices that needed to be made. The personal need to succeed and the project needs, at that point, were at odds and left the participants feeling frustrated and concerned that they were going to be found not capable of fulfilling their role.

"The team was a little bit anxious, like what are you taking away from us, what do you expect from us and I also think team members were kind of feeling the protective about the old and take on everything that they should to kind of make the new system work" (P05, Head of Supply Chain)

Participant P05 described an operational unit who were initially excited to be participating and by the prospects of the innovation success. As the project made progress there was an induced feeling of insecurity and anxiety as the design choices started materialising and there was a feeling of loss of control of current processes and accountability. Their excitement about the new innovation was confronted by the current model and process becoming obsolete. This induced the dilemma of wanting to be part of delivering the innovation but facing risk to self-preservation, career longevity and of loss.

"…environment is still going to depict, going to determine how well he can use that competence, so for people to, when you start getting into spaces of ambiguity and paradox, for people to be able to navigate that well the environment has got to feel safe, the more unsafe people feel, the more fixed they tend to go…" (E03, HR Executive)

Participant E03 supports the idea of complex paradox tensions and contributes to the concept of personal risk and anxiety induced by the paradox tension, by adding that ambidexterity

requires that individuals should feel safe in order to exhibit that skill and behaviour. E03 suggests that when individuals are not feeling safe, instead of the agility to switch fluidly between innovation activities, they become more fixed as a defensive mechanism. This implies that the personal experiences of anxiety, risk and fear can inhibit the individual ambidexterity contributions.

4.2.2 Paradox of process

Paradox of process is a theme where individuals experience tensions which are invoked by different choices in process, methodology and approach. These choices are quite critical to the performance of the project but there is evidence of incompatible instrumental and processual preferences being the source of tensions. Here it is found that the existing knowledge, tools and methods in the organisation are the source of past and current successes and are well embedded. These seem highly biased toward exploitative innovation yet there is a strong preference for them even when approaching an explorative innovation which may require a different approach, processes, methodologies and tools. By bias, the researcher refers to the strongly embedded frameworks for continuous improvement and exploitative innovation in the organisation. There were many references throughout the interviews to the lack of clarity on the right approach and method, and to the need to figure this out first but which then led to time and resources being wasted. When tested for knowledge of the current approach, process, methodologies and tools it seems much of that is also implied and not made explicit or taught in the organisation. Key funding and governance processes and methodology are made explicit. Here are some examples:

"In the innovation world, the as is (current), is a bit unimportant okay, it is about the to-be (future)…sometimes you don't want to go and change, bridge the gap, you actually have to reinvent right…so we change our old way of how we are doing it, change the existing, because we've got quite a mature existing (model) right. In an innovation where completely new in mind, we actually need to start saying – I need to dumb down my old city and I need to start building a new city" (P04, Head of IT)

Here participant P04 is referring to the mature existing models, methodologies and approach to design in innovation projects, which are highly biased toward exploitative innovation, and how different the approach, methods and skills are for explorative innovation. The risk

expressed by P04 is that of an intention lost in desiring an explorative outcome but achieving an incremental outcome because of the use of exploitative tools and methods.

"I think it is probably a combination of the people and the way they used to do things and the budgetary constraints, so there are people, especially when they, as you mentioned, you know if they, it is people get used to doing things a certain way and it becomes threatening if someone suggests some things can work differently. It almost then becomes a bit – this is how it works, just make it work to fit that." (P09, Solutions Architect)

Here participant P09, who has extensive explorative design experience, refers to the paradox tension experienced by needing to use the best methods for the explorative innovation but where people are defending exploitative innovation methods and project approach. P09 is an individual who is contracted as a consultant from outside the organisation and offered opinions based on his experience on the project inside the organisation.

"I think we had a very wrong approach in terms of going, we took the project, let's go, understand the document and then go and build and I think that was actually the wrong approach. We shouldn't have done that because the people trying to do that, we should have gotten someone in to actually help us understand our business, someone that understands the industry, understands the type of solutions that is out there, understands business that can actually guide you, because we wasted a lot of time with that back and forth, back and forth" (P11, IT Manager)

Here participant P11 is lamenting the incorrect approach for the type of innovation and the impact of rework and wastage of resources due to it. The participant refers to an option of using an external resource to help consult on the approach to help overcome this tension. This reference to using an external consultant came up a number of times and it seems to be a means to overcome the internal stand-off from preferences for exploitative innovation methods.

Aside from individual competency and behaviours, instrumental support has the potential to reduce or mediate for invoked tensions from switching between the innovation activity types. In the case study there is evidence of a project team who are generally more familiar with exploitative methods but while having good awareness of alternative methods were

challenged to implement the same known methods, process and tools to exploitative innovation and learning through trial and error how to adjust. In the organisation there is a strong organisational defence of exploitative innovation methodologies.

4.2.3 Paradox of team

Paradox of team is a theme where paradox tensions are invoked by choices made in the structure of the team. Project teams are temporary organisations and have choices about structure, individuals, purpose, and culture and its work norms. In these choices several paradox tensions are invoked, one of which is making choices which are beneficial to project delivery but do not build capacity for the organisation, or the other way around. Such a paradox tension comes from the choice between the benefits of using explorative innovation experts versus using internal resources more accustomed to exploitative innovation, with the trade-off being project delivery versus organisational capacity building. Another paradox experienced is when changes to project role players are required to rectify poor performance, where a tension comes between the gain in performance and the risk of loss of cohesion and inducement of risk from the idea of punishment. Another paradox tension results from the role of leaders in the team and whether they choose to control, monitor and direct or enable, support and consult. This choice induces paradox tensions which affect the team dynamic and affects the leader's own performance in the team.

"...you know, free up and so if you know your talent and you know, by defining them with the skill sets they need and so forth and it is an age thing as well you know, these people need to take the thing forward and it is normally a long term transformation you know and then it lasts for a few years then even though you know, these days it is so fast that maybe that is not even relevant ever. You've got to actually free them up right and put them there because I think there are people that are currently running can also go there, it is not just a complete new mind-set." (P04, Head of IT)

Here participant P04 relates to the need to include talented internal resources into the project as an investment into growing organisational capacity for explorative innovation, while fully appreciating the cost to the short-term project goals and impact.

"…in the beginning I tried to be the project manager, kind of the SME and still doing some calculations behind the scene and it did not work. First of all I wasn't a qualified project manager and over time I have learnt that is a unique skill, it is not just, it doesn't sit with everybody, you need this person to understand, I mean I think as soon as I realised that and we got in a project manager just focussing on the deeper, narrow kinds of rules of project management, everything kind of started to fall in order, we got analysts and programmes and stuff, we the SME that just focussed on the cross-functionality making sure" (P06, Senior Planning Manager)

Here participant P06 in hindsight reflects on changes to structure in the project where an operational resource was used to project manage and then later changed to an expert project manager, and in the conversation relates the ambiguity of having learned through the experience but appreciating that there is a cost benefit to either choice.

"and then when I think it got difficult was when the project structure changed a little bit and people started moving into operational roles and the project was sort of dragging along and it became very much vendor driven and focussed and then it was just delays, delays, delays until we got to a point where we got restructured a bit" (P11, IT Manager)

Participant P11 here relates experiences from stages of structure changes and their impacts on the progress of the project, how these changes at the time can meet resistance and cause anxiety but also lead to improvement in progress and how individuals are required to deal with this paradox tension.

"…by using your base it is probably costing less and those people are probably working across multiple, maybe they are working on this project and then other projects as well. In the greater scheme it was probably the best thing for the organisation, maybe not the best thing for our project, so yes, there is an up-side to both, yes, you know what, we would have liked to have had people just working on this, dedicated to it and it would have been clean." (P12, Senior Operations Executive)

Here participant P12 is reflecting on the tension of having organisational resources on the project and the organisational benefits of capacity building versus the benefits to project delivery. In the discussion, the organisational benefits of using internal resources are both the

possible cost benefits to project resourcing but also the benefit of knowledge transfer as the project enters implementation. The cost is the lack of expert knowledge and experience with more explorative innovation process and methodologies, which is a cost to the project's progress and outcomes.

4.2.4 Paradox of skills

Paradox of skills is a theme that is reflective of tensions invoked by choices of individual and team skill combinations for the right blend of technical, creative and leadership skills to enable the various innovation phases, but also to enable successful navigation of the paradoxes. Skill sets required for the different innovation activities vary, and existing skills biases or lack of organisational frameworks for the building and application of both invokes paradoxes which individuals experience. Leadership skills required to enable and support rather than direct and monitor also produce tension experiences for the team and feelings of insecurity for the leaders.

"OK, so I think the part that we need to also recognise is that people, not all in that phase understanding the ambiguity with what they are working with and they jump to conclusions also quite fast." (P04, Head of IT)

Participant P04 is reflecting on the tension experienced when skills are lacking for dealing with ambiguous situations, where exploitative and explorative innovation skills would vary. Exploitative innovation skills are more attuned to higher levels of certainty from working with existing knowledge, while explorative innovation requires high levels of uncertainty and discovery. Undertaking the latter while equipped with the skills and experience of the former, invokes paradoxical tensions.

"The big thing of our business, it is part of the innovation that we have constantly, they are also realising that to be a good innovator you actually have to be disciplined, so it doesn't mean you are just ill-disciplined and you just miraculously come up with this" (P04, Head of IT)

Participant P04 relates an example unrelated to the case study, where a particularly creative team have showed negative responses to the need for structure and discipline in the project

process but how this is evolving through experiential learning about the value of more technical skills to innovation. P04 used this example to discuss how individual skills to undertake different types of innovation activities are critical to innovation success.

"…there is two things again for, so on a personal side and then the project side. So, for the project side, the operational team or people absolutely brought the IP (intellectual property) around business and business process to the table and you have to have that. That is the base of this whole project. The design thinking and the scoping, I'm 100% on your page, there is a massive gap in operational mind-set and skills to bridge that gap, from a personal level I have learnt a lot in that process" (P02, Senior Operations Leader)

Participant P02 is also a senior leader and is here reflecting on the skills gap that operational team members have due to their bias towards continuous improvement innovation. He is offering insights into the design and scope framing skills that are lacking in the organisation and are required for an explorative innovation. This insight is based purely on experiential learning by this individual during the project, through experiencing first-hand how the internal resources are missing critical skills for explorative design.

"My takeaway from this when I went through this process, is this, the ability for the sponsor to allow the team to make the difficult decisions and make the errors, while sometimes they look up to the sponsor to make the decisions because it is almost out. And I thought, for me, managing the anxiety while we failing deadlines, but the team still owning the decisions, still making the decisions, still owning up and just coming to the sponsor for direction when needed and not always giving it to them. Sometimes, at that business end I thought that was for me, a take away, because the risk would be the sponsor diving, I am here for help, I am failing my bosses are telling me I am failing, let me go an fix it, and not being the…" (P01, Senior Executive)

"Because the risk is that you come in, the anxiety creates friction and you dive in" (P01, Senior Executive)

Participant P01 is reflecting on the skills of the leader to enable and support the team to work autonomously even when going through difficulty, and how this invokes tensions from wanting to step in and solving things as a leader versus enabling the team to make decisions.

The same participant goes on to add his insights on the impact of stepping in instead of allowing the autonomy. Enabling the individuals to navigate the paradoxical tensions or any complex ambiguous situations also infers that they would have the skills to do so successfully.

"So interestingly design thinking is anchored in empathy, that is the meta-skill, so for me, and going there and deliberately inviting multiple perspectives in the pre-planning phase is a less threatening place to do it than when you are trying to converge" (E03, HR Executive)

Participant E03 points out that while currently the organisational competency models do not include skills to support individual ambidexterity, it would be valuable. The participant goes on to provide some insights into meta-skills or large underlying skills which would support individual ambidexterity.

"…if I am going to go into pure psychological theory now, so you've got traits and you've got competencies, both are able to be developed to a degree but it is much more difficult to develop a trait than to develop a competency and a competency that is resting on a certain trait" (E03, HR Executive)

"Sometimes you don't need to develop the capability, you just need to develop the self-insight that they have a weakness there, so that they can compensate their team" (E03, HR Executive)

Participant E03 also explains that these competencies can be developed and how the link between competency and traits works, and that both are important. According to E03 traits have benefits for competencies and so the potential for competency strength is linked to traits. The participant also indicates how self-insight can help augment a lack of individual competence through influencing the team composition.

"They arrive in a certain state and how you, the trick is how you move the organisation together is how you invest and work with enough individuals that you get a critical mass and you move the system forward, but I still think there is, as much as you do leadership development collectively, there is deep individual journeys…" (E03, HR Executive)

Participant E03 offers further thoughts on individual development and how it can enable the organisation through gaining critical mass of the competence through individuals.

"but I do think, I think we need a lot more of an integrated way of learning where things are delivered in time, you know, in short snippets, available to people in different way, you know what I mean, you don't have to sit in a classroom" (E02, Organisational Development Specialist)

Participant E02 offers the insight that learning models need adaptation towards being less bounded learning and more socially formed learning such as through communities of practice where individuals learn from each other, also how leaders must provide individuals the freedom to learn and experiment to build new skills.

4.2.5 Paradox of culture

Paradox of culture is a theme of paradox tensions invoked by choices of culture inside the project boundaries and beyond the project boundaries from the broader organisation. Here are some of the key examples of those paradox tensions experienced.

"And you need to recognise that, that is something exists I think and then I think we also tend to be a culture where you don't want to rock the boat in front of people, we rock it behind the scenes, which is a bit of what we talking about, you know, say what you mean and all of those things that I think we need to recognise" (P04, Head of I.T)

Participant P04 is reflecting on how the broader organisation culture invokes a paradox within the project where there is a lack of openness to exploring new knowledge and a defensiveness about the current and how that tension impacts on the project team individual's freedom and sense of safety to explore, challenge and experiment.

"…we do values-based and we use those words to hide certain things that means, you actually need to be provoked, whatever and provoke thought and sometimes it means taking you out of your comfort zone and we don't like to do it openly but we almost do it, you know, you find your way in a unstructured way to get there." (P04, Head of I.T)

Participant P04 offers the insight that in an organisation where there is a values-based culture, invoking these values to defend against someone challenging the existing knowledge is used as a means to defeat the individual's argument. This was referenced in a number of instances where just a claim that something is or is not values-based would seem to be used to discredit someone or their offering, particularly during divergence in thinking. The value system values collaboration and values difference, which is meant to mean differentiation but is instead sometimes used to inadvertently drive homogeneity internally. It does seem like an unintended distortion of a strong framework of internal norms and values being misdirected and inadvertently driving almost clannish behaviour.

"You know so the effort that went into it wasn't just like everybody got it, what you saying the difference is now, so it is a lesson I think I have learnt in life, it does take effort, it doesn't, you know everybody doesn't have the same like what you mean or seeing what you are seeing, I think just it has become worse and worse in that way" (P04, Head of IT)

Participant P04 talks about efforts to retain innovators of the past, where they become part of the corporate memory and legacy but also become incredibly influential knowledge gatekeepers. Newer people and external people feel obliged to gravitate towards the high need to lobby those individuals or assimilate and lose the values of objectivity and divergence. The high level of retention of these gatekeepers of past and current knowledge is beneficial to exploitative innovation and invokes a tension with the divergence of explorative innovation.

"I think so yes, definitely, and maybe someone from outside that is not vested in current processes and so for that phase that you've got some input from outside, not that that person must design everything but it is just another, you know, view on how things are done here and what is possible elsewhere" (P09, Solutions Architect)

Participant P09 reflecting on the tensions invoked by trying to contribute new knowledge within a culture which is biased towards protecting current knowledge. P09's perspective is that of an outsider working inside the organisation on the project. The idea here again is how the strong internal norms and preferences do not present an open culture where challenge or change is easy.

"That has become almost part of our culture, we know how to solve problems if it works well in our world, so it is easy for us to kind of bring in something with not as much experience we've got, where everybody here kind of supporting, there is nobody running around feeling this is just mine, so I think a culture, a culture that was created over the last 5 years, definitely helps any project manager to manage the team" (P05, Head of Supply Chain)

Participant P05 referring to the supporting and enabling environment created in the broader programme over the past 5 years. The case study is a project within a broader programme and this is a reflection on how a supporting environment in the broader programme was beneficial and how it positively contributes to safety and support for individuals.

"I am going to be frank and honest here, it is the culture that we have created around the, it is mixed into a lot of stuff, it is that culture of this score card is our biggest enemy. Sometimes you just got the score card to clarify me more than to serve the business. I want a green score card so that means that whatever it takes to get me green…" (P10, Distribution Operations Manager)

Participant P10 is reflecting on resistance experienced and how the tension is invoked by the need to drive the progress of the innovation, which is seen as a threat to the current performance of the operational team. This induces a tension between the project team objectives and the more operationally biased individuals and results in a negative response of trust deficit and inertia.

4.3 Implications for individuals from complex paradox tensions

The paradox tensions experienced in the project are multi-layered, complex and in many ways interrelated. The researcher provides a nested Venn diagram below to graphically display these tensions described by the interview participants.

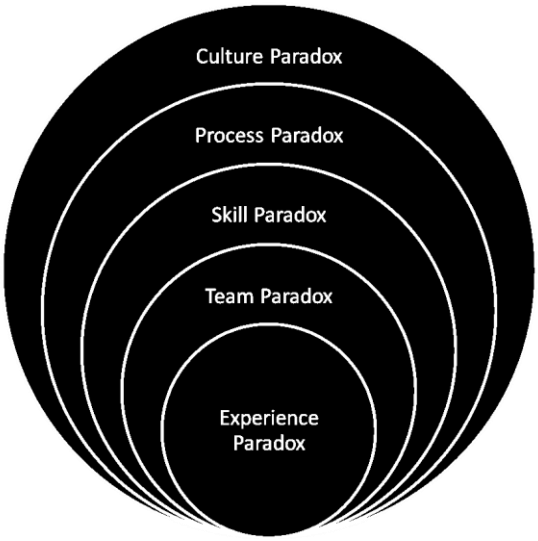

Figure 4.1: Interrelated multi-layer paradox tensions

These examples of the complex paradox tensions experienced by individuals in the case study have emerging implications and questions for how individuals respond to them. Using the initial data model focused on tension experiences, the emergent aggregate dimension shaped questions on whether the individual's paradox responses are made from an intuitive or explicit ability and on examples of a supporting context and its role.
The emergent questions are threefold:

1. If paradox in organisational innovation is as complex and interrelated, what organisational model will support the capacity for managing it?
2. How is the ambidexterity displayed in the project the result of an individual's intuitive ability or an explicit skill or a methodology/framework employed?
3. How is the role of the leader enabling the ambidextrous response from the individual?

Having focused the analysis on finding examples and understanding the paradox tensions experienced, and thereafter on the examples and understanding of ambidextrous responses to those tensions, the following section deals with the latter aligned to the data model.

4.4 Ability models for individual ambidexterity

4.4.1 Intuitive and explicit ability

One of the subject matter interview participants referred to intuitive ability as unconscious or conscious ability which either stems from an innate trait or prior learning, whether that learning was explicit or experiential learning. There was general consensus that intuitive

ambidexterity ability is a necessary part of the capability, but that it should and could be supported by explicit means. The participants also agreed that there was no explicit model for ambidexterity behaviour, skills or ability, and therefore no explicit support for enabling individuals in the organisation.

"…let's get to answer the questions, but a lot of the personal skill is around how you find a narrative that you can authentically subscribe to, that is sense-making for you" (E03, HR Executive)

"…because systems strive for balance and so with paradox, that's why it is not mechanistically yin or yang, people strive to find the story, the narrative that makes meaning out of bringing the two together…" (E03, HR Executive)

"if you go into the psychology, individual psychology stuff they will talk about that, how people build the skill to navigate paradoxes is they build the skill to reflect deeply to find a narrative, to find a story that makes sense for them" (E03, HR Executive)

Here participant E03 refers to the individual's sense-making ability to respond to a complex tension or ambiguous situation. This sense-making ability of individuals is identified as a skill which enables them to engage with both sides of the paradox tension and to build a narrative which supports integration of the tensions.

"…what you would have to do is, you would have to show this as a picture to show, you know, almost to, so that everybody else is speaking the same language as you, that language of tension in a way, or that language of paradoxes or that language of it because even just the paradox, if you like, becomes more tangible when you both speaking about, you know…" (E01, Change Manager)

Participant E01 explains how to support the individual's ambidexterity response with an awareness through a framework with which a language of paradox and ambidexterity can be created. This is about the organisation's intentionality on individual ambidexterity that creates an awareness of ambidexterity and the supporting framework and language to support it.

"…so you've got traits and you've got competencies, both are able to be developed to a degree but it is much more difficult to develop a trait than to develop a competency and a competency that is resting on a certain trait is easier to develop if the person has got an orientation…" (E03, HR Executive)

"You can build competence, but it is easier if the person has got a bit of an orientation, so I would think some of the under-traits you would look for, or the orientations, would be curiosity, umm, I'm trying to think, so you would look a relative level, I mean I would think it is going to be a easier to develop this in somebody who has got a relative level, when I say self-confidence" (E03, HR Executive)

Participant E03 is explaining that both an individual's competencies and innate traits are important for individual ambidexterity, and that competencies are easier to develop while trait development is possible but limited. For intuitive ambidexterity, the individual's traits are critical as well as their competencies, whether explicitly developed or through experience. There is no current competency or trait model for diagnostic or development purposes in the organisation and so these intuitive abilities are effectively left to subjective judgement and use.

4.4.2 Competency, trait and cognitive models for individual ambidexterity

The intuitive and explicit abilities of the individual are required for individual ambidexterity. While the organisation where the case study was located has no intentional strategy for individual ambidexterity, there are several important findings on competency, traits and cognitive models.

"I honestly think what happens is people recruit, so I look for this in people but not because of anything other than I think people tend to recruit in the mini-me league so because I value this kind of orientation, I would look for it, but I think, and I don't think it is necessarily conscious, in fact some people would find this quite a threatening orientation because this kind of orientation, to find, to navigate paradoxes and find a sense making narrative means you often have to challenge the status quo and challenge the thinking" (E03, HR Executive)

Here participant E03 is supporting the notion that there is no organisational model to identify, diagnose, develop or recruit for individual innate traits or competencies that would support individual ambidexterity, and that where a specific leader might intuitively value those traits they may then recruit for such traits intuitively, which means it would be sporadic and subjective. There is also the risk expressed that leaders do not look for that specific trait and skill but rather recruit more people without it. This refers to a risk stemming from a preference for known skills and profiles that lead to more of the same being recruited. If the preference aligns towards exploitative innovation then there is a risk for recruiting more people suited to that, if left without the awareness or intentionality for explorative innovation.

"should know it but I just can't think of it right now, but that is, I think the opportunity for, if you really wanting to build more and more, the older I get, I am convinced that org development is individual development, you know, because an organisation is a collection of individuals" (E03, HR Executive)

To build an organisational capability of individual ambidexterity, individual development is required to support trait, competency and ability development. Participant E03 also spoke about the need for a supporting organisational context, but importantly to develop an individual ability to have confidence even in the face of criticism or an unsupportive environment.

"…you probably want somebody who has, yes experience and all of that but maybe you want somebody who has got this innate trait and skill and ability that you are talking to, you know, as well. And then, for me, I guess there psychometrics would come in again and play a role, so particular on the personality side of things, so personality assessments can help you with that kind of stuff from the recruitment perspective, but I think if we got really innovative with our recruitment," (E02, Organisational Development Specialist)

Participant E02 offers insight into how explicit organisational models for the traits and competencies could be used to support diagnostics in recruitment and development of the requisite skills. This participant also spoke about the importance of socially formed learning orientations in supporting the individual ambidexterity capability and enabling individuals to learn from each other and also more freely than the offerings from traditional learning frameworks and curriculums.

"And so, I mean it is again, it is two things that almost work against each other, it is normally people who are, who provoke different thinking, don't necessarily have the other part that we believe is very unique to us and special, you know that caring, it is almost like the caring part, but people that can bring that together actually has been very successful" (P04, Head of IT)

Participant P04 refers to how individuals have divergent contributions to make but explains that it invokes a tension and they do not have the skills to navigate that tension between trying to keep the peace with the gatekeepers and needing to make a valuable contribution. The innovation quality could suffer from this inability and because it is not an explicit ability in the organisation, it is left up to the intuitive ability of the individual. There are several examples of this type of inertia response to a paradoxical tension.

"I don't think, for me personally there was a short space in time where I thought, yes I am going to get exposed here, that was the risk for me, as a person" (P01, Senior Executive)

"...there is a massive gap in operational mind-set and skills to bridge that gap, from a personal level I have learnt a lot in that process" (P01, Senior Executive)

"And there isn't anyone that existed in our organisation that could readily teach you or show you, you've had to learn by experience" (P01, Senior Executive)

Participant P01, a senior leader, is referencing an awareness of his own lack of the skills to know what to do and how to help the team in navigating complex tensions during the project and how uncertain and challenged he felt. This process induced feelings of risk and concern about being found lacking, but also offered a great deal of experiential learning and new competencies. This participant described this experiential learning where the earlier insecurities and uncertainty due to the lack of explicit skills and the need to rely on intuitive abilities, gave way to increasing levels of confidence through the learning process.

4.4.3 Behaviour models for individual ambidexterity

With a lack of intentionality in the organisation for enabling individual ambidexterity there is lack of behaviour modelling for individuals. During complex paradox tensions, there are various types of behavioural displays and experiences which impact ambidexterity.

"So when the XX guys were delivering and I could see YY going softly to them, I got confidence from that, I didn't get confidence from the presentation, so I got confidence and maybe something that people must give feedback on. I got confidence from that individual…" (P12, Senior Operations Executive)

Here P12 is reflecting on the confidence he gained from the competence and behaviours displayed by a project participant who was able to navigate the various positions in a difficult situation to get to a position. The way that this was done gave the leader a sense of confidence, more so than from what was said in feedback or process updates during difficult moments.

"…and even when things are going 100% right, then the one thing that will blow his focus and that one thing has got a whole impact, you know, You know what, between the two of them, so you got the sense of where things were.." (P12, Senior Operations Executive)

From P12 comes an insight into an individual's conservativism in behaviour during paradoxical tension, which led to more absolute positions and a lack of flexibility. This behaviour required the moderation of colleagues who had more flexibility in their outlook and behaviours to mediate for an outcome.

"Risk, I think that there is a risk, I am absolutely risk centred, I mean I have made these promises and I cannot now go and think something differently" (P01, Senior Executive)

"People don't have the confidence to stand up against that, they don't have that knowledge, that experience…." (P01, Senior Executive)

Behaviours which are negative responses to paradox tensions such as risk avoidance, defensiveness, rigidness, an increasing need for control and poor confidence are referenced

by participant P01. In the face of strong defence from knowledge gatekeepers, individuals choose to avoid the personal or relationship risk.

"…so that critical voice is just a manifestation of people being critical because they are not confident enough to be, I mean I don't know if you have done any work with but have you seen the…what is it called, the, it is called the triangle, where you've got victim, perpetrator, rescuer and then you flip the triangle.." (E03, HR Executive)

A contribution by participant E03 is made about how criticism and defensiveness is sometimes a response from individuals who are low on confidence or too insecure to engage in divergent thinking and then resort to using their control or power to close down the argument.

"I was thinking about how you build trust, I do think it is the safety and predictability, but shared purpose also because if I trust your intent and you trust my intent, we can disagree" (E03, HR Executive)

"Ja, and I think more and more people actually allow more and more humanity into the workplace, you make more space for intuition and not just for brain, the more people learn to trust their gut and they pick up the unspoken" (E03, HR Executive)

E03 offers a perspective on the building of a supportive organisational context and its positive influence on behaviours. There are references to building a shared purpose to engage in divergent thinking, and building predictability and trust as a foundation to enable the behaviours. In the discussion there are references to humanity or how more empathetic behaviours help to create the supportive context for people to undertake exploration.

4.5 Leadership role and enabling a supportive organisational context

There are several references in the findings above which relate to the need for a supportive organisational context in order to enable individuals to undertake experimentation, divergent thinking and to navigate the tensions invoked by doing so. While the findings support that individual competencies, traits and behaviours are key in enabling ambidexterity, there is also

substantial data on the link to creating the right supportive context to mediate for the risks inherent in exploration, divergence and crossing existing boundaries.

"but being somebody that is able to navigate paradox is, it is a risk, you've got to feel safe to be out there, so you have got to be a relatively confident, you've got to be a reasonable confident person, you've got to be quite anchored in your own North Star, just think about it, if you've got to make meaning between paradox, you've got to be clear on your purpose, you've got to be clear on what you are trying to achieve, so when your world feels a bit unsafe, people retreat a little bit back, so I think culture, a culture that is punitive, that doesn't allow mistakes or that is inconsistent, people are going to be a lot less comfortable to go in and actually work and grapple with the paradox." (E03, HR Executive)

"The more safe your environment is, and safety doesn't necessarily mean security, safety means predictability, so safety is consistency, so when people, when you ask people what they feel makes the environment safe for them, they will say, consistent, they will actually say that they feel less safe in an environment where one day it is fine to challenge the status quo and the next day it is not, it is actually safer to know that you may never challenge the status quo. So the rules of the game has got be clear" (E03, HR Executive)

"find a sense making narrative means you often have to challenge the status quo and challenge the thinking and be the third alternative and that is not always somebody that gets recruited, in my experience as well I think sometimes we do actively go an recruit those people and then when they come into the organisation we say they are troublemakers and we try and silence them" (E03, HR Executive)

Here E03 points to the personal risks involved in navigating paradox and introducing divergence, and how the supportive context can be enabling or disabling of the psychological safety, trust and confidence required for the individual to enact their agency. There is a reference to having clarity about the culture and intentionality of this in the organisation in order to set an aspired value and to provide a framework.

"…And then I also think hierarchy builds tensions, so in some ways…" (E03, HR Executive)

"…there is something in it that we maybe as the leader led, almost in a way, you know, leaders need to help steer people through, is to say, it is all good and well to go there…" (E03, HR Executive)

Here participant E03 reflects on the role of the leader in enabling through a supportive context rather than controlling, as the hierarchy threatens with tension during ambiguous situations and reduces individual confidence. According to E03, rather than exhibiting the directive and controlling hierarchical power, there are benefits in the leader modelling behaviour and playing a supportive role.

"…Managing you always going to be raising and trying to fix this and that, but if you have a leader, whatever that comes is an open mind, let's sit down, what this is, what it means, it is not about me, it is about everyone…" (P10, Distribution Operations Manager)

"…the ability for the sponsor to allow the team to make the difficult decisions and make the errors, while sometimes they look up to the sponsor to make the decisions because it is almost out. And I thought, for me, managing the anxiety while we failing deadlines, but the team still owning the decisions, still making the decisions, still owning up and just coming to the sponsor for direction…" (P02, Senior Operations Leader)

P10 and P02 reflect on the need for leaders to enable individuals and the team to grapple with difficulty and to make decisions, where leaders play a supportive role. In this discussion, the participant offered the insight that the leader needs to resist the inclination to take control when there is difficulty, and rather support and enable the individuals and the team to find their way through that. This implies autonomy for the individuals and the team and a far more supportive role for the leader.

"I think that is part of it for me, is building those things in to our way of being as leaders, you know, sending people on training is one thing, kind of embodying it and giving people the freedom and the space to play with those things" (E02, Organisational Development Specialist)

Participant E02 supports this idea that leaders support through providing individuals the ability to develop the skills they need, but leaders also enable through providing the

autonomy for exploration. In the discussion there is reference to leaders providing the freedom to individuals to play, which is a reference to enabling experimentation.

"through this, there was still some challenges but over time we started building trust amongst each other, we started building confidence around…"(P07, Transport Operations Manager)

"There is no doubt in the 3, 4 years journey that cohesiveness and the trust did get left by the road, the guys we down, stressful, and then let's navigate through that" (P03, Head of Planning)

Here participants reflect on trust creation as a supportive contextual variable, and the leaders are critical in building that trust in the environment. P03 and P07 refer to challenges where trust was damaged and leaders needed to focus on rebuilding trust.

"The one thing and the learning I take from that, is that when you are in the, you need to know who you can trust, with what detail and you never going to know everything as a leader, so you need to figure it out early, who can you trust…" (P12, Senior Operations Executive)

"If I think of the trust, it would be because it is across boundaries, you don't have the ability necessarily of if you trust in what you say, you mean what you say. There is the trust, because we have to trust stakeholders, where we don't have necessarily direct influence that they are going to deliver, or they are doing what they say they are doing. And another factor, the trust would be that the intensions or the, when there is a difficult decision, is what you say it is, or whoever made the decision, that is where the trust would come" (P01, Senior Executive)

P12 and P01 emphasise the need for leaders to build trust with the individuals and to trust the team in their autonomy and decision making. Each of these participants in their responses have referred to their learning about the need to create a supportive environment to allow individuals to explore and make decisions, and on the role of trust, through their experience on the project. P07 refers to a shift from a focus on high confidence to a focus on high trust. This in the researcher's opinion is due to their familiarity with exploitative innovation type work where there is higher certainty, less exploration and where the leaders play a more decisive and directive role.

In the discussion with these participants the idea was expressed that where the leader creates a trust environment it creates supportive safety for individuals; the leader is expected to display trust in the team and let them work autonomously and make complex decisions. The enablement through autonomy and support rather than overt monitoring and control is a strong theme, but juxtaposes with the invoked feelings of insecurity, fear of failure and fear of being seen as not leading. While not absolute, there are references to the need for "strong sponsorship" and "senior leadership" support; there are also references to events where leaders setting a clear vision, making hard decisions and creating clarity are appreciated. For many leaders there seems to have been a substantial challenge invoked by this explorative innovation case study in the more complex role they are required to play, which differs in purpose, style and skills from the role they play in operations and in explorative innovation projects.

"I was quite impressed by the voice that parties got, although sometimes the voice was against systemic, but in there are reasons why people ask the questions, so I was impressed by the voice that people got, even if it was tough conversations, how that was dealt with" (P01, Senior Executive)

"…perspective and also the people that are running all this in order for us to bounce ideas, how could we make this work…" (P06, Senior Planning Manager)

"…look if you are not happy with something in the system, you need to voice it, you need to raise it and you need to push it back to the guys and say…" (P06, Senior Planning Manager)

"…it works for you but it is not practical, it doesn't work in our world and I think a proper voice came in when we had change management…" (P06, Senior Planning Manager)

From P01, a senior leader, there is an appreciation for the establishment of an open culture in which individual agency could thrive and in the quote here he compliments that success. Then participant P06 speaks about the difficulty in creating the right platforms for cross-functional team members to engage and to ensure that the specialist opinions are heard in key design processes. P06 expresses how individual agency was difficult to achieve and how it improved with the support of a change management specialist who could create an improved

environment for engagement and for the individual voices to be heard. This emphasises to the researcher the importance and value of individual agency to exploration and ambidexterity, but also the importance of the right enablement of that agency to be enacted safely.

4.6 Instrumental support for enabling individual ambidexterity

There is a theme of an implied organisational model for innovation, an implied methodology and a strongly held belief in the organisation's norms and behaviour. From the researcher's questioning it became clear that much of this was tacit knowledge passed on by individuals, and new people needed to discover this through asking or trial and error. The governance and finance processes are explicit but they are biased towards exploitative innovation and have a significant impact on the individual and project team innovation approach, method and process choices and invoke tensions.

"So, I think our approach right in the beginning when we actually went into this thing of, you know, seeing things and where we actually put our pen to paper in terms of the benefits or a business case that shows the benefits we thought could be there. I think we went about it in the right way." (P04, Head of IT)

"When we go from the idea and the benefit and the opportunity to where are we going to go and look for our solutions. I think we went too broad and then it almost became like, oh now we already have an answer in certain ways, when in actual fact it night have been better to go more focussed and then go deep to areas" (P04, Head of IT)

"so there are people, especially when they, as you mentioned, you know if they, it is people get used to doing things a certain way" (P04, Head of IT)

Participant P04 through the three quotes discusses an exploratory method used which added great value early on, but then how choices made in design later were incorrect. The participant describes how embedded organisational preferences impacted on those choices made.

"All of the people on the project had a clear what the business environment was like and what the key facts are, what the…..and it is done all of that up front, made sure that even the technical team that is on board has a clear understanding of where we need to go, how decisions will be made later, and we could have spent a lot less time on redoing, redoing during the development phase, then I would have definitely called for all of the discussions or more discussions before instead of trying to have the discussions once we've put the system on the table" (P06, Senior Planning Manager)

Participant P06 laments the time wasted during the development phase due to choices made during the design phase and expresses frustration because of it.

"Hypothetically it is difficult, I think we could have maybe run POC (Proof of Concept) something and tried it in a different way and see where they could have worked, before we decided to say, yes let's go down that route or not, but I do recognise that that would have introduced a lot more change" (P11, IT Manager)

"I think we had a very wrong approach in terms of going, we took the project, let's go, understand the document and then go and build and I think that was actually the wrong approach" (P11, IT Manager)

Participant P11 expresses the incompatibility of the approach and method with the type of innovation and expresses how alternatives might have offered more value. The opinions expressed from the participants point to key approach and method choices and their suitability for the type of innovation, and how in this case an implied preference was the source of resistance to alternatives.

"It must be the slickest possible business case and ja, so and you build in some time for contingencies and rework and all of that, but I have never, so it depends what obstacle you come against. We came across some very big obstacles, I mean we had this list of show-stoppers and then you think of the one show-stopper and then two others come because you ticked that one off, you know, so it adds to your show-stoppers, then you tick that….so those are the things you get, I mean those were real learnings from the process" (P12, Senior Operations Executive)

Participant P12 discusses how the commitments made to a business case to release funding can become constraining to choices made in the project, particularly as the team progress or as things go wrong.

"I think it was a bit, and that I found in XX is generally there is, it almost the governance side of it requires you to look at all the, let's say two or three different offerings but the constraints of the business case almost dictates which one is going to win. So I think that was a bit of a, looking back at it, it is something that might have been different." (P09, Solutions Architect)

"And how far do they offer as a, you know, a freedom to innovate, to do what we want to do. I don't know how it would have changed things but even in the people planning, it was the same kind of thing where…" (P09, Solutions Architect)

"…also openness of the business to what functionality are in different offerings, so I think that part of the process offers a great opportunity to learn, to see where different offerings do things differently and try to understand why they do it differently." (P09, Solutions Architect)

"I think it is probably a combination of the people and the way they used to do things and the budgetary constraints, so there are people, especially when they, as you mentioned, you know if they, it is people get used to doing things a certain way and it becomes threatening if someone suggests some things can work differently" (P09, Solutions Architect)

Participant P09 discusses how exploration was constrained by the methodology and choices made, and how strong internal preferences inhibit the freedom to innovate. The participant suggests that it might be a combination of individual preferences, organisational preferences, governance and funding constraints.

"We waiting for the 2 million for the first year, so now whatever I take I will cost the number and get the thing done, so you the DC (distribution centre) don't want to be the one that don't want that, so you are going to try and force it to whatever the case." (P10, Distribution Operations Manager)

This idea that early commitments in the business case and plans constrain discovery and learning through the design process, is supported by participant P10 who refers to forcing the outcome to fit into the original mould to ensure alignment with the commitments made. From this the researcher identifies the paradox tensions invoked where explorative design starts out with lower certainty and requires methodological, governance and funding processes that support an evolving view.

"I think when we started out we were very naïve, we thought this is going to be an easy thing" (P12, Senior Operations Executive)

"I don't think we overestimated the skill on the partner side, I think our requirements will be so much more than expected…" (P12, Senior Operations Executive)

"It took long and that could have been part of the journey that maybe we underestimated the complexity of technical and different systems and trying to figure out was it a process or was it a structure that was just complicated" (P03, Head of Planning)

Participants P12 and P03 discussed the idea of underestimation of the complexity of the project and shared their insight into how the understanding of the capability requirements evolved. To the researcher this once again shows the lack of anticipation and planning for a high degree of discovery from the explorative innovation process. The dissonance between the expectation and what was realised caused varying reflections of a difficulty experienced. It raised the question of ability, and readiness from a methodological and openness perspective.

"I mean, like competency frameworks, my initial thinking was let's get one for the whole organisation and then you can still tweak it within the business units, but they just don't go there right, I don't know where that resistance comes from or where that mindset of where our BU's (Business units) are all so different that we can't have one thing across all….so I guess" (E02, Organisational Development Specialist)

"I think it would enable the business to be able to leverage that in both learning and development, and then in terms of recruitment, so again in supply chain you know we using competencies we looking at people's learning, we looking at the potential, learning potential,

so there is a way that it is integrating there, but obviously we haven't necessarily called out, you know, innovation or ability to manage paradox tensions like you call them. You know, if you specifically looking at the innovation side of it, then in IT for example, we called out, I think they call it adaptability as a competence, which very much talks to the world of agility and all of that" (E02, Organisational Development Specialist)

"I mean you know the report would have spoken about building capabilities, not skills anymore, either you probably want somebody who has, yes experience and all of that but maybe you want somebody who has got this innate trait and skill and ability that you are talking to, you know, as well. And then, for me, I guess there psychometrics would come in again and play a role, so particular on the personality side of things, so personality assessments can help you with that kind of stuff from the recruitment perspective, but I think if we got really innovative with our recruitment, then there are other things we could do" (E02, Organisational Development Specialist)

Focused on the enablement of the individuals, the organisation has existing competency models, skills development frameworks and recruitment diagnostic tools which are used for the development and recruitment of the right skills, cognitive ability and traits. From participant E02's responses, none of these existing elements include skills, cognitive ability or traits that specifically support individual ambidexterity. There is one example given in a specific functional area where trait diagnostics have been used to include a new trait of agility which has been identified as a critical trait for building a capability sought after in that area. If individual ambidexterity is to be enabled, then its integration into the organisational competency, skills development, trait and cognitive diagnostic models and tools is critical.

4.7 Conclusion

4.7.1 Building a more complex and valuable role for the individual

As depicted in the findings above, there are examples of complex layers of paradox tensions experienced by individuals in the real-world situation of the case study. The case study reveals how the traditional preference in the organisation towards exploitative innovation invokes significant paradox tensions through the explorative innovation project. These

tensions were themed in the data model and described in more detail and with supporting quotes.

Individuals experiencing these tensions have a dilemma to respond in order to participate as their personal motivation for career progress, for participating and for contributing in itself invokes paradox tensions of risk of failure and anxiety about challenging the status quo through their contributions. Their response is either positive or negative, and the ability to respond positively, to engage and synergise the paradox tensions, is an individual ambidexterity which has the potential to scale into becoming the organisation's ambidextrous capability and being a powerful capability for sustaining innovation.

The data provided examples of individual ambidexterity and varied perspectives on outcomes. There is support in the data for the fact that explorative innovation demands different approaches, processes, skills and behaviours than exploitative innovation, and the organisational preference means that this invokes tensions. There are significant references to how participants learned from experience on the project through trial and error, and how insecure and uncertain they felt during the process. There is an understanding that different skills are required and that the abilities to deal with these complex paradox tensions are left unidentified by the organisation. The ambidexterity skills evidenced in the data seem to be largely intuitive, which could stem from innate traits, cognitive ability or competencies previously developed through either explicit or experiential learning. In conversation with the subject matter experts, it became clear that both intuitive and explicit ability is required since innate traits and cognitive abilities will offer significant value and performance, while skills can be developed. There is an acknowledgement that these intuitive and explicit abilities that support individual ambidexterity are attractive for sustained innovation, but that there is currently little awareness and certainly no inclusion of it in the organisational models.

As a bottom-up capability for sustaining innovation, individual ambidexterity focuses on developing individuals who are able to work and decide autonomously and utilise ambidexterity skills, innate traits, cognitive abilities and behaviours, to manage complex paradoxes. This implies a highly complex and valuable role for individuals lower down in the organisation.

4.7.2 Leadership role and building a supportive organisational context

With individuals facing invoked paradox tensions, leaders too have significant paradoxical dilemmas. In these dilemmas the organisational bias towards exploitative innovation activities clearly leaves several senior leaders with an insecurity and a lack of confidence stemming from an unfamiliarity with the approach, process and method but also with how to best enable individuals to show ambidexterity behaviour. The experience is characterised by an unfamiliarity with the process and know-how, combined with the lack of key skills and knowledge of how to best support individual ambidexterity. This causes team members to face risks, anxieties and uncertainty because of the tensions. A defensive response from leaders is to resort to exercising more control, monitoring and consensus seeking, but there is a realisation that this is less valuable than supporting and empowering the individuals in the team to navigate the tensions. This seems to be a largely intuitive insight and one evolved through experiential learning on the project, rather than a demonstration of the intentional use of existing ability.

"…the ability for the sponsor to allow the team to make the difficult decisions and make the errors, while sometimes they look up to the sponsor to make the decisions because it is almost out. And I thought, for me, managing the anxiety while we failing deadlines, but the team still owning the decisions, still making the decisions, still owning up and just coming to the sponsor for direction…"

This quote supports a demand for a leadership role that is able to demonstrate both the typical leadership roles and an added ability to enable individuals to make decisions, to grapple with both sides of the tensions, to work their way through the ambiguity of complex situations. In this role, the premise is that the individual's role is far more complex and valuable and that the leader plays a supportive role in enabling the development of a supportive context for individual ambidexterity, and providing enabling instrumental support.

The need for a supportive context for individuals to display ambidextrous behaviour is because doing so is fraught with a sense of risk, danger to career ambitions and challenges. Leaders and organisations are required to create a framework, a vision and a language for individual ambidexterity to thrive, where the enactment and characteristics of ambidexterity

are valued. This would mediate for the sense of risk and anxiety and enable the individuals to engage with the tensions more freely.

"but being somebody that is able to navigate paradox is, it is a risk, you've got to feel safe to be out there, so you have got to be a relatively confident, you've got to be a reasonable confident person, you've got to be quite anchored in your own North Star, just think about it, if you've got to make meaning between paradox, you've got to be clear on your purpose, you've got to be clear on what you are trying to achieve, so when your world feels a bit unsafe, people retreat a little bit back, so I think culture, a culture that is punitive, that doesn't allow mistakes or that is inconsistent, people are going to be a lot less comfortable to go in and actually work and grapple with the paradox."

Leaders currently leave ambidexterity to chance and to the natural and intuitive ambidexterity abilities of individuals or their own; however, it is practised within an unaware or unintentional space, which creates the element of risk and danger. The contributions from the subject matter experts helped to articulate how this must be normalised in the organisation's language, norms and value system, and how leaders must work to create an environment offering psychological safety and trust.

4.7.3 Instrumental support for individual ambidexterity

The data has shown that there are examples of paradox tensions from the choice of approach, process and method, and how these impact on the skills, roles and structures required. In the organisation the bias is towards instruments that support exploitative innovation activities, which invoke tensions when applied to explorative innovation as they are found to fall short of what is required. Further tensions are invoked when alternative methods, processes or instruments are introduced as there is a tendency to defend the existing against the new. The subject matter experts offer an opinion that this defence is due to an insecurity or lack of confidence induced by the new knowledge, tools or processes, because of feelings of a loss of control or power due to a lack of skills or the necessary knowledge to engage with these novel ones. There are several references in the data to the difficulty individuals face in challenging the status quo, to feeling threatened in the process and to the role that knowledge gatekeepers play. The gatekeepers are the innovators of the past who have become powerful in the organisational culture and memory, and are part of the legacy and narrative of success.

If these innovators of the past do not possess the ambidexterity ability themselves and have fixed positions due to more selfish motivations, then the organisation must consider how to change that in order to create a supportive environment for exploration and experimentation. Aside from the behavioural impacts, the lack of alternative instruments, processes, approaches and methodological choices applicable to explorative innovation, means an overt reliance on trial and error and of lobbying for support of new methods – of which there is evidence.

"I think it is probably a combination of the people and the way they used to do things and the budgetary constraints, so there are people, especially when they, as you mentioned, you know if they, it is people get used to doing things a certain way and it becomes threatening if someone suggests some things can work differently. It almost then becomes a bit – this is how it works, just make it work to fit that."

When inquiring about the existing organisational instruments, process and methods, many of these are found to be implied and not explicit where the champions are the gatekeepers in the organisations. This causes frustration as there is a defence of an implied approach and method, which creates a gravity towards the gatekeepers for individuals who need to show compliance. There is a call for these implied preferences to be made explicit and to be taught, and to democratise alternative instruments, processes and methods for exploitative and explorative innovation. This should normalise the role of the gatekeepers as they too will engage within a framework of more complex instrumental support for different types of innovation activity. An intentionality to enable individual ambidexterity means an intentionality to support the individual's ability to switch between these innovation activities. That intentionality must include the instrumental support of the organisation's approach and methods to normalise the variations between them, and to mediate for a defender-aggressor interplay between individuals. The gate-keepers being retained in the organisation and being the keepers of organisational memory is not problematic, but neither are the individuals challenging the existing methods, processes and models. However, the lack of an intentional framework integrating the various choices is problematic.

Table 4.1 below reveals the emerging conceptual model which frames the findings from this chapter. It proposes an integrated individual ambidexterity model for organisations that is not only reliant on ambidexterity behaviour but a more comprehensive ability to support the

ambidexterity role requirements. It moves beyond singular variables but integrates these variables based on the findings. This elucidates the reconceptualisation of the role of the individual but also more practically depicts a holistic enablement framework for that role, similar perhaps in the way that organisations would normally construct the design for a role by considering the outcomes desired, the process requirements, the behavioural, cognitive and skill requirements. The conceptual model also frames the key dependency on leadership support and by doing so, the shift in leadership ability, focus and working norms. The key shift is towards empowerment and autonomy enablement, alongside the more traditional monitoring and controlling abilities. This leadership role is enabling and supportive but is also important for the leader's role in creating a supportive context. A cultural norm of openness, welcoming divergence, exploration and alternative methods and a culture where the language of innovation choices, the language of paradox tensions and ambidexterity, normalises the variances. From the findings shown in the conceptual model, the important contribution from instrumental support in a supportive context is also shown, where the alternative application of methods, process and knowledge contributes to normalisation and mediates tensions in these choices.

Table 4.1: Conceptual model

Conceptual Model					
Individual Ambidexterity Ability – A more complex and valuable role for individuals			**Supportive Context for individual ambidexterity**		
Traits & Cognition	**Competencies**	**Role**	**Instrumental support**	**Non-punitive culture**	**Leadership role**
Personal Traits • Flexibility • Abundance thinking • Resilience **Cognitive Ability** • Ability to synergise competing activities • Ability to self-motivate • Ability to set goals • Ability to sense-make and reframe **Behaviours** • Willingness to face risks • Ability to collaborate • Display openness • Build and hold trust	**Learning Orientation** • Seeking new knowledge • Ability to cross learning boundaries in cross functional learning • Ability to synergise learning • Socially formed learning ability – learning from others **Explicit Ambidexterity Skills** • Building specific skills for exploitative and explorative innovation processes – specifically different design skills required for varying methodologies • Sense-making and reframing • Ability to synergise • Ability to embrace ambiguity • Ability to be both strategic and agile • Ability to build trust • Ability to self-start, make decisions and work autonomously	**Complex role** • Intentional role shift to more complex role scope and definition • Shift in role output, outcome and decision making • Requires intentional organisational design and development to support • Reward and recognition alignment **Autonomous Working** • Decision-making lower down in the organisation • Self-organising, self learning design • Ability to reframe and reorganise	**Approach & Process** • Specific innovation process and approach models for exploitative and exploitative activities • Developing frameworks and support for the effective application for the process or approach choices **Methodologies & Models** • Specific design methodologies for the two types of innovation • Intentional ambidexterity framing and modelling • Individual ambidexterity competency, behaviours and trait models • Organisational skills development models for ambidexterity **Organisational Ambidexterity Implementation** • An organisational value, norms and behaviour integration framework including paradox and ambidexterity framing • An organisational framework for ambidexterity implementation • An organisational language to codify and identify desired ambidexterity behaviours	**Integration & Synergy Cultural Norms** • Valuing synergy rather than differentiation • Awareness of paradox value and dangers • Value of ambidexterity **Psychological Safety Development** • Reduce barriers to safety for exploration and experimentation • Remove punitive risks for experimentation • Value and frame openness and trust • Value divergence and support	**Leadership Role Shift** • Ability to direct, monitor and control for operational and continuous improvement activities • Ability to consult, delegate and enable autonomy for explorative innovation • Ability to create self-organising, self-learning teams who work autonomously **Leader-Individual interplay** • Modelling ambidexterity behaviours • Building openness and trust • Ability to motivate and incentivise ambidexterity
Outcome • Growing number of individuals with individual ambidexterity traits and cognitive ability • Individuals displaying ambidexterity behaviours • Growing intentionality, openness and willingness to engage in tensions	**Outcome** • Integrated individual ambidexterity skills in existing skills models • Integration in skills development and learning model plans • Open, socially formed learning driven by individuals • Growth in individuals with strong sense-making ability • Growth in individuals and teams who able to work autonomously	**Outcome** • A new organisational scope and definition for the role of the individual • Skills model to support this new model • Value of reward, recognition and incentive to align • Growing ability for higher complexity, decision making and self-organising lower down in the organisation	**Outcome** • Intentional organisational strategy for individual ambidexterity • Supported by individual ambidexterity role model, skills model, learning model, behaviour, traits and cognitive models for diagnostic, development and recruitment • Integrated approach, process and methodologies for explorative and exploitative innovation activities • Organisational norms and values integrating the paradox and ambidexterity language	**Outcome** • Intentional shifts towards openness, trust building and valuing divergence • Intentionality of framing the value from existing knowledge and new knowledge • Integration of paradox and ambidexterity with exploitation of existing knowledge gate-keepers • Growing psychological safety for experimentation and exploration • Incentivise and reward for exploration and synergy behaviours	**Outcome** • Leadership behaviour and skills models integrating role requirements for exploitative and explorative innovation • Growth in leadership role shifts towards enabling autonomous individual and team working • Growth in leadership consulting, delegating and enabling style and behaviours • Leaders creating intentionality for openness and trust development

5. DISCUSSION

5.1 Individual ambidexterity ability – A more complex and valuable role for individuals

In this section the value to be gained from intentionally creating a bottom-up individual ambidexterity capability is discussed. This chapter discusses how such a capability reconceives of the role of the individual in the organisation away from the traditional narrow, focused and bounded roles, not in a way that simply replaces one with the other but rather in integrating these. The researcher explores this more complex and more valuable role of the individual in an ambidexterity capability for the organisation, based on insights from the conceptual model. Importantly, the concept of the individual ambidexterity capability explored here is as a result of the findings, which show that individuals face complex and multi-layered paradox tensions that require a response from them while they are engaged in the innovation process. The response is invoked by the tension, but the choice of how to respond is the individual's and that choice could be positive, negative or apathetic, which all have implications for the innovation process and outcome. Without an awareness or the intentionality of an enabling strategy or support, this choice of response is largely left to chance. Left to chance, the sporadic displays of ambidexterity will emanate more from individual and specific innate traits, intuitive abilities, leadership interventions or through trial and error. If the response is invoked by tensions regardless of whether there is an organisational strategy to support the response or not, then the outcome for innovation is also left to chance or leadership intervention.

In exploring this further, the researcher firstly connects with the work of a group of researchers who have developed theories on the value and complexity of the role of the individual in an organisational ambidexterity capability (Brix, 2019; Caniëls et al., 2017; Cunha et al., 2019; Smith et al., 2017; Kauppila & Tempelaar, 2016; Zacher & Rosing, 2015). While there is convergence between their work and this research study, the focus in their work has been mainly on theorising about specific aspects of individual ambidexterity, with significant emphasis on behaviour, some emphasis on skills, quite significant focus on leadership and some focus on the role of a supportive context. There is little integration bringing these together in a way that will enable an implementable strategy. There have been some attempts at such integration by these scholars, which seems to be work in progress (Smith et al., 2017).

In such a strategy, the role of the individual and their desired ambidexterity response must be an underlying driver for the enablement of role framing, skills, behaviours, cognition and supportive context. This thesis has produced findings from its grounded theory approach that offer an integration of key variables in the enablement of the individual conversation as well as the dependency of the role of the leader and a supportive context.

In their theorising on enablement the various scholars focus on learning orientation and its importance to allow breaking through learning boundaries in seeking new knowledge from conventional and unconventional learning means (Brix, 2019; Caniëls et al., 2017; Cunha et al., 2019; Smith et al., 2017; Kauppila & Tempelaar, 2016; Zacher & Rosing, 2015). They also focus on a skills-based approach with skills such as sense-making, the ability to integrate or synergise, and other skills such as abundance thinking, as important identified skills for individual ambidexterity. Sense-making and individual agency received significant focus as two important skills, but require a supportive context such as empowerment granted or extended by leaders. The empowerment gained from leaders creates the autonomy for individuals to organise, re-organise, cross boundaries, explore and make decisions, and in so doing enact their agency. Some of the scholars have focused on key traits which support key competencies required for ambidexterity, and others have combined these traits with cognitive abilities supporting the desired competencies and behaviours. Traits and cognitive abilities such as adaptability, being self-motivated and being able to work autonomously by setting ambitious goals independently, are supportive of individuals who are able to adjust to new stimuli or knowledge and supports the ability to switch between innovation activities (Cunha et al., 2019; Smith et al., 2017; Kauppila & Tempelaar, 2016).

There are relatively few skills-based approaches in the body of literature on complex integrative individual ambidexterity, with some pedagogical offerings, some work offering meta-skills or foundational skills which support other skills, and then some work to connect key skills with underlying traits, a learning orientation and influence from leader ambidexterity. The scholars reflect a framing of the large variance in the role of the individual in the conventional model of the organisation and that of the individual's role in individual ambidexterity. This then infers that existing organisational competency, traits, cognitive and behavioural models support the conventional role of the individual in the organisation. This support for the conventional role of the individual is through skills development models, through diagnostic tools for organisational development, for personal

development and for recruitment purposes. The researcher tested this assumption in the interviews with the subject matter experts who are accountable for these functional areas of responsibility in the organisation. The researcher learned that while this is true, there is no intentionality designed into these to support explorative innovation skills or individual ambidexterity. This finding aligns with the work published by the scholars that emphasises the need for implementable strategies, since they recognise the lack of knowledge and implementation in organisations. One of the points that the scholars seem to emphasise is that there is a lack of integrated theoretical work based on the real world experiences of individuals in the workplace, towards implementable strategies (Cunha et al., 2019; Kauppila & Tempelaar, 2016; Sheep et al., 2017). The researcher sought to observe real work of work experiences of paradox tensions by individuals, and in so doing emerged with findings largely supporting but also integrating the theories of the more complex role of the individual and enablement.

To sustain innovation performance, strategies are required to scale ambidexterity in order to overcome the barriers to explorative innovation, since it is accepted that over time a more natural evolution is towards more exploitative innovation. Over time the systemically embedded exploitative innovation preference defends against the threat of creative destruction prospects from explorative innovation, and these induce competitive tensions. If organisations are naïve and without intentionality this becomes threatening and risky exposure for individuals. While there are very different strategies for organisational ambidexterity, there are a number of scholars who have chosen to integrate their theoretical constructs for ambidexterity, which while introducing more complexity, also present a potentially richer source of benefit (Cunha et al., 2019; Hargrave & Van de Ven, 2017; Smith et al., 2017; Kauppila & Tempelaar, 2016; Sheep et al., 2017). The findings of this thesis are largely aligned with the ideas of paradox tensions which manifest as multi-layered and complex, while the findings on individual ambidexterity are similarly complex. In the findings from this work, individual ambidexterity is less of a choice if organisations intentionally aspire to sustained innovation success, since individuals are confronted with these complex tensions and a response is invoked. The intentionality and presence of, or absence and lack of, strategy impacts the safety and confidence for individuals in their response.

The findings show evidence of a strong bias towards exploitative innovation, and the research data suggests that there are prevailing organisational preferences with regard to method, process, and approach, and that these preferences largely influence the role of the individual but also importantly the models for competency, traits, behaviours, culture and learning in the organisation. Several scholars have shown how this bias towards exploitative innovation is a natural evolution as organisations generate success in earning revenue from existing knowledge and seek to drive excellence in execution and incrementally improve performance through exploitation (Cunha et al., 2019; Jay, 2013; Lewis et al., 2014). When seeking transformational or radical new knowledge to gain new sources of revenue through explorative innovation, there is a defensive response because the prevailing preferences and the gatekeepers of corporate memory, resist. If this aspiration towards explorative innovation within an organisation with a bias for exploitative innovation is not supported by an intentional strategy to create ambidexterity, then the process will be fraught with complex tensions and present difficulty and dangers for the individuals confronted by these tensions.

5.2 Creating a supportive organisational context for individual ambidexterity

Individuals face severe risks when challenging existing knowledge, methods or processes, which risks stem from having to confront the gatekeepers of this organisational memory and the comfort of the existing performance. There are findings about the anxieties faced and the forces promoting risk aversion as individuals are forced to calculate the costs of the risks to themselves, their reputations, their career ambitions, thus influencing their responses. The importance of creating an organisational context which is supportive is a significant finding of this thesis and will be discussed here as it aligns with the work of other scholars (Battilana, 2006; Brix, 2019; Cunha et al., 2019; Kauppila & Tempelaar, 2016; Van Assen, 2019). An important aspect is that there is the need for a supportive context combined with the ability of empowered individuals who are encouraged to practise their agency and delegated authority to make decisions and explore. These individuals need to be able to work in an autonomous way, making decisions, working in an unbounded way and being able to re-organise and form socially bound networks for sharing learning. They must be able to use their sense-making ability in being able to reframe and re-adjust boundaries and models, and utilise their agency to take explorative steps. These abilities combine with a work context which undergoes shifts to create and encourage exploration and autonomy. Creating a supportive context to support

individual ambidexterity will be discussed in the next section. While some scholars have focused on the individual's ambidexterity behaviours and abilities, other scholars have focused on contextual support; however, the findings in this thesis point to the importance and interplay of both.

With a substantial focus on individual behaviours by scholars of individual ambidexterity, there has also been a focus on the interplay and impact from leadership style, behaviours and ambidexterity as well as the contextual variables of a supportive context (Knight & Paroutis, 2017; Turner et al., 2013; Van Assen, 2019; Zacher & Rosing, 2015). The perspective in these studies is largely that for individuals to exhibit ambidextrous behaviour the emphasis is largely on the support and enablement of individuals to display such behaviour (Knight & Paroutis, 2017; Turner et al., 2013; Van Assen, 2019; Zacher & Rosing, 2015). The findings of this thesis show that leadership ambidexterity and a supportive context in themselves do not guarantee individual ambidexterity. Individual ambidexterity is also a function of individual competencies, traits, cognitive abilities and the creation of an enabling empowerment through encouraging autonomy. This view stems from the findings in this thesis that their ambidexterity is not simple but rather a complete enablement comprising of their ability, their role in the workplace, their ability to enact agency and the role of the supportive context. There are several individual ambidexterity scholars with whose work these findings are in alignment, albeit that they have individually focused on specific variables but they have based their work on a more integrative and complex construct and on the reframing of the complexity of this role of the individual (Brix, 2019; Caniëls et al., 2017; Cunha et al., 2019; Kauppila & Tempelaar, 2016).

Several earlier individual ambidexterity scholars focused on leadership ability to motivate individual exploration through their leadership style, the ability to create a clear vision and by stimulating cross-boundary work (Hargrave & Van de Ven, 2017; Turner et al., 2013; Ulrich et al., 2017). While these works offer valuable contributions toward individual ambidexterity in understanding the interplay between individual and leader, they view the individual's ambidexterity from the perspective of the leader and the organisation. More recent works have focused on the role of leaders in reconstructing the contextual variables in the organisation, where the individual takes a more central role and where leaders take a more supportive and enabling role (Caniëls et al., 2017; Smith et al., 2017; Kauppila & Tempelaar, 2016; Van Assen, 2019). The works of these scholars are more aligned to the findings of this

thesis, where individuals in the organisation are either enabling or disabling innovation through their response to paradox tensions. In these findings these individuals are central to the organisational ability to respond positively and most effectively, but they experience peril in confronting the barriers and resistance in the organisational variables, with little intentional support. In these findings, even the leaders are not aware or enabled to best support the individual response to these tensions and are themselves responding sporadically to stimuli. Left to chance, the individuals with the best innate traits, ambidexterity skills from prior learning and best-suited cognitive abilities show ambidexterity, but where it is also left to chance it cannot be guaranteed success without support. This again aligns with the literature reviewed, where it is shown that a bottom-up capability must have the support of empowering leaders, who can delegate decision making, consult with individuals, create autonomy to support unbounded exploration and support a context which values individual agency (Battilana, 2006; Caniëls et al., 2017; Kauppila & Tempelaar, 2016; Van Assen, 2019).

There is evidence that individuals show strong resistance to exploration and that the resistance takes the form of preferences for known processes, approaches and skills. Organisations imbed strategies through instrumental support enablement and so exploitative innovation too is supported through methodological, process, approach and skills preferences. In the case study much of this is said to be implied in the organisation but there are some of the models which the researcher found are documented and made explicit. There is evidence that the explorative innovation process required different methods, approaches, processes and skills, and that attempts to introduce these invoked resistance from the gatekeepers defending the existing models. The researcher reviewed some scholarly works on individual ambidexterity where the scholars provided contributions on more instrumental support for individual ambidexterity, but these works had a limited focus on existing individual ambidexterity literature (Brix, 2019; Engel et al., 2015; Kauppila & Tempelaar, 2016; Turner et al., 2013).

With regard to creating a supportive context, the researcher found that there are several organisational cultural barriers producing threats or risks to individuals. The researcher will discuss how it is important to shift these barriers towards creating a non-punitive culture that will encourage individual exploration, emancipate individuals to express their agency and value divergence and discovery. According to the research data the risk aversion threatens

innovation performance and it is critical for the organisation to provide psychological safety in order to get the individuals to explore new methods, new processes and new knowledge. There is paradox tension from innovators of the past being retained as holders of organisational memory but who become sources of threat and resistance due to their own lack of awareness or ambidexterity. The researcher explores how these gatekeepers can wield great influence and can drive homogeneity in thinking, and how important intentionality of values and norms is to guard against sameness and encourage divergence and experimentation. The findings regarding the importance of enabling a supportive and non-punitive culture which encourages exploration are aligned to the work of several scholars, and the researcher brings the findings back to this literature (Caniëls et al., 2017; Knight & Paroutis, 2017; Van Assen, 2019; Zacher & Rosing, 2015).

The role of leaders emerges in the findings as critical in enabling individual ambidexterity through empowering individuals with decision making, through consulting and creating a clear vision. In operational roles and in exploitative innovation a more traditional role for leaders is focused on controlling, monitoring and making decisions where the leader's own ability to integrate, synergise and switch is more critical and the implementation of individual ambidexterity challenges with a significant shift in role and skill for leaders. When leaders have poor awareness of paradox tensions and ambidexterity, the tensions invoked can cause defensive responses towards heightened control and monitoring behaviour, which has a negative impact on individual ambidexterity and innovation.

5.3 Theoretical model in support of individual ambidexterity outcomes

A lack of awareness or intentionality within a context which is highly biased toward exploitative innovation means these are no tensions arising from a known philosophical difference but rather from a practice naivety. The researcher's first contribution is that a naivety in practice and lack of intentional preparedness exacerbate the tensions but more importantly leave the tension response to chance. This implies that even if tensions are persistent and contextual, and especially if they are complex and interrelated, preparedness and intentionality have the power to mediate for the outcome or response. We know from the literature that there is value to sustaining innovation from a display of ambidexterity. The contribution from this thesis is a focus on that preparedness and intentionality to more

purposefully crafting an enablement strategy to improve the tension outcomes. This focus is within the context of the evidenced experiences of the individuals, which portray the engagement in the tensions regardless of level of awareness or preparedness. They engage with the tensions either through prior learning, the use of intuitive abilities or through trial and error, but they do so with high levels of anxiety competing with ambition or excitement. The intuitive abilities or responses and skills levels vary, and so the outcomes or responses vary with the risks and anxieties impacting the decisions made in those responses. It is at that level where an impact on the outcome can be made, where better enabling the individual supports their ability to engage with the tensions with a positive or constructive response, then leading to a positive outcome. To contribute, the following model shows the theoretical framework where the individual ambidexterity exhibited outcomes are made intentional.

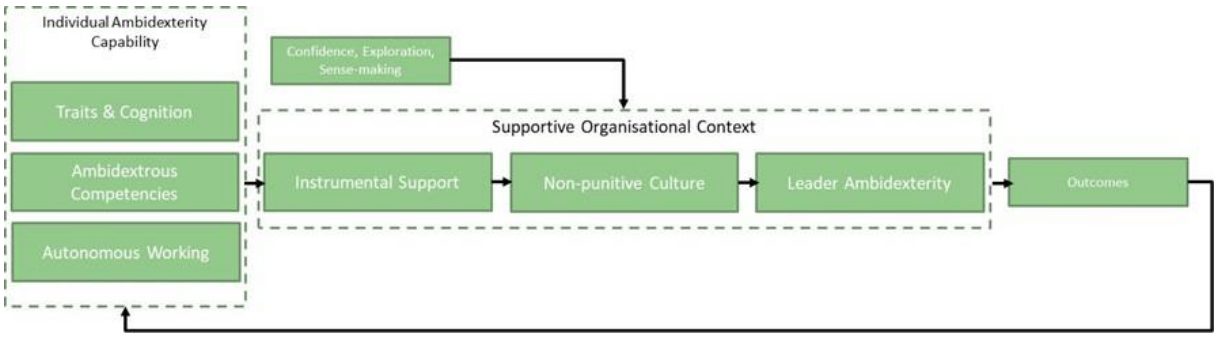

Figure 5.1: Proposed theoretical model

Individual ambidexterity is deliberately developed through integrating it into existing organisational development models for traits, cognition and skills development. The individual must also be enabled to work autonomously through deliberate work interventions ensuring both the individual ability and the enablement by their leaders. Individual ambidexterity ability is critical and the strategic development of the key variables enables the intended outcomes. Monitoring the outcomes becomes a critical input for adjustment of the individual ambidexterity model.

Individual ambidexterity requires a supportive organisational context and a key contribution in the theoretical model is that the supportive context must also be intentionally enabled. In the model, providing instrumental support for the various organisational tools, methods and processes to support exploitative and explorative innovation is critical. This mediates for dissonance and friction with fixed preferences, creating the desired openness to alternatives.

Another critical component of a supportive context is a non-punitive culture which values openness, exploration and experimentation. This reduces the threat barriers to exploration and enables individuals to enact their agency without threats to their careers and personal wellbeing. We know that individual motivation is linked to personal ambitions and the wish to succeed, and ensuring the requisite psychological safety opens up the way for confident exploration.

Another supportive context enabler is the ambidexterity of the leader, who is both able to model ambidexterity and also, importantly, has the skills to enable the delegation, consultation and empowerment required for individual ambidexterity. This is important to both motivate individuals but also to stimulate ambitious goal setting and confident exploration beyond boundaries and limitations. Leaders have the challenge of displaying the high levels of monitoring, control and decision making required for operations, but also the ability to enable high levels of autonomy, delegation, consultation and empowerment to support individual ambidexterity. This is a significantly complex challenge and integration into organisational leadership skills and behaviour models is important in order to achieve the desired outcomes.

The theoretical model contribution from this thesis is an attempt to integrate the key variables critical for successful scaling of organisational ambidexterity through a reframing of the role of the individual as a far more capable, complex and empowered role taking centre stage. The intentionality to create that ability for the individual is needed to ensure this is not left to chance, as the concept promises a rich resourceful role of the individual capable of synergising tensions. It is naive to think that a bottom-up capability could change a system without support or power, and so leaders who are willing to empower individuals, create openness and trust in a non-punitive culture is also key. Furthermore, creating the right supportive tools further enables individual ambidexterity. The model requires a feedback loop to enable the system to self-correct and evolve.

6. CONCLUSION

6.1 Main contribution

It is possible to innovate without the implementation of individual ambidexterity strategies, as organisations may opt for externalisation strategies or to enable ambidexterity through strategies deploying structural differential enablement, or through relying on leadership ambidexterity. As competitive pressures grow, organisations are looking for ways to improve their innovativeness and to better sustain innovation performance over time. Theorists have explained how the internal pressures see the internal focus gravitate towards exploitative innovation naturally over time. This creates a systemic preference, ability, cadence and familiarity with exploitative innovation, which in itself becomes deeply embedded and resistant to exploration for new knowledge.

Rather than seeing individual ambidexterity as an alternative to other ambidexterity strategies, it should be regarded as complementary, recognising that irrespective of the strategies chosen, individuals are a rich potential source of competitive advantage and have a greater and more valuable role to play in ambidexterity to improve the internal ability of the organisation to sustain innovation. While there is ready recognition of this very valuable role individuals play in the innovation process, there seems to be less of a centralisation of their role in ambidexterity. Ambidexterity requires decision making, agency and the ability to cross functional and organisational boundaries – and perhaps the barrier is the conceptual framework of the individual's role in the organisation. Hierarchical frameworks, characterised by task specialisation, levels of work and levels of authority form the foundation of most organisations, and within these elements individuals play a limited and bounded role, limited and bounded because of a job description and a fixed place in the hierarchy. Decision-making power, agency, the ability to direct resources and to change innovation methods, reside with leaders traditionally. Leaders in many cases are the innovators of the past who have become the capital allocators, the arbiters of priority and the professional organisation stewards ensuring predictable and steady performance. This model means that the organisation's ambidexterity and scaling of innovation activities reside with leaders who may be limited in their own ambidexterity and in their own skills. Maybe particularly so given the heightened rate of disruptive innovation in the marketplace. This also means that the organisational structural framework can dictate the scope of the role of

the individual and restrict the decision making and freedom to form socially bonded networks of learning.

This thesis contributes the notion that in an ambidexterity capability the central role becomes the individual's, but the leader's role is critical in its purpose to set out an intentional strategy for individual ambidexterity and to enable the variables critical for its success. This model offers a generative and scalable internal model for ambidexterity. The dilemma faced by individuals regardless of intentional strategies has a potential value or danger to innovation. The individual is viewed in this ambidexterity strategy as shifting from the frame of a narrower, bounded and limited resource requiring tight management control and monitoring to one that is able to explore for new knowledge across boundaries, able to experiment, capable of expressing own agency in autonomous working and able to make effective decisions in switching between innovation activities. This constitutes a break with the traditions supported by current organisational strategic frameworks of organisational design, role descriptions, competency models and skills models. It proposes a far more complex role for the individual and one which requires work for the organisation to develop this in its strategic framework, and the inclusion of the enabling variables to support it.

The finding of the shift to a more central role for the individual leads to the conclusion that organisations need to reframe the role of the individual and to design and implement everything required for its enablement. This should include organisational models for the identification of traits, cognitive abilities, competencies and behaviours supportive of that capability. This thesis further proposes that competencies such as an open learning orientation capable of adjusting to new stimuli, abilities to synergise and differentiate, sense-making to reframe and abilities such as trust building are extremely valuable. This is supported by some scholars (Caniëls et al., 2017; Kauppila & Tempelaar, 2016; Smith et al., 2012).

A further contribution is the conclusion that leaders must create a clear vision for individual ambidexterity and explorative innovation inclusion relative to exploitative innovation, and create a supportive organisational context. Individual ambidexterity as a strategy to intentionally scale a positive response to tensions invoked in the innovation process, does not delegitimise exploitative innovation capabilities but does compete with them. To synergise these innovation activity types, the improvement of awareness and the embedment of

explorative innovation and ambidexterity do mean a decrease in the strength of the exploitative innovation bias. To ignore the fact that this deliberate inclusion and embedment of explorative innovation comes at the cost of the current exploitative innovation is naive and places individuals at risk of having a bad work experience, thus inhibiting exploration. The development of a supportive organisational context must set out values and behavioural norms framed by a language of paradox and ambidexterity which normalises it and creates a north star for self-correction. This supportive context creates a framework for individuals who diverge from existing thinking, knowledge, methodology and process, exercising their agency. This framework reduces the risk and anxiety through creating a more predictable and psychologically safe space for the use of their agency.

A further contribution from this thesis is the finding that when individuals face paradox tensions invoked by instrumental support in the organisation, then the response cannot be focused on behavioural or skills variables only but should include redesigning those instruments. The findings show that cross-boundary exploration and ambidexterity require methods, processes and approaches that encourage and support experimentation. The organisational context must enable and align cultural values and norms, but also align governance of funding and decision making. It must also align performance models linked to reward and recognition to ensure that it supports experimentation in explorative innovation activity. To mediate for resistance and to create the support and enhanced confidence in undertaking new explorative innovation methods, processes and ways of working, the identification and development of alternative instrumental support mechanisms are required. These should be adapted to allow for the varying needs of exploitative and explorative innovation.

6.2 Implications of this study

This thesis responds to the call from scholars towards improving the knowledge of the real world of work experiences of paradox tensions in order to develop implementable ambidexterity strategies (Caniëls et al., 2017; Smith et al., 2017; Kauppila & Tempelaar, 2016). Using the case study and grounded theory methodology allowed the researcher to observe and to gain insights from the perspective of the individuals participating in an explorative innovation project. The findings are intended to offer theoretical insights from the

perspective of the individual's experiences. This work supports the call for a focus on the individual's experiences and an increasing focus on ambidexterity capability theories which place individual ability at the centre. While scholars have focused on various variables in the enablement of the individual ambidexterity capability, utilising the perspective of the individual leads to a more holistic capability enablement theoretical framework in this thesis. This is not novel and several individual ambidexterity scholars have theorised on the importance of the various supporting variables such as competence, traits, cognitive abilities and learning orientation and the contextual influence of leaders (Caniëls et al., 2017; Cunha et al., 2019; Kauppila & Tempelaar, 2016).

Further implications are that individual ambidexterity intentionality is less of a philosophical choice and more a necessary capability since individuals are faced with paradox tensions regardless of readiness or awareness. Intentionality and deliberately enabling individual ambidexterity mediate for the outcome in individual responses to tensions and so the value of the tensions for innovation. In the same way that an organisation would use its strategic framework for executing strategies and building supporting capabilities, it must integrate explorative innovation and individual ambidexterity capability. Not doing so leaves the response to chance and to the sporadic use of an individual's innate ability or prior learning. As a contribution to organisational practice, this thesis aims to make this salient for organisations seeking to improve sustained innovativeness. Recognising that individuals face these complex tensions which are fraught with risk and anxiety due to a lack of an organisational awareness and strategy, raises critical practical considerations and perhaps moves away from more abstract arguments. Its contribution to practice is supported by the theoretical framework.

The reframing of the individual's role in the organisation from this thesis is also not novel and is supported in literature, but it does have significant implications for organisational practice (Battilana, 2006; Caniëls et al., 2017; Smith et al., 2017; Van Assen, 2019) and for supporting that role of individuals with the organisational frameworks of organisational design, skills development, competency and trait models and recruitment models. There are also implications for aligning recognition and reward models to this more complex and valuable role of the individual. This thesis also connects this central role of the individual to implications for the leader's role, where leaders take a supportive and enabling role, capable of emancipating and empowering the individual with autonomy, delegated authority and

through creating the necessary instrumental support and supportive context. This role for leaders has implications for the more traditional role of leaders and focuses on leadership style, traits and abilities. There are scholarly works that support this more supportive and enabling role for leaders in enabling the individual's reframed role (Kauppila & Tempelaar, 2016; Van Assen, 2019; Zacher & Rosing, 2015).

The contribution from this thesis that individual traits, cognitive abilities, behaviours and competencies are supported by instrumental support in enabling individual ambidexterity has implications for implementation. Few scholars have combined these elements as some have purely focused on individual ability and others have focused on the instrumental support of knowledge management, models and methods, but from the findings of this thesis, the organisational framework for executing strategy includes instrumental support. This is a fairly novel inclusion with regard to focus on individual enablement, but instrumental support enablement has support in the broader body of innovation knowledge (Colombo, Von Krogh, Rossi-Lamastra, & Stephan, 2017; Mabey & Zhao, 2017; Prajogo & Ahmed, 2006; Senyard et al., 2014).

6.3 Limitations of this study

The first limitation is scope limit caused by the choice to use a single case study instead of multiple cases or comparative cases. This choice was driven by the researcher's limited resources, and so the scope or width of the study had to be limited in favour of ensuring saturation and sufficient time spent to gain depth of insight. It could be argued that the single case is swayed by contextual variables and might not be transposable; however, with the research question seeking individual-based experiences to try to observe causal relationships, the depth of insight was of more value (Hammersley, Gomm, Foster, 2019).

The researcher interviewed 12 project participants and 3 organisational development and human resource development experts in the organisation. The project participants comprised the majority of people who participated on the project, only 3-4 others were not interviewed. The researcher would have liked to have found more expert insights, even perhaps outside of the organisation, but could not do so due to constraints of time and access. It could be argued that the sample size is small. The researcher's counter-argument would be that this research

design sought out depth of insight, experience, perception and nuanced reflections in trying to answer a ‘how’ question, and so the researcher hopes that having conducted 15 in-depth interviews with each lasting more than one hour and yielding rich conversational insights, this mitigates for the lack in sample width.

The second limitation is that there was no opportunity to conduct a longitudinal case study to gain revelatory insights from critical incidents, in various project lifecycle stages and from the experiential learning of participants, again due to the researcher’s limited time and resources. This is a significant limitation to the depth of understanding of how individual ambidexterity impacts organisation innovation.

The third limitation pertains to the risk that the researcher’s proximity influenced either the participant’s responses to the researcher or the researcher’s interpretation of the insights. However, the researcher’s job at the organisation was an advantage, and the researcher’s access to the participants and his good standing positioned the advantage as greater than the risks. The researcher’s relationship with the participants existed before the interviews and is in all cases a relationship perceived by the researcher to be of good health and trust. This perhaps is supported by the rich insights and contributions made the participants, with many showing vulnerability in revealing intimate insights of a personal and team nature. The researcher took care in expressing his role as researcher, as well as in following carefully the ethical protocols and then in utilising an appreciative inquiry method which mediated the risk of judgement for the participants.

6.4 Future research

The researcher suggests three main areas for future research towards implementable strategies for individual ambidexterity. The researcher’s work in this thesis was relatively limited in scope and size due to the researcher’s resource constraints, but considers these areas as potential avenues for further study to add to the work produced. Firstly the case study method produced an opportunity to gain depth of insight rather than width, and so there are opportunities to conduct larger case studies, perhaps of a longitudinal nature, enabling more observation over the lifecycle of a project and presenting an opportunity to witness critical events where paradoxical tensions occur. This would provide for observations of pre-

tension, during tension and post tension, which would provide rich insight on the individuals, the internal dynamics of the team and to observe any psychological or contextual shifts. The case study used by the researcher in this thesis was a multi-year project in the late phases of the project's life, and many of the insights collected were from using hindsight, post-event views likely impacted in some way by outcome and views which had likely been enriched by the experiential learning over time. While this in itself is valuable insight, providing the researcher the "wisdom" of that experiential learning, a longitudinal study, inductive in nature, would provide deeper insight into the event and the evolution of the individuals over the lifespan of their innovation work. While the merits of a single case study are upheld in that the research sought to theorise on how individual ambidexterity impacts on innovation, enabling the observation of rich insights and the exploration of dynamics within the case (Farquhar, 2019), the revelatory power of an inductive case study would enable an observation of the evolution of the individuals during the lifecycle of the case (Piekkari & Welch, 2019).

With significant emphasis on the learning orientation of individuals and its impact on individual ambidexterity from researchers (Kauppila & Tempelaar, 2016), and the current reliance on individuals developing ambidexterity skills largely through experiential learning, it would be of great interest to observe how individuals learn and adopt this learning in the case study.

One of the contributions from this thesis is that the behaviours, competencies and traits, in combination, are critical enablers of individual ambidexterity, and another future research avenue will be to undertake more research on the identification of specific traits which contribute to individual ambidexterity. Utilising quantitative study methods would be valuable in proving positive impacts from any newly identified traits of ambidexterity (Cunha et al., 2019; Kauppila & Tempelaar, 2016). With the testing tools available, trait identification and testing enable both improved project planning and planning structures and human resources, as well as in recruitment assessments. This can also be used for learning and development inputs.

The final area for further research is in the identification of further pedagogical tools to support individual ambidexterity. In the researcher's review of the existing literature, very little was found in the way of implementable pedagogical theory to support individual

ambidexterity (Smith et al., 2012). The work of these researchers was included in this thesis and while there is other research work supporting the importance of skill development and the importance of learning model adaptation, there is little in the way of supporting implementation. The research arena of innovation more broadly provide far richer access to pedagogical frameworks and research supporting implementation and while individual ambidexterity is a key enabling capability, there is very little supporting its implementation through learning strategy contributions.

6.5 Conclusion

It is clear from the findings that the tensions have an impact on the individual's response and that the response impacts on the innovation. Any intention to improve an organisation's innovativeness must enable a more deliberate strategy to ensure a positive response. Scholars propose that there are great benefits of enhanced innovation performance offered from an ability to synergise the tensions and effectively reap a best of both worlds scenario. But there are also great risks, anxieties and insecurities experienced in the face of the paradox tensions. From this thesis, the negative experiences are contributed in a significant manner not by the paradox tensions only but by a lack of awareness and knowledge of the polar differences between exploitative and explorative innovation. These differences are sources of invoked tensions and if these sources of difference can be synergised then the dangers from the tensions can be mediated. Synergising the differences requires a holistic approach and increasingly scholars are converging on a more holistic approach to its enablement (Caniëls et al., 2017; Smith et al., 2017; Kauppila & Tempelaar, 2016; Van Assen, 2019).

The appeal is clear. In organisations, irrespective of location or context, the challenge is to become more innovative and to contribute to achieving their own goals within the rapid pace of change as well as contribute to societal challenges. In the words of one of the interview participants "*it is a time when individual development work is organisational development work*", making a point about the increasing need for organisations to ensure that the psychological state, the competencies, behaviours and traits are a focal point for the developmental work of the organisation towards becoming more innovative. Within a rapidly increasing cycle of internal and external change pressures, it is the individual's abilities to grasp and engage with the complexity from tensions and the organisation's ability to enable

the individual to play a more empowered and autonomous role, which should be receiving more support in practice and academia.

It is not new knowledge that very radical innovations come from very creative processes of relatively freely formed generative activities which utilise quite different design methods, processes and skills than more exploitative innovations. These differences in method, process and skills require deliberate mediation, as a naivety and lack of ability to do both will systemically lead to tensions. This is important enablement for both innovation activities but scholars have agreed that in most instances it is explorative innovation which is lacking in established organisations.

There are many global industrial giants that are richly imbued with stories of great invention in their past, and then the more modern stories of the small and nimble technology start-ups with their disruptive impacts from the radical solutions. It seems the narrative is that these free, generative processes which deliver such radical innovations are starting to live alongside the processes to build, scale and operate those earlier innovations. In so doing, the skills to operate, analyse and improve take focus and require far more formal, far more structured and very different skills. Reducing variance, increasing certainty, extracting high performance and gaining efficiency from key organisation resources, models, processes and products present a critical source of value and can be extracted by exploitative innovation. This is critical for established organisations but if leaders lack an awareness of the need to enable explorative innovation alongside, then the organisation will systemically develop a bias towards exploitative innovation and embed a resistance toward explorative innovation.

It is a system which will seek to defend itself through challenge, resistance and which creates tension. A desire to embed explorative innovation activities within the same organisational framework should not detract from the value of exploitative innovation, but will compete with it for organisational focus, resources and prioritisation.

This thesis calls for the organisation to reconsider its cultural logic, its contextual variables and its human development. It requires an aspiration to include alongside the steady, predictable and less risky, the ambiguous, uncertain and more risky and for the value of each to be appreciated within their own rights as well as being appreciated for the benefits relative to each other. This requires of leaders and the organisation to increase their intentionality to

avoid the systemic bias and to seek to build a scalable ambidexterity which can enable both and gain the synergy advantages.

The researcher considers this work as an incremental contribution towards improving the understanding of how to sustain innovation and would consider any part it may play in further social science research as greatly satisfying. While not imbued with massively novel or radical new knowledge, the researcher's own process of work has enabled new personal insights of significant value and the researcher would consider these a contribution towards practice.

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APPENDIX A
PARTICIPANT CONSENT FORM

MASTER OF PHILOSOPHY IN INCLUSIVE INNOVATION

INTERVIEW CONSENT FORM:

Participant name: ……

I volunteer to participate in a research project conducted by **Bradley Nitsckie** as partial fulfilment of the requirements for the MPhil Degree at the Graduate School of Business. I understand that the research is designed to gather information about: *Towards the enablement of innovativeness in corporations: Examining how organisational ambidexterity is a critical capability towards the corporations innovativeness* and that I will be one of approximately 20 of people being interviewed.

Background and purpose of the research
To find the key sources of paradoxical tensions in the innovation process in organisations at the micro level focused on people, teams, process and skills. Identifying these obstacles or sources of innovation would help contextualize the purpose or use of ambidexterity to exploit existing operations while exploring new. That understanding of the purpose and power of ambidexterity would allow exploration into how to build it if it is useful.

Ethics approval

Ethical consent for the study has been approved by the *UCT Commerce Faculty Ethics in Research Committee*.

Participation and confidentiality
I understand that my participation in this research is voluntary, that I will not be compensated and that I may withdraw at any time. The interview will take approximately 45 - 60 minutes to complete and will be audio recorded. I understand that I will not be identified by name in any reports using information obtained from this interview and that my confidentiality as a participant in this study will remain secure. Subsequent uses of records and data will be subject to standard data use policies which protect the anonymity of individuals and institutions.

Consent
I consent to participate in this interview, based on the terms outlined above and any additional noted.

---------- **----------**
Signed by interviewee **Date**

---------- **----------**
Signed by Student **Date**

APPENDIX B
SEMI-STRUCTURED INTERVIEW GUIDE

MASTER OF PHILOSOPHY IN INCLUSIVE INNOVATION

Interview preparations:

Approach
I chose a single business entity to locate my study and I am utilizing the case study method. The case identified has employees from two business entities as the case was a collaborative effort between the two. The interview participants are therefore employed by these two businesses. I sought and received consent from both businesses and each individual also provided consent.

Method
Due to the social nature of the study, I have opted for a qualitative study utilizing inductive case study method supported by appreciative inquiry interview methods. This allows from theory to be observed from insights of those interviewed and for deeper insights to be sought through the method. Cognizance of personal risks, anxieties and enabling the mitigation of these is critical to ensuring meaningful insights and opinions to surface. The preparation therefore and the skill of the interviewer is quite important.

Interview preparations:

1. Creating conducive space. Setting up the location and the interview room itself with sufficient privacy, comfort and neutrality.
    a. Ensuring that space is quiet, calm and pleasant
    b. Enable the sessions with an understanding created for the participant of what is expected and arrangement around use of data, privacy and anonymity
    c. Ensure a working voice recorder and that the participant is comfortable being recorded
2. Research Introduction and Overview
    a. Provide adequate understanding of myself in this process
    b. Provide a high level/broad explanation of the study and research area without introducing any theories or ideas. Follow this narrative:
        i. Innovation itself is not a new concept and in business is the continued striving for making products, services and processes better. Frame the interest in innovation.
        ii. Enabling business innovation is a broad area and covers so many levels – Explain the interest of this study being aimed at an individual level and so the interest in personal insight and experience.
        iii. One of the areas least researched is the employee, team and operational levels and some of the obstacles, catalysts, friction, risks and enablers are at that level.

3. Intent of the interview
    a. Searching through conversation for personal observations, personal insights and personal experiences
    b. Seeking junctures or moments which were impactful
    c. Using these insights to find themes and creating then a theoretical framework which can be tested and validated

4. Conducting the Interviews
    a. At this point provide printed consent forms for signature
    b. Ask for any questions and answer these as far as possible before starting
    c. Explain the semi-structured appreciative inquiry style to enable understanding of the flow

5. General Interview Questions
    a. Name and role in the organisation
    b. Describe your role in the project (case study)

6. Semi-structured interview questions
    a. With semi-structured interviews the interview uses a conversational style where participant answers help to shape follow-on questions. These were some of the general questions asked.
    b. Can you tell me about what you think are the highlights or successes to celebrate about the project?
    c. Can you describe how you experienced the project approach and process and what did you enjoy about it?

7. Closing
    a. Check if there is anything the participant would like to add
    b. Ask them if they would be available for a follow-up telephonic discussion for any clarification and if they would be willing to participate in a focus group
    c. Ask them if they would like to receive results from this research project

APPENDIX C
SEMI-STRUCTURED INTERVIEW QUESTIONS

(Note: Tabulated after the interviews, taken from transcripts and linked to theoretical construct from Literature Review)

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Question	**Theoretical Construct**
Looking back on the project journey what are the highlights for you, which you would consider worth celebrating?	Individual real world of work experiences during explorative innovation
What did you enjoy about the project process and approach?	Individual real world of work experiences during explorative innovation
What or how did you see the management of risk or difficulty?	How tensions are experienced, perspectives of decisions or actions.
How do you think different types of skill sets were needed given your involvement in the project and your operational role?	Individual experience and sense-making of varying role demands
How do you think different approach and skills impact play a role between operational day job and the project?	Individual experience and sense-making of varying skills required by innovation activities
How do you think the project structure, roles and skills played a role in the success of the project?	Individual insight on organisation structure, roles and skills decisions made
What was your role in the structure and how did you manage your split in priorities between the project and the operational role?	Individual activity tension experience and sense-making of individual prioritisation
Considering your experience and insights on the different skills, process and approach, how do you think your organisation is building the capacity to enable that?	Individual experience of organisational skills and capability development for innovation activities
How do you think we did with managing the choices in when to allow the team to struggle towards an answer versus the need to intervene?	Individual experience of leadership choices in enabling autonomy and socially formed working
How do you think trust and cohesion played a role in the team navigating difficulty?	Individual experiences of trust and cohesion during tensions
What do you think of the team building the new innovative capability but in the process becoming the capability to innovate?	Individual perspective on organisational capability building

How do you think the approach trade-offs were managed and how do you think this could have benefitted from alternatives?	Individual experience of decisions were made and exploring for ambidexterity examples
How has this project impacted your operational role and unit and how do you think it managed that interaction with you as a stakeholder?	Individual organisational change experience. Exploring individual change receptiveness or change response
Can you describe highlights in tense moments and what was your experience of that moment and how it was a highlight in terms of how it was handled?	Individual experience of tensions and exploring for ambidexterity examples from the perspective of the individual
How do you think choices for method and approach are embedded and why?	Individual perspective of organisational capability development
How do you think individuals and culture impacted the choices made?	Individual perception of decisions made and exploring examples of divergence and openness

APPENDIX D
STRUCTURED INTERVIEW GUIDE

Interview preparations:

Approach
Following a first round of semi-structured interviews with project participants and coding, the researcher identified key questions on individual ambidexterity enablement. These questions were targeted at individual traits, competencies, cognitive and behavioural abilities and the intention was to gain insight into the current organisational models for individual enablement. To do so the researcher approached a senior member of the Human Resources leadership team and after describing the interest, key individuals from that team were identified for structured interviews.

Method
As the researcher had already conducted a level of theoretical coding which had derived an initial data model and which helped frame specific questions, the most appropriate method was a structured interview. Usual purposive sampling to identify the participants, the researcher invited them to online interviews using MS Teams due to the COVID-19 risks of in-person interviews. The researcher used a PowerPoint presentation to expose some of the key concepts and to show them the questions during the interview.

Interview preparations:

1. Requested their support by email and followed up with a subsequent telephone call to explain the approach.
    a. MS Teams based interview with recorded sessions for later transcripts
2. Research Introduction and Overview
    a. Provide adequate understanding of myself in this process
    b. Provide a high level/broad explanation of the study and research area without introducing any theories or ideas. Follow this process:
        i. PowerPoint presentation framing the theoretical constructs on paradox and ambidexterity
        ii. Setting out the key questions relating to the data model

3. Intent of the interview
    a. Searching for subject matter insight into organisational models for individual enablement
    b. Seeking for awareness and insights into paradox tensions or ambidexterity
    c. Seeking for insights into organisational models for explorative innovation

4. Conducting the Interviews
    a. Consent was requested electronically given the remote working situation
    b. Ask for any questions and answer these as far as possible before starting
    c. Explain the interview process

5. General Interview Questions
    a. Name and role in the organisation
    b. Describe your role in the project (case study)

6. Structured interview questions (see the next Appendix)

7. Closing
    a. Check if there is anything the participant would like to add
    b. Ask them if they would be available for a follow-up telephonic discussion for any clarification and if they would be willing to participate in a focus group
    c. Ask them if they would like to receive results from this research project

APPENDIX E
STRUCTURED INTERVIEW QUESTIONS

(Note: Tabulated taken from interview PowerPoint slides and linked to theoretical construct from Literature Review)

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Questions	**Theoretical Construct**
What are your views on paradox? Any additional views?	Individual experiences and perspectives on paradox tensions
Is there an organisational framework, model or toolset for projects? An explicit methodology or mechanic to assist?	Insight into organisational innovation activity capability, skills and instrumental support
How intuitive or implicit is the knowledge or ability to successfully navigate the choices in set structure, team, culture, team ways of working?	Exploring views on reliance on individual implied or implicit knowledge and skills in innovation choices
How much of that ability to a build or an acquire strategy?	Organisational capability building insight into implicit or explicit approach
How do the organisation's competency models, learning and development and recruitment models align to the strategies for enabling this ability?	Exploring awareness and intentionality in building organisational individual ambidexterity capability
How important do you think the ambidexterity ability to manage paradox tensions are to innovativeness?	Expert insight into individual ambidexterity value to innovation
How do you think the organisation's strategies enable this?	Organisational intentionality for ambidexterity capability building
How might alternative approaches be applicable?	Individual opinion
Is there anything missing or anything you disagree with in the model for individual ambidexterity?	Individual opinion