

Enabling organisational ambidexterity: A leadership perspective

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Purpose: Innovation implies change that causes disruption. Ambidexterity is required to balance disruption and change with the counter side, stability, to enhance efficiency. This study set out to understand how the leadership of an organisation can ensure a focus simultaneously an explore logic, required for innovation, and the exploit functions that are needed for efficiency.

Design/methodology/approach: This research sought to shed new light on how leaders manage the structural changes required within an organisation to support ambidexterity. It fits into the inductive research approach. A qualitative, exploratory study through semi-structured interviews was completed to enhance the understanding of this understudied phenomenon.

Findings/results: The research builds on the current understanding of ambidexterity, different operating models, integration mechanisms and possible organisational structure to enable simultaneously explore and exploit. Respondents were able to suggest how organisations can utilise the ambidexterity continuum as a vehicle to understand the current organisational change logic and required future strategy.

Practical implications: Based on the research findings, a model was conceptualised, which included the leadership capabilities required to deal with both existing core business and new venture processes and structures, as well as the integration of these disparate elements.

Originality/value: The literature is not clear as to how leaders engender the changes required within the structure of organisations to enable ambidexterity. The research provides a framework that describes how organisations can balance the explore and exploit functions concurrently, as well as leadership capabilities required to achieve this.

Keywords: ambidextrous organisation; leadership capabilities; organisational structure; organisational change; explore and exploit functions.

Introduction

Change is a constant for contemporary organisations because of the influx of new technologies, globalisation and the ever-present challenge of competition. Despite this, rather than facilitate change, many organisations continue to operate with structures, processes and cultures that hinder progress for the sake of efficiency and stability (Kollenscher, Eden, Ronen, & Farjoun, 2017; Leavy, 2014; Lyons, Jordan, Faas, & Swindler, 2011; Uhl-Bien & Arena, 2018).

Because of this continuous rate of change, the extant leader could perceive that any or all organisations require a high internal rate of change. However, context matters. In a highly regulated environment, where incremental innovation sustains profitability, an organisation can remain competitive through industry analysis and strategic positioning and realignment as the market changes (Jackson & Leung, 2018), rather than continuously developing new products. In contrast, where value chain specialisation and market disruptions are a reality, organisations are required to be more explorative, continuously developing new and customer-centric products to stay ahead of the competition (Jackson & Leung, 2018; Leavy, 2014).

To remain competitive, an organisation must thus ensure that its internal rate of change is faster than its competitive environment (Uhl-Bien & Arena, 2018). However, frequent change within an organisation can hamper improvement and negatively influence efficiency. Stability and routine are required to maintain the efficiency and quality management systems needed for processes such as manufacturing (Kollenscher et al., 2017; Kotter, 1995; Leavy, 2014). It is therefore crucial that the organisation is able to balance the necessity for innovation alongside efficiency, as imposed by the specific context of the organisation. However, the organisational requirements to

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enable innovation and the requirements to maintain efficiency are significantly different within an organisation.

Innovation and efficiency each require a specific culture, organisational structure, leadership style and organisational processes (Liu, Wang, & Chen, 2019; Uhl-Bien & Arena, 2018). To remain relevant, organisations must adapt these systems to ensure internal stability but concurrently also external agility. These elements must be balanced to maintain efficiency and exceed the rate of change of the relevant industry (Leavy, 2014). The organisation can achieve this balance by achieving ambidexterity. Ambidexterity must play out at each level of the organisation. Ambidexterity achieved within each level of the organisation has been positively correlated with organisational profitability and individual innovative behaviour (Doz & Kosonen, 2010; Havermans, Den Hartog, Keegan, & Uhl-Bien, 2015; Horney, Pasmore, & O'Shea, 2010; Leavy, 2014; Liu et al., 2019). As such, the concept of ambidexterity can be used as a vehicle to understand the paradox of efficiency and innovation, and how this paradox can be managed to ensure a profitable, sustainable organisation.

Ambidexterity can be defined as the ability to develop new products whilst still exploiting an existing market, and building on current knowledge whilst developing new knowledge and capabilities (Tushman & O'Reilly, 2011). Ambidextrous organisation can effectively manage these competing demands in a balanced manner (Havermans et al., 2015; Uhl-Bien & Arena, 2018).

Purpose of the research

This research aimed to explore, from a leadership perspective, the ambidexterity paradox as it pertains to the organisational structure required to sustain it. Leadership styles, including transformational and situational leadership, and capabilities required to enable ambidexterity have been outlined in the literature (Appelbaum, Calla, Desautels, & Hasan, 2017a; Jackson & Leung, 2018; Kim & Shin, 2019; Kollenschner et al., 2017; Srivastava & Jain, 2017). Furthermore, exploration of the organisational structures, processes, business models and cultures required to enable ambidexterity at the organisational level of analysis has also been reported (Galbraith, 2008; Leavy, 2014; Uhl-Bien & Arena, 2018). However, it is not clear how ambidexterity can resolve the tensions created within the exploration or exploitation paradox (Doz & Kosonen, 2010; Horney et al., 2010; Leavy, 2014; Lewis, Andriopoulos, & Smith, 2014; Salas Vallina, Moreno-Luzon, & Ferrer-Franco, 2019; Uhl-Bien & Arena, 2016).

It is challenging for the ambidexterity paradox to be held within one person or department. As such, organisations in general separate exploit and explore activities through temporal and spatial structures and processes. The exploration process for this study included the investigation as to how leaders deal with the shift in the organisational structure required to create the required ambidextrous processes and culture within an organisation. The final

objective was to create a model outlining the change process and capabilities required by leaders and how to enable these within the organisation.

Literature review

Long-term industry dominance was possible during a time when the economy was driven by manufacturing and long-cycle advantages. Within this context strategic advantage through market positioning, defending and periodic realignments were possible (Porter, 1979). However, inter-industry competition has become more prevalent. Additionally, the rate of increase in substitutes is growing at the same rapid pace as technological developments. It is thus inevitable that to ensure sustainability, organisations need to adapt to these changing conditions (Leavy, 2014; Tushman & O'Reilly, 2011). One vehicle for organisations to understand their current shifting position and adaptability requirement is the concept of ambidexterity.

The business model and organisational structure must enable the organisation to meet current business demands, and to adapt to the changing external environment (Havermans et al., 2015). Traditionally, leaders managed this ambidexterity requirement through the spatial and temporal separation of focus. Spatial separation ensures that specific departments are orientated towards explore activities and others are focused on exploit activities. These differentially focused areas must then be integrated. In the past, the separation and integration was managed by senior leaders. However, recent studies have highlighted the integration role that middle management must fulfil to create the knowledge and information flow required (Chen & Kannan-Narasimhan, 2015; Uhl-Bien & Arena, 2018), as well as the utility of leadership style in supporting individual innovative behaviour (Liu et al., 2019).

Organisational structure

Organisational structure has two fundamental and opposing tasks: (1) the division of work into organisational units for efficiency and control and (2) the integration of these units to support the overall strategy in a coordinated manner (Roh, Turkulainen, Wipple, & Swink, 2017). Integration is an imperative to foster production efficiency, competitiveness through improved customer service, and leads to enhanced organisational performance (Ferreira, Pimenta, & Wlzlak, 2019).

One of the main strategic considerations in organisational structure is one of centralisation or decentralisation. Centralisation should result in consistency, coordination of interdependencies and dissemination of company best practices. Decentralisation, on the other hand, should result in fast and immediate action and decision-making, focus on local talent and the increased possibility of differentiation based on local differences (Galbraith, 2008). This study considered how organisations are structured to manage the required ambidexterity and how leaders manage these changes.

Informal lateral coordination or integration mechanisms are the cheapest and most natural ways of integration but have the least power of authority. These integration mechanisms include voluntary interaction and coordination through electronic media and favourable environmental characteristics (Ferreira et al., 2019; Galbraith, 2008). More formal integration mechanisms include utilising a specific department or role to fulfil the integration function (Galbraith, 2008). Technology can also be utilised in a supporting role to enable vertical integration by allowing management to track business processes in real time (Ferreira et al., 2019; Neubauer, Krenn, Majoe, & Stary, 2017). The context where the organisation is formally structured to enable continuous lateral integration, such as a matrix structure, is the most expensive. It also requires more management time to sustain the formal integration processes, when compared to more informal integration mechanisms. However, these types of structures subsequently allow for maximum power and authority vested in a specific product or project champion. It could lead to minimum time to market, but with the risk of the most potential to generate conflict between departments and resources (Galbraith, 2008).

Organisational attributes such as strategy dictate the required governance model. A single business strategy demands high levels of centralisation and leads to minimal communication cost (Ambec & Poitevin, 2016; Galbraith, 2008). Diversification into related products requires moderate centralisation. It depends on the specific context of each product, production process, technology and customer requirements, as well as aspects such as common information technology systems. Conglomerates with diversification through acquisition into unrelated product lines require high levels of decentralisation (Galbraith, 2008). Decentralisation economises on communication costs and ensures that the person with access to the most relevant information makes the decision. However, it also increases the risk of suboptimal alignment with the overall organisational requirements, which again increases alignment effort and cost (Ambec & Poitevin, 2016). The challenge is not only what structural changes to make to support the emerging strategy, but also how to administer and enable these changes for effective change to take place. A construct that provides a vehicle for exploring this dilemma is the concept of ambidexterity.

Organisational and individual ambidexterity

In the current market of value chain specialisation and market disruption, organisations are required to be explorative (i.e. searching for new markets and capabilities; flexibility, contrary views, experimenting, new knowledge and technology), and concurrently be exploiting their existing market position and competencies (i.e. efficiency, control, certainty, refinement, existing technology and knowledge). This dichotomy is defined as ambidexterity. The ambidextrous nature of the organisation informs how it prioritises daily routines and innovation. The nature of the organisation also informs how it influences the change logic and determines

the dominant operating system. However, ambidexterity should not only be conceptualised on the organisational level. It must also be considered on the team and individual level. Ambidexterity requires specific change capabilities to be developed within each individual. These capabilities enable the individual to sense and seize the opportunities (Jackson & Leung, 2018; Leavy, 2014; Liu et al., 2019; Luu, Rowley, & Dinh, 2018; Salas Vallina et al., 2019; Schweiger, Kump, & Hoorman, 2016).

Positioning the organisation at the correct point on the ambidexterity continuum as well as establishing the appropriate interaction between exploration and exploitation represents the required emergent, strategic capability to ensure a competitive advantage. Organisational performance and ambidexterity have a significant, positive correlation, moderated by the context. As such, the optimal point on the ambidexterity continuum is not equal exploration and exploitation. It rather depends on the external market and industry conditions (Havermans et al., 2015; Salas Vallina et al., 2019).

As outlined in Table 1, the point on the ambidexterity continuum dictates the applicable organisational change logic and operating business model. Table 1 highlights the different focus horizons, strategies and change management styles required based on the organisation's relative position on the ambidexterity continuum.

From Table 1, it is clear that high levels of ambidexterity require a both/and solution that leverages differences and synergies of opposing positions. The decision goal of this paradox is to find a revised objective that maximises

TABLE 1: Ambidexterity continuum.

Degree of ambidexterity	Compliance context	
	Low	High
Low	Transformative strategy	Projective strategy
	Focus on exploration	Use evidence to project standards and expertise onto the organisation
	Value field evidence above historically verifiable evidence	Overvalue historical data
	Prone to overconfidence bias when estimating likelihood of breakthrough	Often takes cautious approach to information
	-	Tend to overvalue exploitation at the expense of exploration
High	-	Found in bureaucratic organisations
	Symbiotic strategy	Preservative strategy
	Focus more on exploring than exploiting but will not risk current brands	Maintain current market share
	Flat, creative division with bureaucratic structure for exploiting current market	Grow through low-risk expansions into adjacent markets
	-	Prone to overvalue lower risk, incremental innovation
-	Bureaucratic structure with R&D division	

Source: Jackson, N.C., & Leung, O.M.C. (2018). Evidence-based management for today's 'ambidextrous' organizations. *Strategy and Leadership*, 46(4), 28–36. <https://doi.org/10.1108/SL-03-2018-0027>; Leavy, B. (2014). Strategy, organization and leadership in a new 'transient-advantage' world. *Strategy and Leadership*, 42(4), 3–13. <https://doi.org/10.1108/SL-05-2014-0038>
R&D, research and development.

the advantages, and minimises the disadvantages, of these elements concurrently. However, exploration and exploitation can require conflicting and opposing processes and structures (Jackson & Leung, 2018; Leavy, 2014; Lewis et al., 2014).

To resolve the paradoxical tensions, an organisation can choose to specialise to one side of the continuum, given in Table 1. This is feasible in vertically disintegrated industries, such as biopharmaceuticals. In opting for this strategy, an organisation is only leveraging current capabilities and is vulnerable to market and technology changes. In turn, positioning the organisation on the highly ambidextrous point of the continuum can create a failure trap because of high levels of change and low levels of efficiency. Alternatively, if an organisation's leadership can balance the paradoxical tensions, it can produce creative tension and constructive conflict. This could lead to the questioning of the status quo and initial assumptions whilst still working towards a shared common goal, ultimately enabling innovation and growth of market share (Jackson & Leung, 2018; Leavy, 2014; Lewis et al., 2014; Liu et al., 2019).

Organisational change capabilities

Different environments require different organisational structures, processes, cultures and resources. Efficiency and incremental change require more formalised structures and centralised procedures. Turbulent external environments require smaller, decentralised structures and experimental cultures (Doz & Kosonen, 2010; Luu et al., 2018; Tushman & O'Reilly, 1999). These different environments can create different perspectives of the organisational culture (Stokes et al., 2019) and require different sets of skills, knowledge and abilities (Liu et al., 2019). Leaders must be able to manage and deal with this constant change to ensure both differentiation of functions and integration for maximum value (Doz & Kosonen, 2010; Luu et al., 2018; Tushman & O'Reilly, 1999).

The theory of dynamic capabilities is grounded in the resource-based view of the firm referring to the internal resources and how these resources are utilised and reconfigured to achieve the sustainable competitive advantage of the organisation. Dynamic capabilities are categorised as either operational or dynamic (Schweiger et al., 2016). Operational capabilities refer to those capabilities required to complete routine activities and ensure the effective use of resources. Change capabilities include sensing, seizing, transforming and prioritising: sensing the need for change and possible business opportunities and seizing the opportunities by designing new business models or business opportunities that are closely related to the strategy (Schweiger et al., 2016; Uhl-Bien & Arena, 2018).

Ambidextrous leadership

During strategy execution, tensions are created where variability is minimised for efficiency in some instances and maximised in other circumstances. The strategy impacts

different organisational divisions in different ways. If the organisation aims to grow, the research and development (R&D) division might grow in numbers and funding. Operational or production divisions have the most power during times of focus on efficiency and production. Ambidextrous leaders must be able to manage different divisions within the organisational whole and also manage how the requirement from each division changes. Ambidextrous leadership is then a dynamic competence. It can be defined as the ability to recognise and engage tensions, and to identify and leverage opportunities to exploit internal and external competencies to maximise synergies between the tensions (Lewis et al., 2014; Luu et al., 2018; Probst, Raisch, & Tushman, 2011).

Strategic agility

Ambidexterity can lead to increased value for the shareholder and increased performance (Galbraith, 2008; Schweiger et al., 2016). However, having the correct capabilities to execute the strategy can only lead to increased value and competitive advantage if the strategy fits the organisational environment and resources are properly allocated. Agility reflects the ability to respond innovatively to a dynamic market. In an ever-changing market, it is imperative to maintain strategic ambidexterity through agility (Doz & Kosonen, 2010; Leavy, 2014; Lewis et al., 2014).

Lewis et al. (2014) identified leadership practices that enable strategic agility. The leader must be able to value paradox to enable the performance. The leader must create a safe working environment where employees can raise tensions and not become defensive. It is also imperative that the leader separates efforts to be able to focus on both elements of explore and exploit. However, in addition to the separation, the leader must continuously communicate the shared vision and how the separate elements support this vision (Lewis et al., 2014).

Ambidextrous structures and leadership capabilities

The organisation can be structured as a dual operating system to enable ambidexterity. One system is a management-driven hierarchy with efficiency as focus and where incremental innovation is possible. The other structure is a strategy acceleration network with agility and speed and the future as the main focus. This is the new venture business (Leavy, 2014; Uhl-Bien & Arena, 2018). The main focus of senior management is to link activities, capabilities and learnings between these two systems. There is some inherent risk to this aim as capabilities are 'mutated' when integrated into routine activities, which could eliminate their novelty (Kollenscher et al., 2017; Leavy, 2014; Srivastava & Jain, 2017; Tushman & Euchner, 2015; Uhl-Bien & Arena, 2018).

Ultimately, the consideration is what leadership style is required to create an ambidextrous enabled environment. The competing values framework gives an outline of the value drivers and leadership styles acceptable within specific

dominant cultures. This is relevant as the ambidextrous leader must understand the prevailing internal logic and individual and team identity to influence the correct strategic change. The values framework is outlined in Figure 1 (Cameron & Quinn, 2011; Kim & Shin, 2019). The framework supports the notion that organisations that have positioned themselves with efficiency and capable processes as strategic strengths have a more internal focus and require stability and control, and integration is of great importance. The leadership style most suited here is a person who monitors and coordinates. Only incremental innovation is possible (Leavy, 2014; Uhl-Bien & Arena, 2018). For the organisation to survive in the current market, however, it must balance this with the requirement to have an external focus, innovation and agility rather than stability. However, this requires a different type of leader. The framework outlines the different types of leadership styles required to manage the different focus areas within an organisation as well as the different value drivers, which will influence change logic. The organisation must be able to adapt to the external market and shift its focus between external and internal, flexibility and stability, as the market requires.

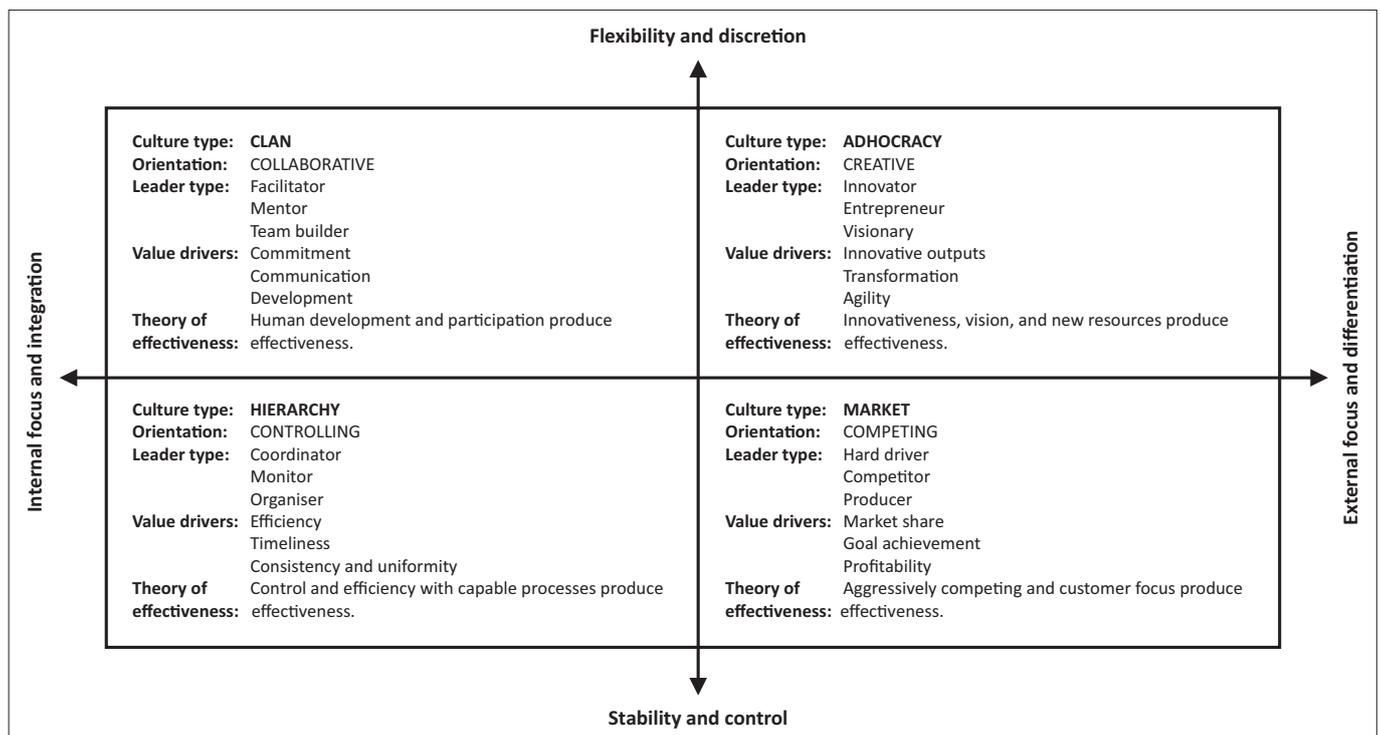
A combination of leadership styles is required to support ambidextrous individuals and the required style is impacted by internal factors such as size, geographical dispersion of teams and organisational structure. These different styles include, on the one hand, vertical leadership that arises from formal authority by appointment, and, on the other hand, shared leadership that is developed as a process within the team. Transformational leadership behaviour directs people to the shared vision, and inspires and

provides an integrated understanding of the overall goals to be achieved. Transactional leadership behaviour is predominantly task orientated, protects the team from external interference and simultaneously represents the team to external parties (Appelbaum, Calla, Desautels, & Hasan, 2017b; Jackson & Leung, 2018; Leavy, 2014; Liu et al., 2019; Srivastava & Jain, 2017).

Integration mechanisms

Ambidexterity is facilitated by separating the focus on exploring and exploiting through temporal and spatial separation. However, to fully make use of synergies and create a both/and solution, the ambidextrous units should be combined to achieve integration. Integration causes tensions. Ambidextrous leadership is the dynamic and relational capability to manage exploitative and explorative tensions towards an optimum position on the ambidexterity continuum, balancing goal achievement and relationship building.

Leaders use specific formal and informal mechanisms and practices to manage the optimal position. Formal control mechanisms include controlling the behaviour that leads to the desired outcomes as well as controlling the outcome itself. These mechanisms are enacted through a bureaucratic management style and relate to enforcing a specified pre-planned goal against a set schedule (Gregory & Keil, 2014). Formal mechanisms also include financial performance and technical reports, formalisation, and standardisation and planning (Chen & Kannan-Narasimhan, 2015). Informal control mechanisms constitute motivating employees to control themselves through the creation of an overarching goal, shared values, attitudes and ideals (Gregory & Keil, 2014).



Source: Cameron, K., & Quinn, R. (2011). *Diagnosing and changing organizational culture* (rev. edn.). San Francisco, CA: Jossey-Bass.

FIGURE 1: Competing values framework.

Research questions

The objective of this study was to explore how leaders manage the continuously changing environment as well as identify possible hindrances to create the required culture and business processes essential for ambidexterity. The study also aimed to produce a practical framework of change processes and capabilities required by leaders and how to enable these within the ambidextrous organisation:

Research question 1: How do elements of the status quo, awareness and the internal change logic of the organisation contribute to its organisational structure?

This question sought to gain an increased understanding of the organisational change logic, how leaders see the current organisational environment and the point on the ambidexterity continuum that the organisation occupies. The question also aimed to determine how the organisation is currently structured to manage the organisational shifts and changes required to both explore and exploit. The question was asked to understand how organisations are structured to deal with ambidexterity.

Research question 2: What is the change process used by leaders to manage the structural shifts that enable ambidexterity?

What current formal and informal mechanisms and processes are in place to integrate 'new venture' departments or functions or teams (referred to as explore functions) into the current core business (referred to as exploit functions), as well as any identified hindrances?

Research question 3: What capabilities do leaders require to manage the structural shifts that enable ambidexterity?

The final research question aimed to understand the capabilities used by successful leaders who are able to integrate the explore and exploit elements within the ambidextrous organisation, and to understand how the leader manages the specific structural changes required to support a sustainable business in the current market.

Research methodology

This study used an explorative, qualitative approach in which the context of human behaviour within a complex system could be understood in greater detail (Bansal, Smith, & Vaara, 2018; Creamer, 2018; Koll, Von Wallpach, & Kreuzer, 2010).

The research was conducted within a cross-sectional time horizon as the research was concerned with what was occurring at a specific point in time (Saunders & Lewis, 2012). The aim was to explore the behaviour and reasoning around organisational ambidexterity, as well as the processes and capabilities required on the part of leaders to manage the structural shifts to enable ambidexterity within the organisation.

Population and sample

To maximise the potential for overall representation, the population included different-sized organisations, organisations

within regulated and non-regulated environments, different organisational structures and cultures, as well as business processes. The sample consisted of executive, senior and middle management-level respondents. The different levels of leadership were selected because ambidexterity and the requirement to manage the changes in organisational structure play out at all organisational levels (Kollenscher et al., 2017; Uhl-Bien & Arena, 2018).

The selected organisations included two owner-managed companies (own manufacturing), an engineering, procurement and construction management organisation, and a consulting organisation, thus a total of four different organisations. The larger organisations were contrasted against smaller firms in which the rate of change may be faster. The two larger organisations had recently undergone organisational changes in anticipation of shifts in market conditions. They had also adopted specific leadership methodologies to support the new structures and updated business processes. The sample enabled rich data collection given the different firm sizes, structures and cultures. The sample allowed the researchers to explore the perception of leadership capabilities required to manage the structural changes and shifts required to remain competitive.

Following a purposive sampling technique, 11 respondents in the organisations were identified and interviewed. Respondents were eligible for the study if the respondent was on a management level of middle management or higher. The respondents also had to be part of devising the change processes, enacting it or being directly influenced by these changes. The respondents were selected from organisations that differed in size, culture (such as hierarchical and creative or collaborative), value drivers and structure.

The final sample included two large organisations and two smaller organisations. Three respondents were at a managing director or senior vice president (SVP) level. Of these respondents, one was employed within a large organisation, one in a smaller organisation and one in a consulting organisation. Two executive managers (technical and general management) were identified from the smaller organisation and three executive managers (technical and general management) were identified from the smaller organisation. Three middle management, head of department respondents, were also identified. The final sample consisted of four female and seven male participants.

Data gathering process

The measuring instrument was a semi-structured interview. The aim was to enable the interviewees to convey ideas, meaning and perceptions freely in order to better understand the researched phenomena from their personal perspective (Mojtahed, Nunes, Martins, & Peng, 2014). An interview guide was constructed and refined based on the analysis of the research problem and a clear understanding of what information was required from the interviewees (Welman, Kruger, & Mitchell, 2005).

Data analysis

A thematic analysis of the semi-structured interviews was performed to identify patterns and subsequently analyse and record these patterns for each research question (Saunders & Lewis, 2012). Codes were created and categorised based on initial findings and adjusted as required based on emerging themes from insights gained from the interviews. The list of codes was reviewed, and those with similar meanings were grouped into categories using Atlas.ti software. These categories acted as a filter to ensure only the codes from that category were visible. The final step of the data analysis was the analysis of the data within the context of the literature review and research questions and objectives, to ensure that the arguments offered and future findings presented were supported and rational (Saunders & Lewis, 2012).

Results

Research question 1. Findings: How do elements of the status quo, awareness and internal change logic of the organisation contribute to its organisational structure?

It was confirmed that in a capital-intensive industry with high fixed costs, a centralised approach is preferred. For global organisations, this would translate into global integration in an effort to decrease fixed cost. However, if there were differences and variations in products per region or local markets, or if there is strong involvement of the host government in the economic process, these forces would require local intervention (Burton & Obel, 2018; Galbraith, 2008). In organisations with a protective or preservative strategy, it was evident that the organisation needed to be aware of current capabilities, in order to be able to build on these capabilities for incremental innovation. In capital-intensive industries, the organisation must balance the requirement to minimise fixed costs and centralise decision-making with the requirement that each region or business unit must be empowered to make their own decisions, based on the industry, market, product and customer requirements:

'I still would like to think that structure follows strategy ... so if our strategy at the moment is to contain costs, I mean that is where most of the energy will go ... your structure then won't necessarily cater for a growth spurt ... [*currently we can't*] structure for new business ... this is probably more with marketing. If you have the whole income statement to look at, then your mindset is a bit more on growth and on new things, on trying to increase the margins. Whereas, if it is more operationally focussed ... you structure to ensure consistency and good discipline.' (Respondent 6, male, 20 August 2019)

Interviewees suggested that where there was a centralised approach, a very strong vision must exist of where the organisation was going to and how each unit fits into this plan. Formal integration mechanisms and strong leadership were required. In this way, efficiency is gained. However, the agility of each department to make decisions based on its own context is lost.

In knowledge industries, there was a preference for a decentralised approach. This was indicated by the respondents and also echoed the findings reported in the literature. This approach is driven by low fixed costs and a requirement to be able to meet a particular market and client requirement in different regions of the country or world. A flexible structure is vital:

'No, what we do is we set up for a specific project a set of procedures and standards and then we work accordingly. You modify the processes and procedures to fit the client need and you have to have people that are quick in making those changes.' (Respondent 8, male, 06 July 2019)

The response demonstrated how flexible work processes are in that environment. The respondent also noted:

'By deciding who is leading it and who are the names of the required persons on the job. That's the only decision we make [*as directors*]. The rest is managed by the project team themselves ... we have to strategize the organisation to support whatever work that is available.' (Respondent 8, male, 06 July 2019)

This organisation also hired in any expertise that was required for a specific project, which they did not have internally. The organisation then changed the focus and structure as required by the client.

The perception of each respondent as to their business unit or organisation's position on the ambidexterity continuum was plotted against their decision-making positioning, either centralised or decentralised. It was expected that an ambidextrous organisation would have a centralised approach within the exploit department and a decentralised approach within the explore department. Where interviewees were able to respond to this proposition, they were able to confirm that this occurred. They also proposed that the alignment between these two approaches must occur at an executive level. A centralised approach within a highly ambidextrous environment would require a substantial amount of time and focus by leadership, when compared to a decentralised approach. This is the case because of the requirement for clear roles and responsibilities, prioritisation and alignment activities that must be completed by leadership. This would also be crucial where an organisation wanted to move from low to high ambidexterity.

Research question 2. Findings: What is the change process used by leaders to manage the structural shifts that enable ambidexterity?

The integration mechanisms noted by most participants included committees for alignment and decision-making, organisational structure, work processes and culture. The mechanisms utilised within their relevant organisations that worked but caused anxiety included organisational structure, team composition and centralised or decentralised decision-making.

In small, knowledge-based ambidextrous organisations, with flat organisational structures, it was relatively easy to ensure

that the organisational structure remained flexible. Such an organisation would be mainly externally, or market, focused and would adjust according to market requirements. The upskilling of resources, allocating resources to the correct projects, and having the networks to insource skills as required was the focus. There was also a culture of empowerment and ownership. To ensure internal stability, the organisations would create one identity, utilising artefacts such as office furniture and intangibles, for example, values.

From the interviews, it became evident that integration takes up more managerial time and energy for larger organisations. The culture and type of resources that are employed within the explore divisions are very different from the people employed in the exploit divisions. The work processes also differ significantly. Ultimately, it remains the responsibility of the chief executive officer to balance the paradox. Nevertheless, the role that senior and middle management played in balancing the paradox on their respective levels becomes more prominent. Interviewees emphasised that this balancing cannot be left to the behaviour of individuals. The organisations must implement processes to govern the integration of explore and exploit functions. However, this can create the duplication of structures and cause friction between departments. Another concern raised by the respondents was that these integration processes slowed down the decision-making process and added levels of governance, especially in a cash-constrained environment. If the decision-making is taking place at a high level, it becomes a political game of alliances instead of purely business decisions to balance the paradox.

Complex businesses tended to formally structure for strategic imperatives, centralised decision-making and then decentralised once a specific competency was developed within the organisation. It was imperative that the leadership understood that additional communication, strategic alignment and clarification of roles and responsibilities were required during this time.

Research question 3. Findings: What capabilities do leaders require to manage the structural shifts that enable ambidexterity?

The findings regarding this research question indicated that the leader needed to understand the business environment to deal with the changes required for ambidexterity. The respondents stated that leaders must have the business acumen to understand the internal and external context of the business, the specific risks, competitive environment and client requirements. This would ensure that the leaders could support the strategic imperatives within their decision-making processes. It would also ensure that the leader had an understanding of the changes made by executive management. Leaders must also take ownership of strategy. If the changes made, or the strategy followed, did not align with the current capabilities of the division or the market sentiment, the manager must communicate this gap to senior management.

Stakeholder management was identified as crucial to ambidextrous organisations. The leader must be able to manage expectations, especially in an exploit-focused organisation. Leaders must understand the priorities of their own environment as well as that of others to prioritise work to support the overall business strategy. Leaders are enabled to influence and persuade other stakeholders based on their priorities. Proper stakeholder management, teamwork and collaboration can lead to increased innovation, improved performance and a more stable internal environment amidst the changes.

Empowering teams was highlighted as a way that leaders dealt with an ever-changing environment. Even if it was not the natural inclination of the leader, they must trust the work process and the team to deliver the results. To empower the team, the leader might have to shift resources around either to build their skillsets or to utilise their specific skillset within a particular environment. The leader sets the end goal. However, the team determines the incremental milestones and how to achieve these. The leader cannot be controlling or micromanaging.

The respondents identified aspects that they believed would enable a leader to manage the structural changes required to support ambidextrous organisations. These aspects included the understanding that resources that naturally explore or exploit are different. Leaders must be able to respect and manage these different personalities, trust the team and the process, be a critical and conceptual thinker, and be a risk taker. Other aspects that would enable the leader to manage the structural changes include personality traits such as an individual who can work in uncertainty is passionate about improvement, sees opportunity in gaps, takes ownership of the business strategy, is a dreamer, has the ability to build the required team with the required skillset, is able to harness the skillset of the team and be open-minded.

Discussion

This study set out to, firstly, understand how elements of the status quo, awareness and internal change logic of the organisation contributed to its organisational structure.

The ambidextrous nature of an organisation ultimately influences how it deals with change, which is referred to as its change logic. Change logic refers to the decision rules prevalent in the organisation: the internal, unwritten assumptions and beliefs held regarding change. It also refers to how learning takes place (e.g. through experimentation) (Schweiger et al., 2016). It is difficult for a person to balance the ambidexterity paradox. Leadership puts systems and structures in place to manage a specific ambidextrous expectation.

Interviews for this research were evaluated based on three themes, namely, the ambidexterity continuum, strategy and organisational structure. Positioning on the ambidexterity continuum was based on feedback regarding market requirements, explore versus exploit focus and need for

innovation (Leavy, 2014; Tushman & O'Reilly, 2011; Uhl-Bien & Arena, 2018). Organisations' strategies were evaluated based on the need for ambidexterity within different settings (Jackson & Leung, 2018). The organisational structure was assessed according to whether the organisation had a mainly centralised, decentralised or flexible structure and how it changed based on market requirements (Cameron & Quinn, 2011; Leavy, 2014; Tushman & O'Reilly, 2011).

Organisations focused on exploit function were most likely to follow a centralised decision-making process and structure. In industries where the external market is turbulent, organisations required smaller, decentralised structures (Doz & Kosonen, 2010; Tushman & O'Reilly, 1999). Respondent 6 aptly put it as 'I'd still like to believe that structure follows strategy'. An organisation must be designed so as to ensure that, based on the external environment, all internal elements are aligned to ensure a strategic advantage (Cummings & Worley, 2015).

Four respondents perceived themselves to be working in an organisation or department with decentralised decision-making structures. These were mostly the smaller, services organisations as well as the business development department within a larger organisation, which had a strategy to grow through mergers and acquisitions.

The centralised approach was prevalent in capital-intensive industries, striving to drive down fixed cost. However if there were substantial variations in products sold to regional markets or if there was a strong involvement of the host government, the organisation required a decentralised approach (Burton & Obel, 2018; Galbraith, 2008).

For organisations with a centralised decision-making approach, it was clear that they must have a stronger future vision that should be disseminated through the organisation. It was also clear that each department must understand how it plays a role in this vision. Formal integration mechanisms and strong leadership were key aspects.

Formal integration mechanisms

The study next set out to identify what is the change process used by leaders to manage the structural shifts that enable ambidexterity.

Management at each level of the organisation had to be able to manage the paradoxical stresses and continuous tensions between explore and exploit, to enable ambidexterity. The respondents were asked to identify the formal and informal integration mechanisms utilised in their departments and organisations to integrate explore and exploit focus areas.

According to Galbraith (2008), formal coordination mechanisms have more power and authority to get things done when compared with informal mechanisms. Formal mechanisms increase the requirement for leadership intervention, alignment and communication of the overarching vision. It is incumbent upon each leader to

communicate the vision and translate this into objectives for the specific department or team, to create the tension required for innovation to emerge (Kollenscher et al., 2017; Uhl-Bien & Arena, 2018).

Formal integration is possible through reporting, such as technical and performance reports, as well as formalised and standard planning activities (Chen & Kannan-Narasimhan, 2015). A specific organisational structure and how capabilities are formed also facilitate integration. This is based on organisational theory that dictates that the business model informs the organisational structure that dictates human behaviour as well as how capabilities are formed (Altmann & Lee, 2015; Cameron & Quinn, 2011; Tushman & O'Reilly, 2011). The formal integration mechanisms were determined to be team composition, work processes, organisational structure and centralised or decentralised decision-making.

It was found that in small, knowledge-based organisations, with flat organisational structures, it was relatively easy to ensure integration. The organisational structures were flexible. There was a specific core set of rules that had to be adhered to. Teams were empowered to make decisions and determine their own project- or team-specific operating procedures and processes. This refers to operating procedures and processes unique to a project or team and supplements the core set of rules that must be adhered to by all teams within the organisation. The organisations were externally, or market focussed, and processes and procedures were updated as per the client or project requirement. Managers were focussed on the teams and their capabilities, matching these to the projects and also upskilling through exposure to different projects. Where the organisations required a different skillset, the respondents reported that leaders must utilise their existing networks to contract these in.

Teams were empowered to acquire any required new technical capabilities, to implement the innovations required by the organisation and to meet the strategic objectives or stretch targets set by senior management. There was a culture of empowerment and ownership. With this amount of constant change, internal stability was required for resources to work efficiently. This was ensured by creating one identity, utilising artefacts such as office furniture and intangibles like values.

Integration took up more managerial time and energy for larger organisations as these organisations were generally more complex, and had more stakeholders to consider. It was clear from the findings that the role that senior and middle management played in balancing the ambidextrous paradox on their respective levels became more prominent in larger organisations. It fell to these managers to translate and communicate the overarching vision into their departments. It was also within their mandate to create the required environment to support the strategy and position on the ambidextrous continuum. This was required even though it might not come naturally to every manager. Or, the manager might still be in the process of acquiring the required skillset. Respondents in this study noted that balancing the

ambidextrous paradox is a learnt skillset, and they had to learn to trust the process.

It made sense that organisations implemented processes to govern the integration of the explore and exploit elements. However, respondents noted that some integration processes and additional governance hindered the workflow and capital approval processes for projects. Hindrances included duplication of structures that also lead to friction between departments. Another concern raised by the respondents was that the additional governance and formal integration processes slowed down the decision-making process. The added levels of governance decreased efficiency and added to frustration, especially in a cash-constrained environment. A concern was raised that if the decision-making takes place at a too high level, it becomes a political game of alliances instead of purely business decisions to balance the ambidexterity paradox.

It was clear that complex businesses tended to formally structure for strategic imperatives, centralise decision-making and then decentralise once a specific competency is developed within the organisation. It is important that leadership understands that additional communication, strategic alignment and clarification of roles and responsibilities are required during this time.

One of the most significant executive management dilemmas to solve in an organisation that functions more at the exploit end of the continuum is to find the correct pace, intensity and rate of exploration (Tushman & Euchner, 2015). It is incumbent upon leaders within the organisation to 'take ownership of [their] ability to steer and influence strategy'. This supports executive management to understand the capabilities within the organisation, as well as the external environment that each level of manager is exposed to. Executive management can then better relate this to their vision of the organisational strategy (Altmann & Lee, 2015).

Informal integration mechanisms

Different organisations achieved different levels of internal complexity. The complexity and turbulence of the external environment also differed together with the specific position of the organisation on the ambidexterity continuum. Based on these complexities, managers can use a specific set of informal integration mechanisms. More complex situations could require stimulating group discussions with diverse disciplines, boundary spanning, creating a culture where mistakes are accepted, valuing diversity and connectedness and giving freedom to innovate (Havermans et al., 2015).

The senior team had to be able to accommodate two very distinct and different cultures: one of exploration and freedom to make mistakes, and the other of exploit, discipline and continuity (Liu et al., 2019; Stokes et al., 2019; Tushman & Euchner, 2015). It was evident that integration can cause tensions. To minimise tensions, it was found that management must proactively identify and raise tensions, avoid the traps

of anxiety and defensiveness, as well as consistently communicate a both/and vision (Lewis et al., 2014).

Respondents in this study identified a number of informal integration mechanisms. These included culture, collaboration, time, overarching vision, seeking different viewpoints and relationships. In the more ambidextrous organisations, there was a clear culture of experimentation and the allowing of mistakes. However, in capital-intensive organisations that were less ambidextrous, the culture was significantly different. Mistakes were not allowed. This was especially the case where the organisation was operating in a cash-constrained environment. Although respondents noted the important requirement that explore activities had to be 'protected' (or allowed), they stated that very little room for error was allowed. In these cases, it seemed that senior management was not always able to balance the ambidextrous paradox or communicate priorities to all departments. In these cases, leaders had to take ownership to communicate concerns and opportunities to executive management to rectify any misalignment.

Leaders made use of informal integration mechanisms informed by the complexity of their environment, increased complexity in the business environment, the increased number of stakeholders who must be involved and boundaries that must be spanned. Respondents noted the importance of spending time on building relationships, with face-to-face interaction still being a necessity. The focus of leadership was not only on putting together the optimal team for the task. Rather, it had to be constantly cognisant of the positioning of the organisation and the team. This enabled leadership to have one-on-one discussions to ensure upskilling and continuous growth to match the organisational requirement and external environment.

Leadership capabilities

Research question 3 aimed to address the understanding of the capabilities used by leaders to manage the required changes to integrate the explore and exploit elements. The question was asked to illuminate the competencies needed for the constant structural changes within the ambidextrous organisation.

Some of the informal integration mechanisms noted above can be applied to this question as these mechanisms are the prerogative of the leader, influenced by the specific organisational environment. To support their teams in dealing with the constant change, leaders must create a shared vision and ensure that people have the necessary resources, skills and tools required to execute the work, and there must also be processes available to express concerns (Appelbaum et al., 2017b; Lewis et al., 2014; Liu et al., 2019; Stokes et al., 2019). Leaders must also clarify strategic priorities and ensure that they identify and manage the competing demands inherent within their specified goals (Uhl-Bien & Arena, 2018). The organisation must not rely solely on the discretion of the leader. There must be a

knowledge and managerial infrastructure in place to push solutions to the core business and pull the required information into the new venture (Chen & Kannan-Narasimhan, 2015).

The personal skillset of the leader needed to manage the structural changes required to support ambidextrous organisations was identified as follows: the understanding that explore and exploit resources are different and be able to respect and manage them, teamwork, being a critical thinker and being open-minded.

In addition, leaders must have business acumen. This is required to understand the internal and external organisational environments, specific risks, the competitive environment, client requirements or possibly government policy changes. Business acumen allows leaders to translate the strategic vision and support them in making decisions in a decentralised decision-making structure. In a centralised decision-making structure, it enables the leader to question the relevancy of the current strategy.

Stakeholder management was identified as crucial to ambidextrous organisations. Specifically, it was identified that expectation management and the ability to influence are crucial for the leader to be able to manage constant change. The cost, timeframe and gains from exploit activities were relatively easy to quantify. Explore activities were less defined, took longer time and the outcome could not be guaranteed. Expectation management would minimise the pressure from executive management, and other departments, on the team.

The leader must be able to understand the priorities of their environment as well as other departments to influence management to support explore activities. This also required the ability to defend the current explore activities, to ensure that it was not stopped and resources removed. Defending explore activities was found to be of greatest importance in organisations that overvalued exploit activities. Stakeholder management, teamwork and collaboration led to increased innovation and effectiveness. It also enhanced understanding of how each department fitted into the strategic imperatives that made the flow and changes of resources easy to support. In essence, it created a stable internal environment with external agility.

The fourth capability required by leaders was their ability to empower teams. The focus of the leader must be on assembling a team with the right skillset for the task, and the ability to source in skills where required. The leader must also be focussed on developing and enhancing the skillsets of team members by giving them exposure to different projects and tasks, enhancing organisational capabilities. The leader must then trust the process (business process for innovation or execution) even if it is not the natural inclination of the leader. The leader must enable and then trust the team to deliver results within the governance framework of the organisation (Liu et al., 2019).

In summary, this study aimed to understand how the organisational change logic informed the organisational structure, what change processes were used to manage structural shifts that enable ambidexterity and what leadership capabilities were used by leaders to handle the constant structural changes.

From research question 1, it was found that the strategy of an organisation will have a different effect on specific departments. For example, in the case of a growth strategy, the R&D department will grow and less cash flow will be made available to the current production units. It was thus possible to find a centralised approach and structure even in an organisation placed on the high end of the ambidexterity continuum. The effect of this was resources had different perceptions of the organisational ambidexterity and change logic based on their specific environment.

Research question 2 illustrated that leaders in smaller, knowledge-based organisations with flatter, decentralised structures found shifts in the structure more of an everyday or regular occurrence. In more capital-intensive industries, where a centralised approach was prominent, these shifts were seen as once-off or a major event and more difficult to deal with. In both cases, it was found that it was imperative that the leader and teams perceive themselves as empowered to gain an understanding of the strategy and the current capabilities within the team. Thereafter the leader and team must be able to develop the required capabilities and make the necessary decisions to deal with the changes required to support the strategy. The requirement for a common goal, strategic alignment and clear roles and responsibilities was also evident.

The final research question sought to understand the capabilities used by leaders to handle the constant structural change. The respondents identified the requirement for stakeholder management, business acumen and the understanding that explore and exploit environments attract different personalities, knowledge and skillsets. The leader must be able to respect these differences and manage them. Other capabilities identified were to be open-minded and be a critical thinker. The final capability identified was that of empowering the team. As the leader should be empowered, so should the leader be able to empower the team.

Conclusion

The literature review highlighted the ubiquitous nature of change for organisations in the current uncertain and complex world of globalisation and new technologies. It was also clear that many firms continue to operate within their current, stable, business model of efficiency (Leavy, 2014; Lyons et al., 2011). This is especially true in regulated industries where long-run profitability is still possible through incremental innovation (Jackson & Leung, 2018; Leavy, 2014). However, innovation and change are essential

in this environment for sustained profitability. Organisations hence face an ambidexterity paradox: to explore and exploit simultaneously. Ambidexterity cannot be conceptualised as having to be at only one end of a spectrum, but rather as a continuum where the organisation must ensure that it is positioned correctly (Uhl-Bien & Arena, 2018).

To remain relevant, organisations can utilise the ambidexterity continuum as a vehicle to understand the current organisational change logic and required future strategy. However, explore and exploit activities require very different processes, structures, cultures and leadership styles (Kollenscher et al., 2017; Kotter, 1995; Leavy, 2014).

The organisation must be able to balance the requirement of internal stability and external agility. When considering the organisational structure required to support ambidexterity, organisations currently utilise temporal and spatial division to balance explore and exploit activities. Hence, elements are integrated to ensure a both/and solution (Chen & Kannan-Narasimhan, 2015; Uhl-Bien & Arena, 2018).

This research study was situated in the theory of ambidexterity as well as organisational design theory. Effective ambidexterity requires management to be aware of many elements within an interconnected network and to ensure that these elements are continuously aligned as the internal and external environments change.

Management at every level within the organisation must be able to balance the paradoxical stresses and continuous tensions between explore and exploit elements. To enable this, organisational structure must focus on each element separately, followed by integration. This study aimed to understand how organisations integrate the separate elements, and what formal and informal integration mechanisms are used within the respective organisations and business units. The mechanisms that the respondents identified were grouped into themes and incorporated into the framework depicted in Figure 2, together with the skills required by leaders to manage the structural and other changes required for ambidexterity.

Leaders can use the leader capability framework in Figure 2 to study the nuances and differences between the two-core operating models, the capabilities required for each operating model and the capabilities required for integration. It is incumbent upon each leader and manager at each level of the organisation to understand where the organisation or department is on the ambidexterity continuum and what the current change logic is, to understand the impact of changes in relevant elements of the external environment and then be able to ascertain how the internal elements within the leaders control should align according to these requirements. This context will enable the leader to support or improve any changes in structure for ambidexterity. Leaders should also

take note of the capabilities required to manage these continuous changes.

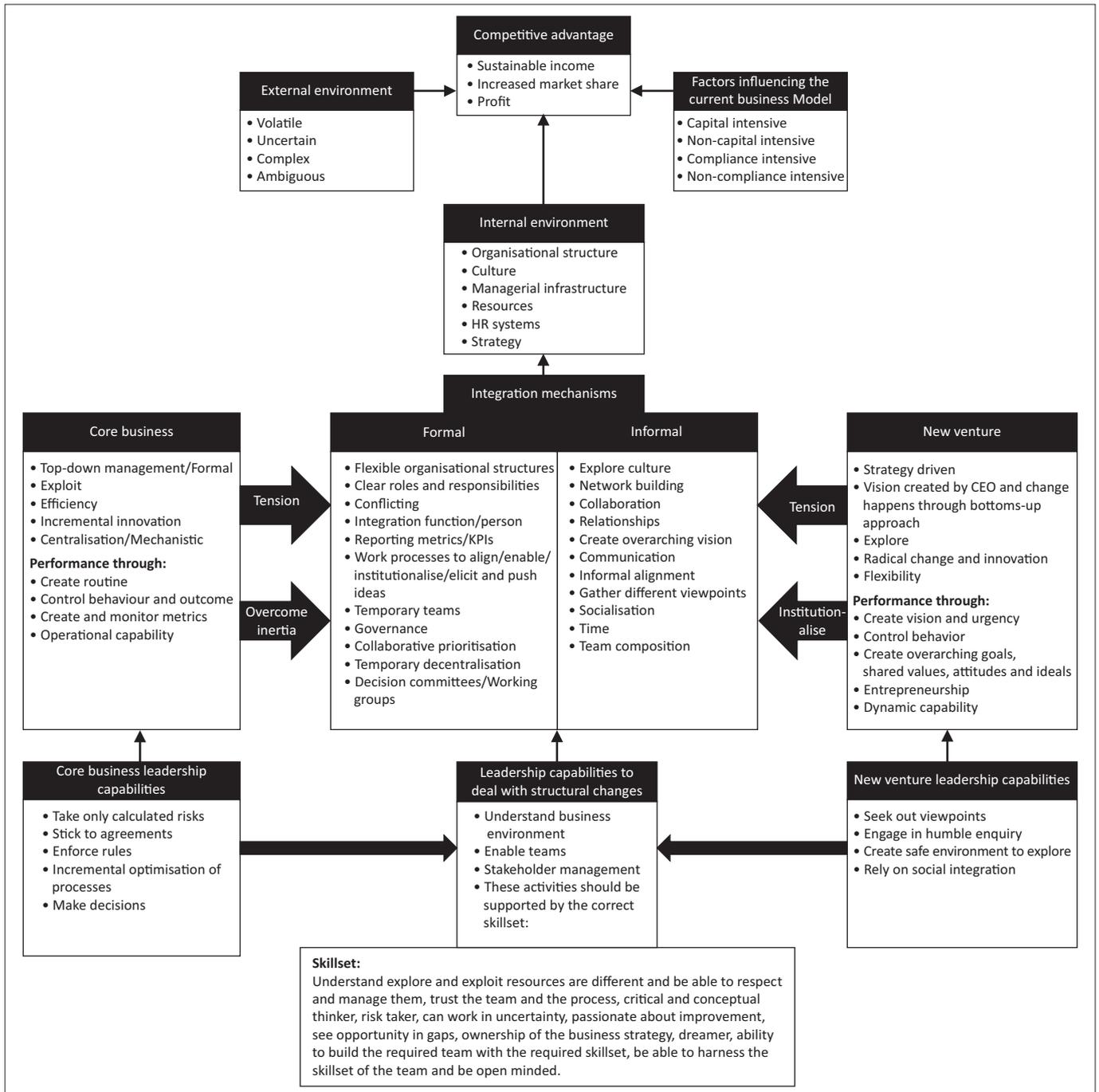
Strengths of the research

The aim of this research study was to understand how the leadership of an organisation can ensure a simultaneous focus on both efficiency and innovation (also known as exploit and explore). The research study also aimed to understand the leadership capabilities and skillset required to manage the structural and other changes required within the organisation to remain competitive. A qualitative, exploratory study through semi-structured interviews was conducted to enhance the understanding of this understudied phenomenon. Respondents from four different organisations were interviewed. As part of the study, the larger organisations were contrasted against the smaller organisations as the rate of change in each could differ significantly. The organisations were made up out of different sizes, cultures and organisational structures.

A model was conceptualised, based on the research findings, that outlined the skillset and leadership capabilities required to manage the different processes and structures within the core and new venture businesses. It also considered how the leader should deal with the changing focus between these two businesses. The model highlights the differences in leadership capabilities required within the core and new venture businesses based on the different change logic, culture and processes of the different departments. The distinct informal and formal integration mechanisms employed by organisations to institutionalise the new venture learnings and overcome inertia within the core business are also outlined within the model. The main capabilities required by the leader to deal with the changes required to support these mechanisms include understanding the business environment, enabling the team and stakeholder management. These capabilities must be supported by a specific skillset that includes being a risk taker, being able to work in uncertainty, harnessing the skillset of the team and being open-minded. As not all leaders will naturally have these capabilities and skillsets, this model can support a business in a focussed approach to employ and train the leaders of today and the future on how to manage the change required within an ambidextrous organisation.

Limitations of the research

This research study followed an exploratory research design with semi-structured interviews with 11 respondents. Because of the nature of qualitative research, there is a possibility that the findings could include the perspectives of the researchers. However, with focus on data validity and reliability, the researchers attempted to remain objective. The ability to draw a definite conclusion from the study is limited by the qualitative, exploratory research design that was not



HR, human resources; KPI, key performance indicators; CEO, chief executive officer.

FIGURE 2: Framework of leadership capabilities to support structural changes.

followed up by a quantitative study. The sample consisted of employees from four different organisations. Although these organisations are from different industries, it might not represent all industries.

Future research opportunities

It is recommended that the qualitative study should be followed up by a quantitative study to confirm or reject the findings of this study. Based on the differences discovered in capital-intensive and knowledge-based organisation, it could be beneficial to focus on the context-specific nuances of

organisations and how that influences the successful implementation of ambidexterity of each level within the organisation. These nuances could include the organisational complexity and regulatory environment. Additional research is required to understand how the individual mindset shift can be achieved to make resources used to working in an exploit organisation more adaptable, or susceptible to explore activities and processes. It was also clear from the findings and literature that one of the greatest concerns for executive management is to find the correct rate, pace and intensity of exploration, given the certainty of profit today and compared to the uncertainty of future gains.

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Authors' contributions

L.B. undertook the research under the supervision of K.H.

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Data availability

The authors confirm that the data supporting the findings of this study are available within the article.

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