Gordon Institute of Business Science
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Propensity for Participative Decision Making as an enabler of Strategic Agility

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A research project proposal submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for the degree of Master of Philosophy on Corporate Strategy.

25 November 2024

Abstract

Strategic agility necessitates rapid adaptation to change, which is best achieved through flexible organisational structures that promote, collaboration, decentralized decision making, and employee empowerment. The practical implications of strategic decisions and choices must be understood by managers as the decisions managers make can have significant consequences for the organisations ability to respond to environmental change and disruption. Participative decision making, with its emphasis on collective intelligence, decentralised power and rapid response to changing circumstances, is a key component of a flexible model.

This paper explores strategic agility and whether strategic agility is improved when there is a greater propensity for participative decision making. The paper then delves deeper into decision making with focus on Participative Decision Making and the factors that influence participative decision making.

A quantitative survey approach was used from respondents, employed within South Africa. The Participative Decision Making scale included four constructs: Organisational effectiveness; Power; Organisational Culture and Management Commitment. The interplay between these constructs and the interplay between Participative Decision Making and Strategic Agility was assessed to draw any relationship between Participative Decision Making and Strategic Agility. Other variables such as gender, age, experience and seniority in the organisation were also assessed to establish whether respondents views varied depending on these variables.

Keywords

Strategic Agility, Participative Decision Making, Culture, Commitment, Power

Declaration

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

25th November 2024

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Chapter 1: Introduction

1.1. Background

In volatile environments, the need for rapid adaptation favours Participative Decision Making (PDM) because it shortens decision cycles and enables swift implementation (Wohlgemuth et al., 2019), further research on PDM supports the view for the inclusion and participation of all levels of employee in the strategic decision making process, which creates alignment between the “behaviours and attitudes” (p. 70) of managers and their subordinates (Lowin, 1968). Hierarchical structures, with their layers of approval and slow communication, are ill-suited for rapid response. PDM empowers employees closest to the problem to contribute to the solution, accelerating the overall response time.

Levels of uncertainty has been significantly amplified as the global economy has evolved and become more interconnected, facilitating the spread of both disruptions and opportunities for businesses worldwide. Managers need to make decisions that are essential for reallocating not only financial resources but also technical skills, while also considering the interests of stakeholders both inside and outside the organisation (Teece et al., 2016). More recently, a press release issued by the United Nations Conference on Trade and Development (UNCTAD), emphasized how critical it is for the shipping industry to make rapid adaptations to allow the industry to “navigate the rapid reshaping of global trade dynamics” (United Nations Conference on Trade and Development, 2024, para. 12). Ernst and Young Global Ltd. identified “trading disruption” (para.5) as an emerging theme, identifying factors such as, trade disputes, technological advancements, geopolitical and economic instability as reasons for high levels of disruption stating that decisions should be informed by the data available to allow sound decision making (Ernst & Young Global Ltd., 2023).

Strategic agility is vital in cultivating responsiveness and to proactively reconfigure resources (Weber & Tarba, 2014), it is an organisation’s ability to execute on decisions made by managers in order to remain relevant and maintain a competitive advantage that will ensure that shareholder value remains the aim of strategic leaders (Heracleous et al., 2023). Kale et al. (2019) confirms that strategic agility increases performance when organisations can respond quickly to environmental changes.

1.2. The Research Question

Studies have been performed on PDM as well as strategic agility, however the relationship between PDM and strategic agility has only been implied in these studies. Parnell and Crandall (2000) conducted a study to refine the PDM scale, however the study only indirectly associated strategic agility with PDM, by suggesting that PDM is a long-term philosophy requiring fundamental organizational change and adaptability. However, the study does not explicitly explore the relationship between the refined propensity for PDM scale strategic soecifically.

Eisenhardt and Zbaracki (1992) reviews paradigms in strategic decision making and concludes that a realistic understanding of the strategic decision-making process is essential for improving organisational performance and adaptability in turbulent environments. Strategic agility (flexibility) is an organisations skill that enable it to respond quickly and effectively to change, thereby addressing environmental change quickly and decisively (Brozovic, 2018). According to Teece et al. (2016) agility is not constant in an organisation, but it is a capability that is built through strong dynamic capabilities. Organisations with strong dynamic capabilities are often able to make more favourable trade-offs between efficiency and agility, when faced with turbulence in their environments.

Bernstein and Barrett (2011) argues that true strategic agility is not just about responding to change, but it's also about proactively building the capacity to adapt and learn continuously, moving beyond reliance on established routines (exploitation) and embracing exploration and experimentation. When true agility exists, the decision-making process is dynamic and less structured than traditional approaches.

Dynamic capabilities allow organisations to leverage, reconfigure and exploit resources to respond to a changing environment, but also to prevent the inertia that comes with success (O'Reilly & Tushman, 2008). Managerial cognition is a key dynamic capability which allows managers to make crucial decisions in times of uncertainty, yet even strong dynamic capabilities can be compromised by poor direction on the part of management (Teece et al., 2016).

1.3. The Research Problem

Describing the environments within which organisations operate and compete in, as turbulent, chaotic, unpredictable, and ever-evolving, scholars note that strategic agility is not only the ability to adapt and innovate (Shams et al., 2021), but to be able to change and refresh resources and competencies, allowing the organisation to appropriately respond to environmental change (Teece et al., 1997).

Managers need the ability to make sound and decisive decisions when faced with the uncertainty of a highly complex and evolving environment, while at the same time continuously reassessing the decisions made (Y. Doz, 2020). When circumstances shift unexpectedly, past experiences may not serve as reliable indicators for the future and Laureiro-Martínez and Brusoni (2018), suggest that it is “cognitive flexibility” that allow managers the capability to discern when to depend on established habits and when to seek new approaches. In addition, managers who exercise cognitive foresight, value diversity and actively seek participation by integrating different views in the decision making process. Leveraging off shared purpose, cognitive flexibility, foresight (Laureiro-Martínez & Brusoni, 2018) and decentralized collaborative data driven decision making processes (Tandon et al., 2024), managers will be able to respond to turbulence and change by making sound and timeous decision as to how to leverage the orgaisations dynamic capabilities and enable organisational ambidexterity (O’Reilly & Tushman, 2013).

According to Tandon et al. (2024) agile decision making is characterized by speed and flexibility, as managers are under pressure to make effective decisions, usually without complete information, in a decisive and timely manner to respond to opportunities and threats presented in turbulent environments. O’Reilly and Tushman (2008) propose that in addition to distinct skills, processes and structures, decision rules are also key in creating agility and ambidexterity for organisations. They suggest that decentralizing control, encouraging feedback from the workforce, and creating a culture that invites debate and honesty will strengthen dynamic capabilities of sensing and seizing. The speed at which organisations adapt is influenced by decision rights, and the extent to which decisions are centralized or decentralized (Chen et al., 2019).

When organisations experience changes in their environment, the way in which they choose to respond and adapt to change will ultimately determine the survival or failure of the organisation. While strategic agility is needed to allow organisations to respond

to environmental turbulence, dynamic capabilities are core to the reasons as to how organisations survive in times of turbulence (Wohlgemuth et al., 2019). PDM allows managers to leverage off dynamic capabilities and create strategic agility fast and efficiently.

1.4. Research Aims and Purpose

“Turbulent environments pose complex challenges for decision makers” (Carmeli et al., 2009, p. 697), the potential for flawed decisions being made due to uncertainty, a lack of information, or incomplete information results in a complex set of circumstances within which managers are required to make decisions regarding the best action to take. It is improbable for an organisation to change strategy, structures, and processes unless there is pressure exerted from either the internal or external environment (Waddock, 2020).

This research aims to provide an understanding of how the propensity for PDM withing organisations facilitates the creation and leveraging of strategic agility. An understanding of the decision-making capabilities required and the influence of these capabilities on an organisation’s ability to build strategic agility is critical to creating a sound, agile strategy that will allow managers not just to respond, but to respond appropriately, swiftly, and decisively, allowing the organisation to remain relevant, adjust to circumstances and create a competitive advantage in the process.

1.5. Significance of the Study

Several factors, such organisational effectiveness, organisational culture, management commitment to PMD and managerial power, all facilitate PDM (Parnell & Crandall, 2000). Studies have been performed on PDM and to assess whether it enhances decision effectiveness, employee and management attitudes and behaviours, culture, and consequently organisational effectiveness (Carmeli et al., 2009; Schweiger & Jago, 1982; Stanton, 1993). However, there have been studies that critique PDM and offer the view that the role of PDM is dependent on the form and degree of PDM, there is further critique of studies conducted to test PDM as a construct, however these tests did not yield conclusive results (Cotton et al. 1988; Elbanna, 2006; Stanton, 1993).

Eisenhardt and Zbaracki (1992), suggest that "central among strategic process issues is strategic decision making. It is crucial because it involves those fundamental decisions which shape the course of an organisation" (p. 17). The intent of this study was to understand the link between the propensity for PDM and strategic agility.

1.6. Scope of the Study

This study tested several hypotheses to understand whether PDM positively affects an organisation's ability to develop strategic agility. The study draws on scales used in previous studies conducted by Tallon and Pinsonneault (2011) and Tallon (2008), where strategic agility was tested using scales previously developed by Johnson et al. (2003) to test market focused strategic flexibility. The study by Tallon and Pinsonneault (2011), highlights the importance of strategic alignment and agility being "concurrent organisational goals" (p. 463) required for rapid response to change.

PDM scales were used from previous studies conducted by Parnell and Crandall (2000) which was an adaption of the original scales designed by Parnell and Bell (1994). The original scales included constructs of organisational effectiveness and power. The new scales included constructs that the authors identified as having a significant influence on PDM, these being culture and commitment factors. Parnell and Crandall (2000) tested the enhanced PDM scales, and the findings supported the hypotheses that a manager's propensity for PDM could be viewed with the lens of the four dimensions included in the scale: the original constructs of organisational effectiveness and power; and the added constructs of organisational culture and management commitment.

While several scholars have conducted studies on PDM and its various theories, concepts, and constructs (Black & Gregersen, 1997; Carmeli et al., 2009; Cotton et al., 1988; Parnell & Crandall, 2000; Wohlgemuth et al., 2019) these studies largely apply to PDM as a construct, the factors that impact the propensity for PDM and the effects of PDM on performance. Despite the available literature in support of PDM and literature that critique PDM, there appears to be no studies have attempted to understand the link between PDM and strategic agility and Carmeli et al. (2009) invites further research into how PDM facilitates a response to organisational challenges and change.

The constructs included in the strategic agility and PDM scales all fall within the definitions of dynamic capabilities. With dynamic capabilities in mind, this study attempts

to draw the link between PDM and strategic agility. The impact of PDM on how an organisation leverages these dynamic capabilities to create strategic agility is examined in more detail followed by a brief discussion of the obstacles to PDM. Table 1 provides an overview of the topics that are covered in the rest of this paper:

Table 1: Overview of the study

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Chapter 2: Literature Review (Order of model)

Scholars agree that strategic agility is the ability for an organisation to adapt and reconfigure resources and competencies, allowing it to respond to changing environmental factors, and to do so with relative speed and decisiveness (Ahammad et al., 2020; Heracleous et al., 2023; Kale et al., 2019; Laureiro-Martínez & Brusoni, 2018; Shams et al., 2021; Teece et al., 2016). According to Eisenhardt and Zbaracki (1992), central to the definition of strategic agility is management decision making since strategic decisions fundamentally shape the future of the organisation.

Suggesting that decision makers are "rational, but only boundedly so" (p. 18), Eisenhardt and Zbaracki (1992) critique existing paradigms in strategic decision-making research and propose that future research agendas address complexities of cognition, conflict, and power in the context of strategic decision-making. These constructs are not vastly different from those constructs that have been identified by Parnell and Crandall (2000) in their study of PDM. Elbanna (2006) supports the view of bounded rationality, arguing that complete rationality is often unattainable in the context of reality and environmental factors which will ultimately influence the effectiveness of decisions.

PDM can be considered a construct that composes of several distinct forms differing in formality, directness/indirectness, level of employee influence, content of decisions, and duration Cotton et al. (1988). Agreeing with this view, scholars note that PDM is not a one-dimensional construct, but that PDM is a product of multiple factors that will influence the success or failure of PDM (Black & Gregersen, 1997; Cotton et al., 1988; Parnell et al.; 1991). The study conducted by Cotton et al. (1988), even though acknowledged to having its limitations, emphasizes that the effectiveness of PDM is strongly contingent on its form and implementation, and that different forms implemented differently in different contexts yield different results. Stanton (1993) analysed 450 articles published between 1986 and 2009 in an attempt to synthesize the literature on employee participation, the resultant view from this synthesis supports the multidimensional evaluation by the scholars mentioned above and argues against a universal endorsement of employee participation, but advocates for a contingency approach that considers situational factors and employee characteristics, suggesting that optimal decision making style depends on various factors like employee competence, organizational culture, and the nature of the decision being made.

Decision making, decision rights and related activities could be impacted by the business model which informs whether decisions are centralized or decentralized (Chen et al., 2019). Although co-ordination creates synergies, business models with high levels of co-ordination could limit flexibility and create rigidity. It is important to note though, that a flexible business model alone does not significantly result in improved performance; instead, decisional flexibility is essential for driving performance. A flexible business model creates the context which facilitates decisional flexibility (Oglesby et al., 2023).

According to Weber and Tarba (2014), an organisational design that allows “structural adaptation” (p. 3), is a major capability of strategic agility, as it complements sensing and allows management to make decisions around the redeployment and organizing of resources for strategy execution. Seizing in the face of turbulence requires managers to improvise and be willing to undertake organisational transformation to survive (Schoemaker et al., 2018).

A rigid business model makes decisions regarding the reallocation and reconfiguration of resources difficult and inhibits the organisation's ability to respond to changes in the environment. Managers are encouraged create a culture of that allows flexibility in the business model and processes that are inclusive, diverse, that transform as the environment and organisational requirements evolve, thereby facilitating the exploitation of dynamic capabilities and facilitating PDM.

2.1. Strategic Agility

Tushman et al. (1996), emphasizes that agility is a requirement for organisations to sustain success and suggests that management should be able and willing to “cannibalize their own business” (p. 28) should the need arise. Several scholars identify dynamic capabilities as important to creating strategic agility in an organisation identifying capabilities of (ambidexterity) sensing and seizing as core to creating strategic agility (Doz, 2020; Salvato & Vassolo, 2018; Schoemaker et al., 2018; Zhang & Sharifi, 2000;) these capabilities are required to allow managers and organisations to exploit environmental disruptions to their advantage.

Dynamic capabilities are vital to creating strategic agility, and as a result gain competitive advantage (Teece et al., 1997). According to Helfat and Peteraf (2003), dynamic capabilities by definition “involve adaptation and change” (p. 997), and by developing

dynamic capabilities an organisation can tackle environmental disturbance decisively and quickly. For an organisation to create value and sustain a competitive advantage, Teece et al. (2016) are of the view that dynamic capabilities must be incorporated with agility in strategy, as an inferior strategy can compromise the organisation's ability to leverage its dynamic capabilities. In addition, building strategic agility comes at a cost, and organisations must weigh up the cost of building strategic agility versus the impact on profits from current initiatives (Teece et al., 2016).

Organisational ambidexterity, according to O'Reilly and Tushman (2013), is a dynamic capability that shows up in organisational decisions and enables sensing and seizing by making decisions on where and how to allocate resources, as well as the organisational culture which fosters ambidexterity. PDM fosters exploration by tapping into the collective intelligence of employees, generating diverse ideas and solutions more rapidly than a hierarchical system. Simultaneously, well-structured PDM processes can improve efficiency by ensuring that decisions are well-informed, supported, and implemented effectively (Sumrall et al., 2008). The need for rapid adaptation in uncertain environments favours this balance.

Seizing requires a deliberate strategy and the allocation of assets, time and resources which will allow organisations to respond to threats and opportunities timeously and requires managers to make decisions about strategic goals and create agreement amongst the workforce on the strategic goals and intent (O'Reilly & Tushman, 2008). The effects of change and turbulence can destabilize organisations and it requires strong dynamic capabilities and the ability to respond decisively and quickly (strategic agility) to balance, exploit or minimize the impact of change on the organisation (Schoemaker et al., 2018).

PDM enhances sensing by providing multiple perspectives and channels of feedback from various levels and areas within the organisation (O'Reilly & Tushman, 2008). It enhances seizing by enabling quick responses to opportunities and threats because decisions are taken and implemented more swiftly (Teece et al., 2016). The capacity for reconfiguring is also boosted as PDM allows for a faster reallocation of resources and adaptation to changing priorities. Carmeli et al. (2009) suggest that for managers to effectively deal with complex decision making due to the challenges of limited information, ambiguity, uncertainty about the future and variety in interpretations that come with environmental turbulence, decision making processes that include a range of

perspectives, skills and knowledge allow decision-makers to better deal with the complexity of decision-making during change or turbulence.

The ability to remain focused on strategic goals and purpose while responding to disruptions and unexpected change is characteristic of a strategically agile organisation (Clauss et al., 2021). O'Reilly and Tushman (2013) note that the two concepts of explore and exploit appear to be opposed, as traditional organisations inherently choose the stability that comes with the exploitation of the known, existing resources, skills and opportunities, while exploration comes with uncertainty and can be viewed as an inefficient use of time and resources. The role of management is to manage these competing priorities and make decisions around moving resources between routine work and new initiatives (Weber & Tarba, 2014).

The role of management in creating organisational adaptability is not just about individual skills, but about creating organisational structures and cultures that support agile, adaptive decision making (Uhl-Bien & Arena, 2018). Management is responsible for the communication of organisational purpose, defining goals, sensing environmental threats and opportunities, reconfiguring resources, making decisions and trade-offs between exploration and exploitation which may require the organisation to be realigned and possibly redesigned to address the market needs (O'Reilly & Tushman, 2008).

Management also has the responsibility to educate and communicate opportunities, threats, and disruptions throughout the organisation, although management alone is not responsible for responding to opportunities, threats, or disruptions in the environment, but every level employee can respond when given the opportunity to be creative (Buckley, 2022). Cognitive foresight is required of managers to allow them to make sound decisions amidst uncertainty and to support the creation of dynamic capabilities (Schwarz et al., 2020).

Despite having environmental awareness through sensing, agile structures, a clearly articulated strategy, shared purpose and organisational ambidexterity, management's inability to make sound, quick decisions and act decisively, could have a significant effect on strategic agility (Cooper & Schindler, 1997). Tandon et al. (2024) suggest that agile organisations decentralize their decision making which is an iterative and continuous process encouraging teamwork and collaboration further suggesting that decision making in agile organisations is a collaborative and adaptive process, allowing managers to make decisions based on the current information, conditions and circumstances.

2.2. Participative Decision Making

PDM is a manager's predisposition to actively seek employee participation and input in the decision-making process. However, not all managers have the same inclination to seek diverse views and invite participation in the decision making process, and a managers propensity for PDM is determined by several factors including organisational effectiveness, organisational culture; management commitment to adopt and facilitate PDM and managerial beliefs regarding power and whether PDM will diminish the control of the manager (Parnell & Crandall, 2000).

Laureiro-Martínez and Brusoni (2018) argue that for management to leverage dynamic capabilities, a certain level of "cognitive flexibility" (p.1033 & p.1035) is required to move past inertia and respond to different situations considering the specific context. Cognitive flexibility enables managers to shift responses between a rapid decision-making mode to a slower, more deliberate decision-making mode, depending on the context within which the organisation finds itself. Cognitive flexibility is an antecedent of effective decision making. In a study by Schwartz et al. (2020), they found cognitive foresight to be a dynamic managerial capability which must be developed for managers to make decisions under conditions of uncertainty. Laureiro-Martínez and Brusoni (2018) support the theory that managers with a high level of cognitive flexibility are more likely to appreciate diverse perspectives and incorporate these diverse views in the decision-making process (PDM).

By engaging in PDM, through a distribution of information and decision-making power, employees develop skills and knowledge that allows them to contribute to and make decisions (Wohlgemuth et al., 2019). In a study conducted by Black and Gregersen (1997b), they found that there was a significant positive relationship between involvement in most decision-making processes and both satisfaction and performance of employees, although the strength of these relationships varies across the different processes and in different contexts. A study conducted by Carmeli et al. (2009) revealed similar findings which strongly supported the adoption of participatory decision-making practices within top management teams to improve decision quality, enhance team commitment, and boost organisational performance.

For managers to leverage off dynamic capabilities using PDM, there is a need for the organisation to show the capacity for ambidexterity and a flexible structure that facilitates rapid adaptation (agility).

2.2.1. The Role of Culture and Commitment in PDM

The research conducted by Parnell & Crandall (2000), from which the scales for this the measure of PDM were adopted identifies both culture and commitment as significant factors for PDM. Tallon and Pinsonneault (2011), strongly suggest that strong organisational culture and management commitment are pre-conditions for realizing strategic agility. A supportive culture that fosters adaption, participation and innovation is crucial for leveraging strategic agility, while sustained agility and organisational performance can only be supported by management commitment to support and provide resources for change (Tallon & Pinsonneault, 2011).

2.2.1.1. Organisational Culture

A supportive culture that fosters participation, facilitates engagement, and empowers employees impacts both the adoption and the success of PDM, while a manager's commitment to PDM to facilitate adoption and quick implementation of a supportive culture is vital to the adoption of PDM (Parnell & Crandall, 2000).

Including and valuing diversity in thinking and culture will encourage participation and will facilitate the creation of purpose-driven goals, create trust, and encourage innovation which sets organisations up for success (Hollensbe et al., 2014). A study conducted by Wohlgemuth et al. (2019) extends the understanding of dynamic capabilities by finding that dynamic capabilities are not determined by managerial actions alone; employee participation plays a crucial role in building dynamic capabilities, facilitated by trust and informal control. The findings highlight the importance of both hard (formal) and soft (informal) coordination mechanisms in fostering organisational agility and responsiveness to change in dynamic environments.

Managers must ensure the organisation remains ambidextrous to maintain a competitive advantage and at the same time, maintain a structure with rules to create cohesion and parameters, yet ensure that the structure created does not lead to inflexibility (Li et al., 2023), and inhibit improvision, creativity and innovation but rather allows “decisional flexibility” (Oglesby et al., 2023, p. 694). At the same time, managers must foster a supportive culture where employees are free to think and act creatively while carrying out tasks (Salvato & Vassolo, 2018), allow mistakes and build confidence in employees

to allow them to trust their abilities and allow them to improvise (Bernstein & Barrett, 2011).

A culture that facilitates openness and innovation will lead to greater commitment from employees, resulting in greater ambidexterity, facilitating better decision making and creating strategic agility O'Reilly and Tushman (2008). Supporting this view Heracleous et al. (2023) says that a culture of experimentation and one that empowers employees to challenge established norms within the organisation facilitates learning, innovation, collaboration and allows greater adoption of change, fostering stronger networks and creating strategic alignment.

A culture that permits diversity of thinking and collaboration will encourage the sharing of information and decentralized decision making. Being able to make decision at the right time, is a significant feature of strategic agility (Cunha et al., 2020) and allowing employees the ability to improvise and decide on how to manage themselves and resources at their disposal during times of change allows management to make quicker decisions and the organisation to remain agile.

A hierarchical culture, with an emphasis on top-down control and a lack of trust in employees, can create substantial resistance to PDM but also create setbacks, slowing down response times (Tandon et al., 2024). In such environments, PDM efforts may be considered a threat to the status quo and face resistance from several levels within the organisation. In a study to measure dynamic capabilities, it was found that managerial trust in employees and the presence of strong informal control mechanisms (shared norms and values) both significantly increase employee participation in dynamic capability-related activities (Wohlgemuth et al., 2019).

The culture and organisational shared identity are a key capability that facilitates an ambidextrous model (O'Reilly & Tushman, 2013). Management's ability to organize and deploy resources appropriately, allowing a degree of freedom to improvise and making timely decisions ensures that the organisation remains agile, and that the organisation's current success is not a source of inertia preventing the exploration of new opportunities.

Culture and commitment both encompass a shared purpose that both coordinates and liberates action; structures that support empowerment and accountability and commitment to facilitating an environment that is supportive, provides psychological

safety and trust and a culture that balances humility and self-confidence allowing individuals to take risks while acknowledging their limitations (Cunha et al., 2020).

2.2.1.2. Commitment

A purpose is the organisation's reason for existence, and ensures alignment, participation, and commitment from all employees. Acknowledging that strategic agility is necessary and critical to an organisation's success, Cubah et al. (2020) highlight a paradox as management must balance stability and commitment to the current planned goals, and the ability to make decisions to change focus, reallocate resources and refocus due to environmental disruptions.

Purpose results in commitment and a workforce that is inspired and focused (Cardona & Rey, 2022). In addition, decisions taken by management do not just affect economic benefit or loss for the organisation, but it also has internal consequences which will either result in stronger workforce commitment or weaker workforce commitment. Cunha (2020) further on goes on to define shared purpose as specific goals that create both "consistency and diversity" (p. 4) and allows space to harmonize both the need for continuity of shared goals, and the ability to innovate to achieve goals in the context of uncertainty or disruptions in the environment. Waddock (2020) provides insights into how shared purpose can be created to ensure value creation from not just a single objective of shareholder value, but systemic value that all stakeholders and society benefit from. She is of the view that for organisations to transform, an internal systemic change is required, and while purpose will set the direction for change, there must also be a desire and commitment to change.

In a study conducted to understand how trust and informal control (in the form of purpose) influence employee capabilities and thus dynamic capabilities, Wohlgemuth et al. (2019) found that employee participation and the extent to which employees participate in identifying and pursuing opportunities is facilitated by trust, and that dynamic capabilities are not just a function of management actions, but employee participation plays a significant role in determining these capabilities. In addition, employee participatoin is significantly improved when managers trust in employees and offer strong informal controls in the form of shared purpose. A well articulated business purpose, can inspire commitment in employees, which creates a sense of responsibility (Hollensbe et al., 2014).

Having a shared purpose and a shared mindset will have a coordinating effect and result in “both consistency and diversity” (p. 4), however this needs to come with psychological safety and the knowledge that mistakes are permitted, where employee take responsibility and accountability for failures with the knowledge that failures are seen as an opportunity for learning (Cunha et al., 2020).

A well-defined and inspiring purpose will help managers make decisions on actions needed to respond to change and uncertainty. Employees feel a sense of responsibility to contribute to the goals of the organisation by freely sharing information and taking initiative to organize and plan their work. Shared purpose provides perspective and guidelines within which management operates and sets goals (Waddock, 2020). This perspective is important for managers who need to make quick decisions under pressure, during times of uncertainty. Cardona and Rey (2022), use the term “unity” to describe the “degree of mutual trust and commitment” (p. 6) experienced by employee who contribute to realizing the organisation’s purpose.

Unity is not just required between lower-level employee and management though, trust and unity amongst the management team with shared commitment to PDM is also required, as members trust each other and each other’s ability to take the right actions or make the right decisions (Y. L. Doz & Kosonen, 2010).

2.2.2. The Influence of Power on PDM

Many managers resist PDM because they may view participation as a threat to their authority and control, creating a potential conflict between participation and managerial control as managers may fear the loss of control (Parnell & Crandall, 2000). The varying forms of PDM represent variations in the distribution of power and these dynamics play an important role on the impact that PDM has within an organisation (Cotton et al., 1988). In addition, Eisenhardt and Zbaracki (1992) suggest that politics and power dynamics often influence decision making, with empirical research supporting the notion that power ultimately wins. Individual decision-making styles also influence the choice between PDM or more autocratic styles of decision making.

Acknowledging that often organisations are faced with a paradox in decision making Berti and Simpson (2021) note that while it is often assumed that individuals are able to

manage paradoxes in decision making, power inequalities significantly inhibit these abilities. When individuals are disempowered, they are likely to respond with paranoia, withdrawal or compliance which negatively impact the individual, organisation and organisational culture.

Several sources of power influence strategic decisions, and the prevalence of these influences can significantly impact strategic decision making, Elbanna (2006) identify these forces as:

- **Formal Authority:** Individuals in senior positions with formal authority have control over allocation of resources and the determination of future action, influencing the direction of the decision-making process (Elbanna, 2006).
- **Expertise:** Subject matter experts, or those individuals who possess specialized skills exercise influence over decisions and often influence decisions by using their expertise to legitimize certain decisions or approaches (Elbanna, 2006).
- **Coalitions:** Groups with shared interests can influence and exert pressure on decision outcomes by uniting their collective resources and influence to apply pressure on decision outcomes (Elbanna, 2006).
- **Information Control:** The access to and control (sharing or withholding) over crucial information are important sources of power and allows the holder of such information influence over the decision-making process (Elbanna, 2006).

Even when there is a distribution of power, and employees are empowered and encouraged to participate, Li et al. (2017) suggests that decision making is not always genuinely participative and often comes with limitations as management still hold and exercise a degree of control over the decision-making process.

A firm's inability to adapt due to entrenched power structures limits its agility as rigid power structures and formal authority, even when optimally distributed within the organisation, can result in a failure of the organisation to exploit new opportunities, even when these opportunities are clearly available to exploit (Li et al., 2017).

2.3. Concerns about PDM

While it is widely believed that PDM enhances organisational and employee performance, strong caution and even criticism is expressed around managers simply adopting a PDM style without consideration of the contextual factors (Cotton et al., 1988;

Parnell & Crandall, 2000; Schweiger & Jago, 1982; Stanton, 1993). Below is a brief overview of some of the key concerns highlighted in the literature.

2.3.1. Power

Power in the context of decision making and strategic agility has been studied by several scholars and there is consensus that power influences culture and commitment (Elbanna, 2006) and profoundly shapes decisions which may not necessarily be good for the organisation (Eisenhardt & Zbaracki, 1992). Closely associated with politics, the misuse of power and ineffective power structures leads to decisions that may only favour those possess power, resulting in unfavourable outcomes for the organisation and negatively impacting relationships, which ultimately reduces the level of commitment to change and resistance to implement decisions (Elbanna, 2006).

A study conducted by Li et al. (2017) found that even when formal power structures appear to be optimally implemented, it could still negatively affect the exploitation of opportunities and the organisation's ability to respond to change. In addition, the study emphasized that too much focus on power, can be detrimental to an organisation, result in self-serving behaviour and limit the organisations strategic agility.

2.3.2. Lack of Employee Competence

PDM requires employees to possess the necessary skills, knowledge, and motivation to participate effectively. If employees lack the competence to contribute meaningfully to decisions, PDM becomes counterproductive. In a critique of PDM, Stanton (1993) expresses concern around the idea that PDM is universally beneficial, and notes that key factors such as employee competence, motivation and willingness will all impact the effectiveness of PDM. To mitigate actions and decisions that will cause harm to the organisation, clear purpose and structure must be provided to employees (Cunha et al., 2020). A study conducted to understand why managers and employee perspectives differ, Uhl-Bien and Arena (2018) found that perspectives held by managers and employees differ and cautions against placing reliance on employee perspectives noting the importance of considering context of relationships between managers and employees when taking decisions about the organisation. Investment in employees, their continuous learning and enhancement of skills will ensure that employee skills adapt as

the organisation evolves, thus providing employees with the skills and competencies to respond appropriately when change is required (Douglas, 2020). Employees who can easily adapt are able to respond more appropriately in times of turbulence and support the organisational response as they will be more resilient to change (Douglas, 2020).

2.3.3. Time Constraints

PDM can be time-consuming as it requires gathering input from various sources. In situations where speed and efficiency are paramount, the time required for collective decision making may outweigh its benefits. Decision rights and the centralization or decentralization of decisions can significantly impact the speed of adaption (Chen et al., 2019).

2.3.4. Information Asymmetry

The emphasis for strategic agility is on responding with speed, however information is not always available to make informed decisions quickly (Tandon et al., 2024) and managers must facilitate the sharing of information to allow collaboration and innovation, which results in the distribution of decision making (Uhl-Bien & Arena, 2018). A quantitative analysis conducted by Sumrall et al. (2008) of PDM in the context of community colleges found that there is tension between traditional hierarchical management styles and more participatory structures. In some cases, hierarchical structures exist to deal with information asymmetry; some individuals have critical knowledge that others lack. PDM is hampered if not all members have access to the necessary information for effective participation, creating inefficiencies (Lowin, 1968). The control of information is a source of power that allows those who hold critical information to influence decisions, these holders of information can also withhold or misrepresent the information they have with the intention of influencing key decision makers and ultimately influence the decisions made (Elbanna, 2006).

2.3.5. Group Dynamics

Group processes, such as groupthink, social loafing, and conflict, can undermine the effectiveness of PDM (Eisenhardt & Zbaracki, 1992). Strong leadership and the establishment of clear guidelines and processes are therefore critical to mitigate the risk

of these challenges and to maximize the benefits of collective intelligence. The effectiveness of PDM depends significantly on individual beliefs in the value of PDM, in addition the cultural context is an important determinant of the success of PDM, as studies conducted have revealed that in certain individualistic cultures collective processes and structures does not enhance performance, suggesting that a more tailored approach should be taken when engaging PDM, one which accounts for cultural and individual difference and beliefs (Lam et al., 2002).

2.3.6. Lack of Managerial Commitment

The time dimension of PDM (short-term versus long-term) is strongly related to commitment. Long-term participation, particularly in the forms of employee ownership and participation in work decisions, is associated with higher employee commitment to the PDM process and its outcomes (Cotton et al., 1988). It is important to consider not only managerial attitudes and beliefs to PDM, but also organisational culture and individual commitment when implementing PDM (Parnell & Crandall, 2000). The success of PDM initiatives heavily depends on the commitment and support of managers. If managers are not truly committed to PDM, their actions (or inactions) will undermine the effectiveness of the process (Parnell & Crandall. 2000; Parnell et al. 1991).

2.4. Conclusion

The discussion of the components of PDM and strategic agility has revealed the interrelated complexities of PDM and Strategic Agility. The various factors discussed in this chapter are closely related and influence each other as well as PDM and strategic agility (Ahammad et al., 2020). While ambidexterity, dynamic capabilities, and the need for rapid adaptation clearly point towards the benefits of PDM, the literature has revealed that several significant organisational and individual obstacles hinder its effective implementation. Success with PDM often hinges on a carefully considered contingency approach (Parnell & Crandall, 2000; Tallon & Pinsonneault, 2011) that accounts for these challenges and aligns PDM initiatives with the specific circumstances and characteristics of the organisation and its members (Cotton et al., 1988). A universal approach cannot be adopted when it comes to PDM (Cotton et al., 1988), and managers must be careful to consider the complex interplay between the various factors of structure, culture, participation, trust, power and the situational context before

implementing a participative model (Black & Gregersen, 1997b) as an incorrect application of a PDM model could prove more destructive to the organisation and its performance.

Chapter 3: Research Question and Hypotheses

The literature review reveals that in times of turbulence or change, organisations require certain dynamic capabilities that will enable them to respond appropriately. The ability to read the environment and sense approaching change, reconfigure people, processes and structures and exploit opportunities or mitigate threats appropriately are all dynamic capabilities that requires strategic agility to allow organisations sustained survival (O'Reilly & Tushman, 2008). Managers should not get distracted by established success in the belief that current success equates to continued success. It is important to resist rigidity and falling back on what is known and ensure that they proactively invest resources and time in scanning the environment for potential threats and opportunities (Tushman & O'Reilly, 1996). A willingness to adapt and change timeously and appropriately will ensure the sustained success of an organisation.

3.1. Research Question

With the understanding that dynamic capabilities are needed to create organisational strategic agility. The role of management decision making and more specifically the propensity for PDM in facilitating the exploitation of dynamic capabilities to create strategic agility requires further understanding.

RQ1: Does strategic agility improve when PDM is practiced

The purpose of this study is to answer the question of whether and to what extent PDM influences an organisation's ability to exercise strategic agility. In addition, in the course of reviewing the literature an identifying common factors that influence both PDM and strategic agility, further questions emerged, and data was analysed to provide further insight on:

- What role does the perceived loss of managerial power play in the facilitation of strategic agility?
- Does culture have an impact on the propensity for PDM, and therefore strategic agility of the organisation?

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3.2. Research Hypotheses

The following Hypotheses was tested to determine whether the propensity for PDM has a positive correlation to increased strategic agility. Further sub-hypotheses related to the factors that make up PDM and strategic agility were also analyzed, including an analysis of demographics to determine whether any significant findings emerged as a result of demographics.

3.2.1. Hypotheses

H_1 : Positive Correlation: There will be a positive relationship between the level of participative decision making and the level of Strategic Agility in organisations. Organisations that utilize higher levels of PDM will exhibit greater Strategic Agility.

H_1 : *Higher levels of PDM lead to greater Strategic Agility.*

H_2 : Management Commitment: Higher levels of management commitment within PDM will be positively associated with Strategic Agility.

H_2: *Higher commitment is correlated with higher Strategic Agility.*

H_3 : Power: Perceptions of the relationship between power and Strategic Agility will negatively influence the level of Strategic Agility experienced in organisations.

H_3 : *There is a negative correlation between perceived power and Strategic Agility.*

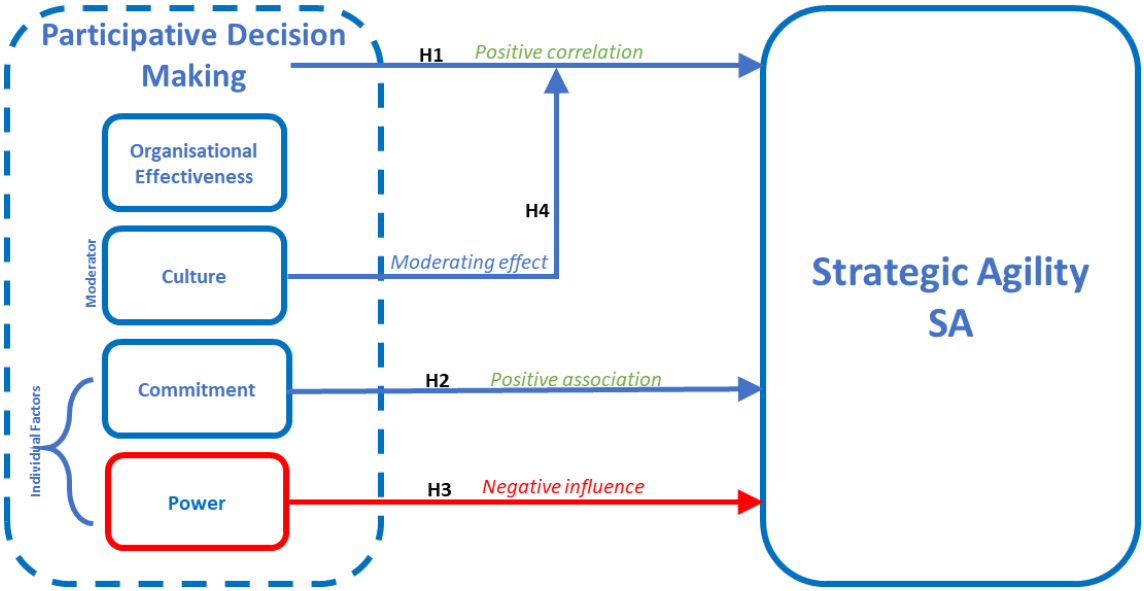
H_4 : Moderating Effect of Culture: The relationship between PDM and Strategic Agility will be moderated by organisational culture. The positive relationship between PDM and Strategic Agility will be stronger in organisations with cultures that support collaboration and employee empowerment.

H_4 *: Organisational Culture Supports strenghtens the relationship between PDM and Strategic Agility*

3.3. Conceptual Model

The conceptual model below demonstrates the interplay of the various constructs including individual factors, and their effects on both PDM and strategic agility. The hypotheses tested are demonstrated in the model.

Figure 1: Conceptual Model and constructs being tested



Source: Author's Compilation (2024)

Chapter 4: Research Methodology

4.1. Introduction

This purpose of this chapter is to define the research methodology that was used in seeking to answer the research question and test the hypotheses presented in Chapter 3. A quantitative research method was used adopting existing scales. An explanation is provided for the methodological choices, instrument used, data collection and analysis process.
The code book for the survey questionnaire can located in Appendix 2.

4.2. Research Paradigm

A researcher's philosophical beliefs and assumptions will shape and inform the methodology used in the research, as well as the conclusions that the researcher will come to, based on data collected and analysis of such data (Bell et al., 2019).

Holden and Lynch (2004) distinguish between objectivism and subjectivism as being in opposition of each other, with the subjectivist approach viewing reality because of human imagination and therefore, knowledge is acquired subjectively and cannot be discovered. For purposes of this research, an objectivist, positivist approach using a quantitative research method was adopted for the collection of data. Crossan (2003) defines positivism as a "scientific approach" (p. 50) to research. As positivism, is an epistemological position, it is believed that "reality exists objectively and externally" (p. 14), and therefore can be viewed as scientific facts, since these facts can be collected and evaluated scientifically (Bell et al., 2019; Holden & Lynch 2004).

4.3. Research Design

Described as the "blueprint" for the "collection, measurement and analysis" (p. 130) of data, the selected design provided a clear plan and structure, so that the researcher's time and resources were focused on gathering data that will ultimately answer the research question (D. R. Cooper & Schindler, 1997). Explanatory studies do not merely describe phenomena but tries to understand the reasons for the phenomenon, by testing the hypothesis presented (D. R. Cooper & Schindler, 1997). Using explanatory research

methodology allowed for the analysis of trends, the comparison of variables and a study of how variables are related to one another through statistical analysis, in this case the main research question dealt with the relationship between PDM and strategic agility.

4.4. Research Method

The research method refers to how the researcher collected the data. Data can be collected in the form of a quantitative or qualitative methods (Bell et al., 2019). For the purposes of this study, a quantitative research approach was adopted, and a survey questionnaire was distributed via social media (WhatsApp, Facebook, LinkedIn) as well as via e-mail. The questionnaire allowed for an explanatory study to be conducted. Data was collected through a self-administered survey questionnaire, the data was then analysed to describe trends identified and test the research question (Creswell, 2012). A cross-sectional design was used, as the survey was used to collect data at a point in time and record data about current practices and attitudes (Creswell, 2012) relating to PDM and strategic agility. The purpose of this study was not to develop theory, but rather to test hypotheses using a deductive approach by analysing and applying existing theory (Bell et al., 2019).

4.5. Research Population

A total of 155 respondents participated in the survey, the population was limited to employees within South Africa, including general employees, managers and executives currently working in South Africa, regardless of the industry or the size of the organisation. Filters were built into the survey questionnaire to eliminate any respondent who was unemployed or employed outside the borders of South Africa. The intention for the wide scope of participants was to allow for additional analysis of other variables such as age, gender, level of seniority and experience, to identify any significant differences in results.

4.6. Sampling Method and size

Due to the costs, logistics and practical challenges involved in probability sampling, the likelihood of achieving the desired sample size within the time required proved to be challenging. According to Cooper and Schindler (2001), while in many cases probability

sampling appears more desirable as the random nature of selection reduces sampling bias and sampling error, non-probability sampling that is controlled carefully often produces acceptable results and is often the only feasible option available to researchers.

This study made use of non-probability sampling applying a purposive sampling method, by making use of qualifying criteria. Purposive sampling is nonprobability sample, where certain criteria are imposed in the description of the population. Access to a large sample group via social media and other online methods made non-probability convenience sampling the best option for this study. The survey was distributed to professionals via social media (Facebook, WhatsApp groups, LinkedIn, and email). To ensure the population is still representative, qualifying questions were built into the questionnaire (R. D. Cooper & Schindler, 2001). By applying qualifying questions to the sample, representativeness is improved as only participants who meet the relevant characteristics defined were accepted, providing assurance that the respondents were representative of the target population. To increase the sample size, snowballing sampling was applied so that the original set of population selected could refer the survey to other individuals who hold similar characteristics (R. D. Cooper & Schindler, 2001). The survey only considered responses from employed individuals, who are working in South Africa, this eliminated any respondents who are not part of the target population (employed South Africans).

The survey questionnaire was a self-administrated questionnaire, containing closed questions, with two sections. The first section contained questions based on four constructs, organisational effectiveness; culture; commitment and power. These constructs together were used to assess the propensity for PDM and was validated in a study by Parnell and Crandall (2000). The second section of the questionnaire contained questions that were used and validated in a study conducted by Tallon and Pinsonneault (2011). These scales were used to measure strategic agility.

A closed questionnaire removes subjectivity in answers and allows scientific analysis of data. Muijs (2011), points out that when selecting a research design, it should be “realistic and feasible” (p. 3). He also points out that “Survey research is well suited to descriptive studies” (p. 3). Surveys are also flexible and can be presented in multiple forms to suit the medium of delivery (Muijs, 2011). The self-administered questionnaire is cost-effective, fast to administer and does not run the risk of being influenced by the interviewer (Bell et al., 2019, p. 227). A structured questionnaire ensured that both

questions and answers were standardized and significantly reduced the chance of errors in the data collected (Bell et al., 2019, p. 257). The disadvantages of self-administered questionnaires remain in the inability of the interviewer or the respondent to clarify questions or terminology, as well as non-response or low response rates (Bell et al., 2019, p.278; Muijs, 2011). For that reason, the self-administered questionnaire only contained questions relevant to the research question, was clearly worded, and contained short questions that are easy to read. Limiting answers to a limited scale such as the Likert scale assisted in the accuracy of the data captured (Bell et al., 2019, p. 258; Salkind, 2010, p. 328). The Likert scale ranged from 1 = strongly disagree to 5 = strongly agree. Responses were be limited to only one answer for each question, the variables in Likert scales are ordinal and allow categories to be ranked (Bell et al., 2019).

Pallant (2020), suggest that an appropriate sample size is to have five participants for each item, however Uz Zaman et al. (2020) note that while several scholars have differing opinions with regards to the ideal sample size will ensure that data normality is maintained in Likert scales. The survey questionnaire for this study contains 33 items, and although there were 155 participants, only 129 responses were useable due to incomplete questionnaires. This provided a ratio of 1:4 responses, this may be small and could be noted as a limitation of this research.

4.7. Data collection

A survey was designed with the use of Qualtrics software. A short cover letter was included with a summary of the purpose of the study, the survey was distributed online making use of social media and contact groups. Electronic medium allowed more respondents to be reached in a relatively short period (Bell et al., 2019, p. 253). Before distribution, the survey was first tested by five recipients to ensure that the instructions and questions were understood and to test the flow of the questionnaire. Feedback received was mostly regarding spelling and grammar, positive feedback was received regarding the structure of the survey and the actual questions being asked.

The Likert scale was presented to the respondents relating to the constructs being tested. The Likert scale is a variation of a summated scale, and respondents were asked to indicate whether they agree or disagree with statements that relate to the constructs being tested. A numerical value was assigned to each response to measure the degree

of favourableness (R. D. Cooper & Schindler, 2001). The code book in Appendix 2 contains the numeric values that was assigned to each option on the Likert scale.

Below is an example of the Likert scale that was be used to test the constructs.

Figure 2: Example of the Survey Questionnaire


Q8

Organizational Effectiveness - The following questions relate to your perception of how participative decision making impacts decision quality and ultimately organizational effectiveness

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
8.1 Many organisational problems disappear when everyone has a chance to participate in decision making.	○	○	○	○	○

Source: Qualtrics Survey Questionnaire (2024)

Since data was collected using a closed questionnaire and a Likert Scale, responses were limited only to the options provided, this ensured that the data was clean and no unexpected responses were received, therefore data cleaning was not required. Data was analysed to identify whether there were missing or incomplete data as this could jeopardize the credibility of the study. The data was coded to facilitate analysis and test the hypothesis presented. All data was analysed using R Core Team (2022). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL https://www.R-project.org/. (version 4.2.1). Results were interpreted and any relationship between the findings and the theory that forms the basis of the research report were identified (Bell et al., 2019).

4.8. Data Analysis

The services of a statistician from the University of Pretoria were employed to assist with the data analysis. As a starting point, descriptive statistics were done. The validity and structure of the predefined factors (which stem from the validated questionnaire) were investigated. The reason for starting with Exploratory Factor Analysis (EFA) was to ensure that the constructs (PDM, Organisational Effectiveness, Power, Culture, Commitment and Strategic Agility) are valid and performed as expected. The data analysis followed the structure described on table 2:

Table 2: Data Analysis Approach

Step	Method	Rationale
Screening	Frequency Tables	To ensure no visible anomalies or errors are present in the data.
Preliminary Analysis	Descriptive Statistics, Likert Plots, Cronbach Alpha, Preliminary Analysis, Spearman Correlation (individual items) KM, Barlett's Test	To explore the data and summarise participant responses, evaluate the reliability and validity of the instrument and assess the suitability of the data for factor analysis.
Statistical Technique	EFA Iteration 1	To test the data for latent groupings in alignment with the validated questionnaire.
Cleaning	Item Removal/Deletion	Removal of items based on outcome of iteration 1 EFA. This was based on the commonalities of the factor loadings.
Preliminary Analysis	Cronbach Alpha, KMO, Spearman Correlation (individual items), Barlett's Test	Re-evaluate the reliability and validity of the instrument and to reassess the suitability of the data for factor analysis.
Statistical Technique	EFA Iteration 2	To finalize item groupings for final factor analysis solution.
Preliminary Analysis	Shapiro Wilk Test of Normality	To test for normality of the resultant factor scores and for identification of suitable statistical techniques.
Statistical Technique	Spearman Correlation (between factors from EFA iteration 2)	To identify significant correlations between factors.
Statistical Technique	Wilcoxon Rank Sum Test, Kruskal-Wallis Test,	To analyse potential differences between demographic variables across factors.

Moderation Analysis	Multiple Linear Regression Testing Model Assumption Checks (homoscedasticity, normality of residuals, variance inflation factors)	To understand whether Culture and Commitment moderates the relationship between PDM and Strategic Agility.

Source: Author's Compilation (2024)

4.8.1. Correlation

To establish whether there were statistically significant correlations between factors Spearman's Rank correlation test was used. Correlations measure the strength and direction of a relationship between two variables, and a minimum correlation coefficient of 0.3 is suggest for factor analysis to run (Uz Zaman et al., 2020).

4.8.2. Exploratory Factor Analysis (EFA)

Exploratory factor analysis (EFA) is the orderly simplification of interrelated measures. Traditionally EFA has been used to explore the possible underlying factor structure of a set of observed variables without imposing a preconceived structure on the outcome (Child, 2006). By performing EFA, the underlying factor structure was identified. In this study, all the questions in the questionnaire were used to assess how they group together. Although the questions were adapted from known and validated questionnaires, the behaviour of the questions in the context of the original study is unknown, and therefore an EFA was conducted. The ideal sample size for factor analysis is a ratio of 3:1 of participants to questions or higher, due to the nature of the Likert scale (Uz Zaman et al., 2020), which was met in this study.

Preliminary analysis was conducted to ensure that factor analysis is an appropriate method to use for this data and that the internal reliability of the data is high.

Step 1: The correlation matrix of the data was determined, using the Spearman correlation, which in this study was preferable since a Likert scale was used, rather than continuous data. The normality assumption is typically checked before conducting factor analysis, however, since Factor Analysis was performed using a Likert scale data, it was

unlikely to adhere to the normality assumption. “When normality is statistically improbable” (p. 224) correlation methods such as the Spearman test are more robust and advisable to use (Watkins, 2018) as this non-adherence results in a violation of the required underlying normality assumptions. To justify the comprising factors, a correlation of more than 0.30 is required to indicate sufficient commonality (Beavers et al., 2013).

To determine the factorability of the data Pallant (2020) suggest that the Kaiser-Meyer-Olkin (KMO) measure value be 0.6 and above, and the Barlett’s Test of Sphericity value is less than 0.05.

Step 2: KMO was used which measures sampling adequacy and assesses the ratio of correlations and partial correlations to indicate how much of the correlations result from the shared variance among all variables, rather than just the variance between specific pairs of variables. While KMO values range from 0.00 to 1.00, a generally this value needs to be above 0.7 (Watkins, 2018).

Table 3: Interpretation for the Kaiser-Meyer-Olkin Test

KMO Value	Degree of Common Variance
0.90 – 1.00	Marvelous
0.8 – 0.89	Meritorious
0.7 – 0.79	Middling
0.6 – 0.69	Mediocre
0.5 – 0.59	Miserable
0.00 - 0.40	Don’t Factor

Source: Beavers et al. (2013)

Step 3: Barlett’s test of Sphericity was also performed to test whether it is appropriate to perform factor analysis on this data. It checks if the correlation structure adheres to the underlying structure required (Beavers et al., 2013). A p-value less than 0.05 is an indication that we have worthwhile correlations in our data and the factor analysis can then be considered appropriate (Pallant, 2020).

Step 4: Before proceeding with the factor analysis, the determinant of the correlation matrix was calculated. If the determinant is positive, the Factor Analysis will run.

Step 5: The Cronbach alpha value was then computed to ensure that the questionnaire is valid. The Cronbach alpha measure is a measure of internal consistency, that is, how closely related a set of items are as a group. It is a measure of scale reliability (J. F. Hair et al., 2020).

Step 6: A Parallel analysis was also performed, to indicate the number of factors which would be suitable for the data collected.

Step 7: Data Rotation can be classified into two categories, orthogonal, where the assumption is held that factors are uncorrelated, and oblique rotation where factors are allowed to correlate (Ledesma et al., 2021). Once all initial assumptions of the factor analysis were validated, the first iteration of factor analysis was conducted, using principal axis factoring and oblimin (oblique) rotation. Oblique rotations are preferred when performing factor analysis in comparison to orthogonal rotations (the norm), “oblique rotations do not incorrectly constrain the inter-factor correlations to zero but rather freely estimate them” (Ledesma et al., 2021, p. 348).

Principal axis factoring was used to avoid the use of principal components, as principal components typically disregard the underlying structure of latent variables. Furthermore, principal axis factoring does not require normally distributed variables, which is not present in this study, making it an ideal candidate for the extraction method.

Step 8: Factor Loadings were determined to explain any variance and are a strong predictor of congruence between the sample and the population. Loadings greater than 0.8 is an indication that the sample population is particularly good while values at 0.4 are considered poor (Uz Zaman et al., 2020).

Step 9: Communality values were calculated. Communalities refer to the values that indicate the unique variance of a variable that is accounted for after the variable has been incorporated into a factor. Communalities with values less than 0.3 should be removed (Uz Zaman et al., 2020). A value above 0.3 is appropriate due to the smaller sample size in this factor analysis.

After the first iteration of EFA, a second iteration of EFA was conducted. Furter discussion will follow in Chapter 5

Multiple Linear Regression Testing: To test the moderating variable in hypotheses 4, multiple linear regression testing was used to model the relationship between one continuous variable and two more independent variables. It extends simple linear regression, which models a relationship between one dependent and one independent variable, by allowing for multiple predictors, which makes it suitable for more complex analyses (J. F. Hair et al., 2020).
The independent variable in this study is strategic agility, SA (Factor 2) and the dependent variables which form part of PDA is Organisational Effectiveness (Factor 1) and Power (Factor 3), with our moderator being Culture and Commitment (Factor 4).

To test the demographic and professional variables the following additional tests were performed.

Wilcoxon Rank-Sum Test: When there are two categories to compare, such as for Gender, the *Wilcoxon rank-sum test* can be used, this will compare the distribution between the two categories and does not rely on the normality assumption. If the resultant p-value is less than 0.05(5%), it can be concluded that there is a 95% confidence that there is a statistically significant difference between the two groups being compared (Wilcoxon, 1945).

Kruskal-Wallis Test: For demographics where there are more than two groups, such as for Age, the Kruskal-Wallis Test was used. It compares the median factor scores across the groups to investigate if there are differences between them. It is an alternative to the one-way ANOVA when the assumption of normality is violated. If the Kruskal-Wallis test returns a significant result (p-value is less than 0.05), it indicates that at least one of the groups differs from the others in terms of central tendency. However, it does not specify which groups are different. To identify specific group differences, post-hoc tests like pairwise Mann-Whitney U tests or Dunn's test (adjusted for multiple comparisons) are performed (Kruskal & Wallis, 1952).

4.9. Ethical considerations

Bell et al. (2019), identify four basic ethical principles that should be considered when designing and conducting research. To ensure that no harm comes to any participant; to ensure that that there is informed consent and participants are fully aware of the study, and are able to make a decision as to whether to participate or not; to protect the privacy

of the participants and ensuring that only relevant information is collected; to avoid misleading or deceiving the participation as to the purpose and intended use of data collected. Consideration was taken as to the nature of the study, method for data collection and storage, and the fact that no personal information was being collected and participation was voluntary. All the above elements of ethical principles were built into the survey to ensure there was no ethical breach in conducting this study.

4.10. Protection of personal Information

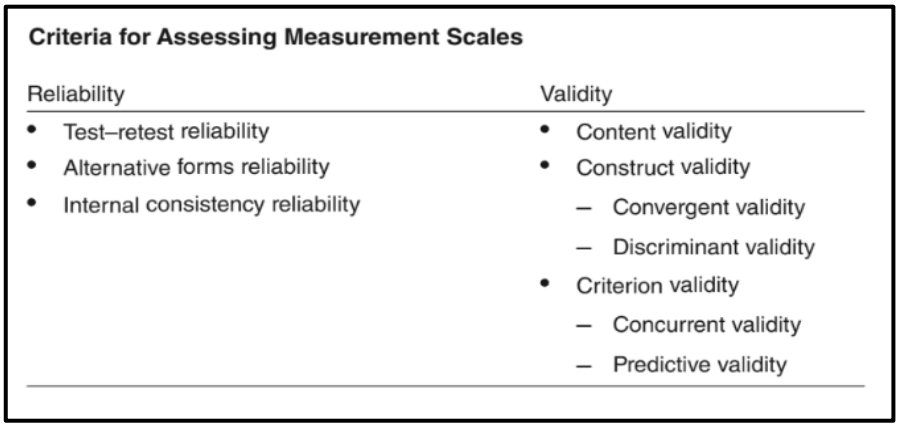
Survey responses did not require any personal identifiable details of the respondents and was therefore completed anonymously. Godard et al. (2003) note that anonymous data collection refers to collection of data where the respondent or supplier is not identified and cannot be linked to the data provided.

4.11. Quality Control

A good sample design will be determined by how well it represents the population and its characteristics, and it must be valid, which is determined by the extent to which there is accuracy and precision in the design (R. D. Cooper & Schindler, 2001). By including a quota of two conditions within the nonprobability sampling method, systematic bias was avoided. A researcher must ensure that the valuables used to measure a concept do so in an “accurate and consistent” manner (Hair et al., 2023, p. 259). Accuracy is concerned with validity, while consistency is concerned with reliability. Addressing issues of reliability and validity reduces measurement error (J. Jr. Hair et al., 2023). In this study multiple iterations of tests were conducted to measure validity.

The figure below is a view of the assessment criteria for measurement scales, when assessing Reliability and Validity.

Figure 3: Assessment Criteria for Reliability and Validity



Criteria for Assessing Measurement Scales

Reliability	Validity
• Test–retest reliability	• Content validity
• Alternative forms reliability	• Construct validity
• Internal consistency reliability	– Convergent validity
	– Discriminant validity
	• Criterion validity
	– Concurrent validity
	– Predictive validity

Source: J. Jr. Hair et al., 2023

4.12. Reliability

Quantitative research is particularly concerned with the question of reliability (Bell et al., 2019). Reliability refers to the characteristics of a measure and is concerned with the accuracy, precision, and consistency (D. R. Cooper & Schindler, 1997) of a measure and addressed the question of whether results of a study can be repeated. A measure cannot be considered valid, if it has not met the test for reliability, therefore reliability is a “necessary, but not sufficient condition for validity (R. D. Cooper & Schindler, 2001, p. 771). If an instrument when repeatedly used yields consistent scores, then the instrument is considered reliable (J. Jr. Hair et al., 2023).

Where a scale measured multiple items, the individual items in the scale must be correlated, where a strong correlation is an indicator of higher reliability (J. Jr. Hair et al., 2023). The Cronbach alpha value is calculated to assess questionnaire validity as well as the validity of resultant factors, it is considered a measure of internal reliability of a scale and determines how closely related a set of items are as a group (R. D. Cooper & Schindler, 2001). A coefficient can vary between 0 and 1, with 1 (indicating excellent internal reliability) and 0 (indicating no internal reliability), generally any value below 0.6 is considered a poor measure while values above 0.7 is considered efficient. Values above 0.8 is considered an acceptable measure (Bell et al., 2019).

For the purposed of this study, two iterations of the Cronbach’s Alpha were undertaken, these results will be discussed in further in Chapter 5.

4.13. Validity

Validity tested in quantitative studies is concerned with whether the instrument used to conduct a test, measures what the researcher intended to measure, this is also known as measurement of validity (Bell et al., 2019). Internal validity is a common measure in quantitative studies and relates to the level of confidence that an independent variable is the cause of observed change or behaviour of the dependent variable, while external validity is concerned with whether findings of a study can be generalized beyond the context of the study (Bell et al., 2019). Several tests were conducted to establish validity in this study, including EFA for construct validity.

4.14. Recordkeeping and Storage

Storage entails the safekeeping of data collected and keeping then in long term memory (Tourangeau, 2018). Data was be stored on the cloud, which is backed up daily and password protected for safekeeping and will be disposed of as soon as required, for the finalization of this research paper. Since the respondents are anonymous and cannot be identified, there is no risk of any harm coming to any respondent or a breach of trust. Clearly documented and well executed data collection, analysis, handling, and storage ensured that the integrity of data is maintained (Tourangeau, 2018).

4.15. Limitations

The survey questionnaire was quantitative in nature and did not allow respondents to provide an explanation for their responses, therefore limiting the context to the responses provided. In addition, due to the cross-sectional nature of the study, responses and data collected was collected for a specific point in time and only represent respondents' feelings at that point in time. The number of respondents and the context within which the study was conducted could have influenced the data collected and its reliability, however several tests were conducted to ensure validity of the study. Perhaps if conducted in a different setting, the study will yield different results.

Chapter 5: Result

5.1. Overview

The statistical results and findings from the survey conducted, and the research methodology followed in Chapter 4 is outlined in this chapter.

5.2. Descriptive Statistics

The study was conducted in the South African context, and all respondents were required to be employed and working within the borders of South Africa. Limiting the survey within the borders of South African made it easier to tap into personal and professional networks for survey participants. Respondents who were unemployed or residing outside the borders were automatically eliminated at either the first or second question of the survey.

A total of 155 respondents, excluding the five testers, met the minimum criteria and successfully completed the survey, however for the purpose of this analysis, a cutoff of 70% completion was used (that is, participants that did not complete their demographic information or missed most of the actual questionnaire were excluded from the data) which resulted in a sample size reduction from 155 participants to 129. Of the 129 participants, nine participants did not complete the questionnaire to 100% completion.

There were initial concerns around the small sample size and the decision to use questionnaires that were at a 70% completion rate was made to minimise loss of participants while still maintaining the integrity of the data. This resulted in a 17% loss of data due to incomplete responses. Based on the discussion regarding sample size in chapter 4 and the subsequent EFA, the sample size was considered sufficient for the purpose of the analysis being performed. All pilot testers were removed from the data. Table 4 below provides a view of the completion rate of the questionnaire data and Table 5 presents the demographic data.

Table 4: Questionnaire Completion Rate

Descriptive Statistics: Questionnaire Completion	
Metrics	**Descriptive Statistics: N=129**
Variable Name:	**Progress**
Missing	0
Minimum	77
Maximum	100
Median (IQR)	100.00 (100.00, 100.00)
Mean (SD)	98.99 ± 3.97
Mean (95% CI)	98.99 (95% CI: 98.3, 99.68)
Variable Name:	**Finished**
Missing Values	0
False	9 (6.98 %)
True	120 (93.02 %)

Table 5: Demographic Data

Variable	Category	Frequency	Percentage
Employment Status	Yes	129	100.00%
Works and resides in South Africa?	Yes	129	100.00%
Gender	Female	77	59.69%
	Male	50	38.76%
	Non-binary / third gender	1	0.78%
	Prefer not to say	1	0.78%
Age Group	18 – 24	2	1.55%
	25 - 34	12	9.30%
	35 - 44	63	48.84%
	45 - 54	39	30.23%
	55 - 64	13	10.08%
Role at Work	Chief Executive / Managing Director	13	10.08%
	Executive Management	33	25.58%
	General Employee	17	13.18%
	Lower Management	13	10.08%
	Middle Manager	27	20.93%
	Senior Manager	26	20.16%
Years of management Experience	*None	11	8.59%
	Less than 5 years	20	15.62%
	5 - 10 years	36	28.12%
	More than 10 years	61	47.66%
Industry	Agriculture	2	1.55%
	Financial Services	77	59.69%
	Logistics/Warehousing	5	3.88%
	Manufacturing	5	3.88%
	Mining	3	2.33%
	Other	25	19.38%
	Retail	3	2.33%
	Technology	8	6.20%
	Tourism	1	0.78%

5.2.1. Demographic Information

Table 5 above demonstrates that of the 129 respondents, 59% represented females and 39% represented males. Almost half (49%) of respondents fell with the 45 – 54-year age group, with 30% in the 35 - 44-year age group. These two groups represent the majority of respondents at 79%.

Question 5 requested information regarding the respondent's level of seniority within their organisation. While there was a good distribution of responses, respondents on supervisory level represented just 3.1% of the population with the best representation being at middle and senior management level at 20.93% and 20.16%, respectively.

It is also important to note that one respondent did not respond to the question regarding the number of years of management experience.

Industry distribution was significantly skewed to the financial services industry with 59.69% of respondents being from the financial services industry. This could be because of the researcher's background in the financial services industry and the convenience sampling and snowball technique used to gather data. The researcher used her professional and social networks to distribute the survey and it is likely that most of the respondents fell within a similar professional profile as the researcher.

5.3. Preliminary Analysis

As discussed in Chapter 4, several tests were run on the data to establish factorability. The validity and structure of the predefined factors were investigated, which originate from a validated questionnaire. The questionnaire for strategic agility was used in studies by Tallon and Pinsonneault (2011) as well as Tallon (2008). The questionnaire for PDM was used by Parnell & Crandall (2000).

This section of the report will follow the following structure:

- Exploratory Factor Analysis (EFA) (to ensure the factors are valid and group accordingly)
- Correlation Analysis between factors (to answer hypothesis questions)
- Univariate analysis using the resulting factor scores to test against demographic variables.
- Visual representation of results.
- Additional exploration of relationships

Factor analysis was the starting point in this study to ensure that the constructs are valid and behave as they should, further strengthening the analysis and further validating the findings.

For the Purpose of EFA the following Factor Labelling apply

Table 6: Factor Labelling:

Label	Description
Factor 1	Organisational Effectiveness
Factor 2	Strategic Agility
Factor 3	Power
Factor 4	Culture and Commitment

Source: Author's Compilation (2024)

5.3.1. Exploratory Factor Analysis – Iteration 1

Preliminary **testing** was performed to ensure that factor analysis is an appropriate method to use for this data set and that the internal reliability of the data is high.

The following Factor Analysis prechecks were conducted:

- Correlations (Appendix 4)
- Kaiser-Meyer-Olkin Measure (KMO)
- Batlett's Test
- Determinant of the correlation matrix
- Cronbach Alpha
- Parallel Analysis

5.3.1.1. Correlations

The correlation matrix of the data was obtained, and the determinant was calculated to be 0.000004 which is extremely small, but still positive. Therefore, the Factor Analysis was run.

5.3.1.2. Kaiser-Meyer-Olkin Measure

As mentioned in Chapter 4, a general rule of thumb is that the KMO value should be above 0.7. The KMO was calculated to be 0.8205 which indicates that the sampling is adequate and factor analysis could be performed for this study.

5.3.1.3. Barlett's Test of Sphericity

Barlett's test was performed to test whether it was appropriate to perform factor analysis on the data. A p-value of less than 0.05 indicates that that worthwhile correlations exist in the data.

Table 7: Barlett's Test of Sphericity

Bartlett's Test	
Chi-Square Test Statistic	1692
P-Value	< 0.0001
Df	325

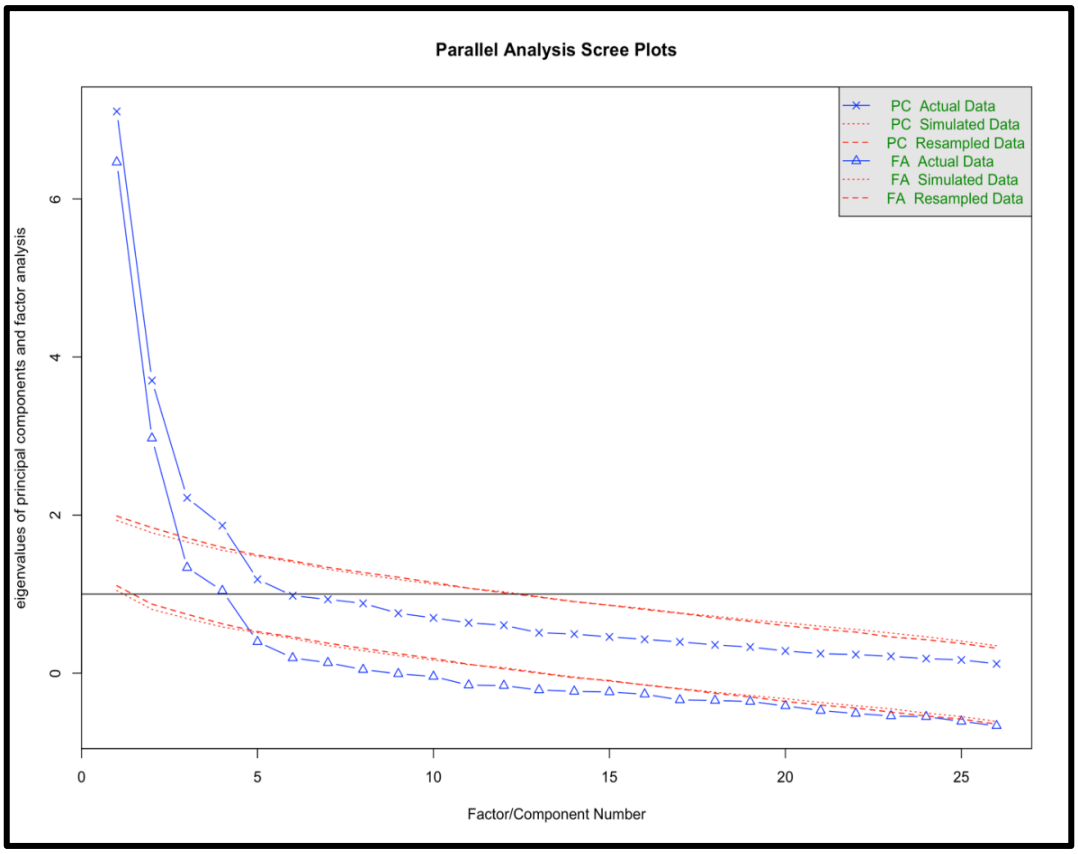
Table 6 demonstrates the p-value, since the p-value was <0.0001 (approximately zero), it was concluded that factor analysis would be useful in this study.

5.3.1.4. Establishing Validity

The Cronbach Alpha value was computed to ensure that the questionnaire is valid. A Cronbach Alpha value of 0.8581 was found, this indicates that there is strong consistency in the data. As a rule of thumb, values greater than 0.6 are acceptable.

5.3.1.5. Parallel Analysis

Figure 4: Parallel Analysis Scree Plot – Iteration 1



Parallel analysis indicated that three factors are appropriate, rather than four (the original scale for PDM has four themes). This could indicate that there may have been an overlap in the responses.

The Parallel analysis demonstrated in Figure 4 suggests that there are four factors and four components present.

Table 8: Proportions of Variance Explained by the factors.

	Factor 1	Factor 2	Factor 4	Factor 3
SS loadings	4.58	4.16	2.09	1.47
Proportion Var	0.21	0.19	0.10	0.07
Cumulative Var	0.21	0.40	0.49	0.56
Proportion Explained	0.37	0.34	0.17	0.12
Cumulative Proportion	0.37	0.71	0.88	1

Table 7 demonstrates that 37% of the variation could be attributed to Factor 1, while Factor 2 accounted for 34% of the variation in the data.

5.3.1.6. Factor Loadings

Table 9: Factor Loadings for first iteration of factor analysis

Factor	Variables	Loadings
Factor 1	Organizational Effectiveness - 8.1 Many organisational problems disappear when everyone has a chance to participate in decision making.	0.6616
Factor 1	Organizational Effectiveness - 8.2 Participative decision making usually results in effective decisions.	0.7976
Factor 1	Organizational Effectiveness - 8.3. Group decisions are worth any extra time required.	0.618
Factor 1	Organizational Effectiveness - 8.4. Participative decision making simulates feelings of self-worth for subordinates.	0.8133
Factor 1	Organizational Effectiveness - 8.5. Participative decision making is an effective communication tool.	0.8642
Factor 1	Organizational Effectiveness - 8.6. Participative decision making promotes positive relationships at all levels of the organisation.	0.8035
Factor 1	Organizational Effectiveness - 8.7. When my boss allows me to participate in decisions, I feel more important	0.8107
Factor 2	Strategic Agility 12.1. Respond to changes in aggregate consumer demand.	0.559
Factor 2	Strategic Agility 12.2. Customize a product or service to suit an individual customer.	0.7417
Factor 2	Strategic Agility 12.3. React to new product or service launches by competitors.	0.6342

Factor 2	Strategic Agility 12.4. Introduce new pricing schedules in response to changes in competitors' prices.	0.6701
Factor 2	Strategic Agility 12.5. Expand into new regional or international markets.	0.7157
Factor 2	Strategic Agility 12.6. Change (i.e., expand or reduce) the variety of products / services available for sale.	0.691
Factor 2	Strategic Agility 12.7. Adopt new technologies to produce better, faster and cheaper products and services.	0.7903
Factor 2	Strategic Agility 12.8. Switch suppliers to avail of lower costs, better quality or improved delivery times.	0.6525
Factor 4	Cultural Factors: 10.1. My Subordinates tend to possess the same organisational goals that I have.	0.6979
Factor 4	Cultural Factors: 10.2. My subordinates are generally informed and experienced.	0.8328
Factor 4	Cultural Factors: 10.3. Participative decision making is widely used in my organisation.	0.5106
Factor 4	Cultural Factors: 10.4. My boss frequently solicits my participation in his or her decisions.	0.5821
Factor 4	Commitment: 11.1. Participative decision making is an effective management style over the long term.	0.4498
Factor 3	Power: 9.1. Participative decision making requires divulging too much confidential information.	0.7324
Factor 3	Power: 9.2. Participative decision-making gives too much power to subordinates.	0.7004
Factor 3	Power: 9.3. Subordinates often cannot be trusted.	0.5169
Factor 4	Commitment: 11.3. Participation works in some cases, but most of the time the manager should make the decision based on his or her expertise and information.	0.4697

The loadings typically range from 0 to 1, where closer to one means a stronger loading and closer to zero means a weaker loading. The analysis revealed strong factor loadings which is a good indication of strong constructs. There are only a few loadings which are lower than 0.45. A factor loading of 0.4 is still adequate for Likert scale data (Uz Zaman et al., 2020) . The factor loadings are now distinctly presented and those with low loadings less than 0.4 are now omitted. Table 10 provides a view of the variables that were removed.

5.3.1.7. Communalities

The communality values are presented in Table 9 below. These values represent the unique variance of the factors. Specifically, these are the percentage of variance that can be explained by the retained factors across each variable.

Table 10: Communalities

Variable	Communality Values
Organizational Effectiveness - 8.1 Many organisational problems disappear when everyone has a chance to participate in decision making.	0.5255
Organizational Effectiveness - 8.2 Participative decision making usually results in effective decisions.	0.6917
Organizational Effectiveness - 8.3. Group decisions are worth any extra time required.	0.5829
Organizational Effectiveness - 8.4. Participative decision making simulates feelings of self-worth for subordinates.	0.6434
Organizational Effectiveness - 8.5. Participative decision making is an effective communication tool.	0.7337

Organizational Effectiveness - 8.6. Participative decision making promotes positive relationships at all levels of the organisation.	0.7169
Organizational Effectiveness - 8.7. When my boss allows me to participate in decisions, I feel more important	0.6242
Power: 9.1. Participative decision making requires divulging too much confidential information.	0.5256
Power: 9.2. Participative decision-making gives too much power to subordinates.	0.5256
Power: 9.3. Subordinates often cannot be trusted.	0.4008
Cultural Factors: 10.1. My Subordinates tend to possess the same organisational goals that I have.	0.5199
Cultural Factors: 10.2. My subordinates are generally informed and experienced.	0.7503
Cultural Factors: 10.3. Participative decision making is widely used in my organisation.	0.3874
Cultural Factors: 10.4. My boss frequently solicits my participation in his or her decisions.	0.2929
Commitment: 11.1. Participative decision making is an effective management style over the long term.	0.4425
Commitment: 11.2. It is better for a manager not to solicit subordinate participation than to do so and ignore the suggestions.	0.1316
Commitment: 11.3. Participation works in some cases, but most of the time the manager should make the decision based on his or her expertise and information.	0.2269

Commitment: 11.4. Participative decision making is a philosophy, not a technique.	0.1511
Strategic Agility 12.1. Respond to changes in aggregate consumer demand.	0.5133
Strategic Agility 12.2. Customize a product or service to suit an individual customer.	0.5564
Strategic Agility 12.3. React to new product or service launches by competitors.	0.457
Strategic Agility 12.4. Introduce new pricing schedules in response to changes in competitors' prices.	0.4744
Strategic Agility 12.5. Expand into new regional or international markets.	0.5424
Strategic Agility 12.6. Change (i.e., expand or reduce) the variety of products / services available for sale.	0.4923
Strategic Agility 12.7. Adopt new technologies to produce better, faster and cheaper products and services.	0.588
Strategic Agility 12.8. Switch suppliers to avail of lower costs, better quality or improved delivery times.	0.4517

The communality values suggest that three values should be removed. Commitment (11.2 and 11.4) had poor factor loadings and already needed to be removed. This left 22 variables on which a second iteration of factor analysis could be performed. It is important to note that there is a strong validation of the 'Organisational Effectiveness', 'Strategic Agility' and 'Power' constructs/factors.

Based on the communality values, communalities with values less than 0.3 should be removed (Uz Zaman et al., 2020). A value above 0.3 is appropriate due to the smaller sample size in this factor analysis. Factor loadings below 0.4 and communalities below 0.3 were removed.

Table 11: Factors removed after factor loadings and communalities were assessed.

Factor	Item
Culture	10.4. My boss frequently solicits my participation in his or her decisions.
Commitment	11.2. It is better for a manager not to solicit subordinate participation than to do so and ignore the suggestions.
Commitment	Participation works in some cases, but most of the time the manager should make the decision based on his or her expertise and information.
Commitment	11.4. Participative decision making is a philosophy, not a technique.

Source: Author's Compilation (2024)

To follow on this process, the exploratory factor analysis process was run again, however the variables which performed poorly were omitted for the second iteration of factor analysis.

5.3.2. Exploratory Factor Analysis – Iteration 2

Following the first iteration of the EFA, the next step was to obtain the correlation matrix of the data using the Spearman correlation method to determine whether factor analysis is an appropriate method to use.

5.3.2.1. Kaiser-Meyer-Olkin Measure

In the second iteration, the KMO measure was calculated to be 0.8541 which indicates that factor analysis could be performed.

5.3.2.2. Bartlett's Test

Barlett's test was also performed again to test whether it was appropriate to perform factor analysis on this data.

Table 12: Bartlett's Test

Bartlett's Test	
Chi-Square Test Statistic	1544
P-Value	<0.0001
Df	231

Source: Author's Compilation from Survey Analysis (2024)

Since the p-value is <0.0001 (approximately zero) the factor analysis would be useful.

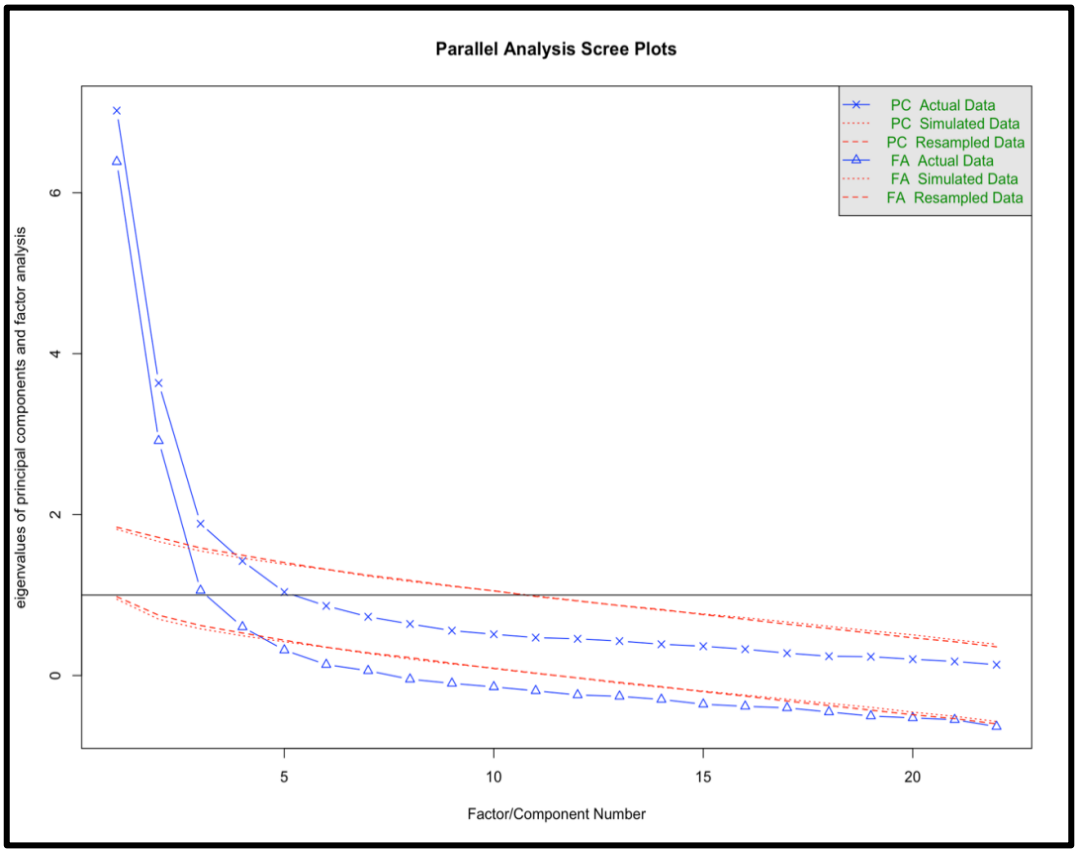
Before proceeding with the factor analysis, the determinant of the correlation matrix was calculated. If the determinant is positive, the Factor Analysis will run. The determinant was calculated to be 0.000018 which, although extremely small, is still positive. Therefore, the Factor Analysis was run.

5.3.2.3. Cronbach Alpha

A Cronbach Alpha value of 0.8812 was calculated, indicating that there is a strong consistency in the data.

5.3.2.4. Parallel Analysis

Figure 5: Parallel Analysis - Iteration 2



Parallel analysis suggests that the number of factors is 4.

Table 13: Factor Loadings for first iteration of factor analysis

Factor	Variables	Loadings
Factor 1	Organizational Effectiveness - 8.1 Many organisational problems disappear when everyone has a chance to participate in decision making.	0.6508
Factor 1	Organizational Effectiveness - 8.2 Participative decision making usually results in effective decisions.	0.7764
Factor 1	Organizational Effectiveness - 8.3. Group decisions are worth any extra time required.	0.6277
Factor 1	Organizational Effectiveness - 8.4. Participative decision making simulates feelings of self-worth for subordinates.	0.8047
Factor 1	Organizational Effectiveness - 8.5. Participative decision making is an effective communication tool.	0.882

Factor 1	Organizational Effectiveness - 8.6. Participative decision making promotes positive relationships at all levels of the organisation.	0.8162
Factor 1	Organizational Effectiveness - 8.7. When my boss allows me to participate in decisions, I feel more important	0.8204
Factor 2	Strategic Agility 12.1. Respond to changes in aggregate consumer demand.	0.5666
Factor 2	Strategic Agility 12.2. Customize a product or service to suit an individual customer.	0.7471
Factor 2	Strategic Agility 12.3. React to new product or service launches by competitors.	0.6187
Factor 2	Strategic Agility 12.4. Introduce new pricing schedules in response to changes in competitors' prices.	0.6551
Factor 2	Strategic Agility 12.5. Expand into new regional or international markets.	0.7303
Factor 2	Strategic Agility 12.6. Change (i.e., expand or reduce) the variety of products / services available for sale.	0.6818
Factor 2	Strategic Agility 12.7. Adopt new technologies to produce better, faster and cheaper products and services.	0.7942
Factor 2	Strategic Agility 12.8. Switch suppliers to avail of lower costs, better quality or improved delivery times.	0.6675
Factor 4	Cultural Factors: 10.1. My Subordinates tend to possess the same organisational goals that I have.	0.7854
Factor 4	Cultural Factors: 10.2. My subordinates are generally informed and experienced.	0.8758
Factor 4	Cultural Factors: 10.3. Participative decision making is widely used in my organisation.	0.4468
Factor 4	Commitment: 11.1. Participative decision making is an effective management style over the long term.	0.4498
Factor 3	Power: 9.1. Participative decision making requires divulging too much confidential information.	0.8491
Factor 3	Power: 9.2. Participative decision-making gives too much power to subordinates.	0.6663
Factor 3	Power: 9.3. Subordinates often cannot be trusted.	0.4379

Source: Author's Compilation from Survey Analysis (2024)

There are no longer loadings with values below 0.4. The loadings that were omitted can be found under the first iteration of analysis in Table 11, section 5.3.1.7. All factor loadings are now above 0.4 and all communalities above 0.3.

5.3.2.5. Communality Values

The communality values are presented below in Table 13 below.

Table 14: Communality

Variables	Communality Values
Organizational Effectiveness - 8.1 Many organisational problems disappear when everyone has a chance to participate in decision making.	0.5201
Organizational Effectiveness - 8.2 Participative decision making usually results in effective decisions.	0.6753
Organizational Effectiveness - 8.3. Group decisions are worth any extra time required.	0.5858
Organizational Effectiveness - 8.4. Participative decision making simulates feelings of self-worth for subordinates.	0.6397
Organizational Effectiveness - 8.5. Participative decision making is an effective communication tool.	0.7477
Organizational Effectiveness - 8.6. Participative decision making promotes positive relationships at all levels of the organisation.	0.7301
Organizational Effectiveness - 8.7. When my boss allows me to participate in decisions, I feel more important	0.6286
Power: 9.1. Participative decision making requires divulging too much confidential information.	0.705
Power: 9.2. Participative decision-making gives too much power to subordinates.	0.4898
Power: 9.3. Subordinates often cannot be trusted.	0.3521
Cultural Factors: 10.1. My Subordinates tend to possess the same organisational goals that I have.	0.6053
Cultural Factors: 10.2. My subordinates are generally informed and experienced.	0.789

Cultural Factors: 10.3. Participative decision making is widely used in my organisation.	0.3242
Commitment: 11.1. Participative decision making is an effective management style over the long term.	0.4323
Strategic Agility 12.1. Respond to changes in aggregate consumer demand.	0.5136
Strategic Agility 12.2. Customize a product or service to suit an individual customer.	0.557
Strategic Agility 12.3. React to new product or service launches by competitors.	0.4593
Strategic Agility 12.4. Introduce new pricing schedules in response to changes in competitors' prices.	0.4701
Strategic Agility 12.5. Expand into new regional or international markets.	0.5499
Strategic Agility 12.6. Change (i.e., expand or reduce) the variety of products / services available for sale.	0.4894
Strategic Agility 12.7. Adopt new technologies to produce better, faster and cheaper products and services.	0.5932
Strategic Agility 12.8. Switch suppliers to avail of lower costs, better quality or improved delivery times.	0.4543

Source: Author's Compilation from Survey Analysis (2024)

Based on the communality values, there are no longer any variables to be removed, and all loadings and communality values are sufficient.

No further variables need to be removed, this represents the final solution.

5.3.2.6. Cronbach Alpha

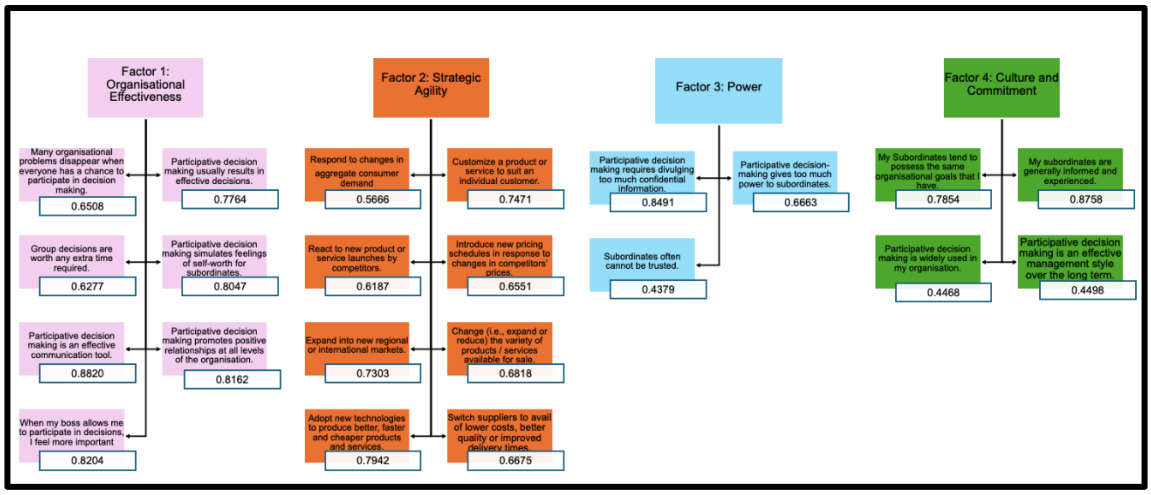
Below is the Cronbach Alpha value per factor to further investigate the final factor results.

Table 15: Cronbach Alpha

Cronbach Alpha	
Factor 1	0.9177
Factor 2	0.884
Factor 3	0.7615
Factor 4	0.7012

Source: Author's Compilation from Survey Analysis (2024)

Figure 6: Visual Representation of final Factor Analysis solution



Source: Author's Compilation (2024)

Taking a closer look at this solution reveals four key factors or constructs in the data:

Table 16: New Factor Descriptions

Factor	Description
Factor 1	All **Organisational Effectiveness** questions/variables. Question numbers: 8.1, 8.2, 8.3, 8.4, 8.5 and 8.6

Factor 2	All **Strategic Agility** questions/variables. Question Numbers: 12.1, 12.2, 12.3, 12.4, 12.5, 12.6, 12.7, 12.8
Factor 3	All **Power** questions/variables. Question Numbers: 9.1, 9.2, 9.3
Factor 4	This Factor consists of three cultural questions/variables and one of the commitment questions/variables. Now called: **Culture and Commitment** Question Numbers: 10.1, 10.2, 10.3, 11.1

Source: Author's Compilation (2024)

Three of the four questions regarding commitment did not appear in the final factor analysis solution indicating that in the context of this study, they may not be as strong of a driver within PDM, they also had very poor loadings with the resultant factors. These questions also had poor correlations with other drivers. This could imply that they do not align well with the other factors and might not measure participative decision making very well. These questions were removed to make the model stronger and more interpretable. Table 11 contains the list of questions that were removed.

To analyse the rest of the data and perform the rest of the analysis, the factor scores were used, from the final version of the factor analysis. The following sections will unpack the Hypotheses based on the factor scores.

5.4. Hypotheses Testing

In this section, the hypothesis is tested more in-depth investigations is conducted, on the data gathered.

5.4.1. PDM

PDM, according to the scale used for this study consists of four factors: Organisational Effectiveness (POE); Culture (PC); Commitment (PC) and Power (PP). Figure 7 below is a visual representation of the PDM Construct.

Figure 7: Visual Representation of the new PDM Construct

Source: Author's Compilation (2024)

Based on the previously validated questionnaire for PDM (Parnell & Crandall, 2000), we know that the scale items which fall into factors 1, 3 and 4 (Organisational Effectiveness, Power and Culture and Commitment respectively) all belong to the overarching theme of PDM.

PDM will now be compared to strategic agility, as this is the primary research question that this study attempts to answer. To this end, a composite score of the factor scores from the EFA was calculated.

As a start, the Cronbach alpha value of the items within these three factors was calculated to ensure that there was sufficient internal reliability. However, "Power" (Factor 3) is negatively correlated with the other two factors of "Organisational Effectiveness" and "Culture and Commitment".

For the purposes of creating the composite score, the factor scores for "Power" are reverse coded so that there is alignment with the scale of the other factors. "Power" was also noted as a possible area of improvement in the original paper and was "correctly" negatively correlated within the PDM factor.

The composite score is therefore simply the average of the three factors which fall into PDM.

The Cronbach alpha is 0.8668 which indicates strong internal reliability, after taking the negative nature of Power into account.

5.4.2. Correlations Between the factors

In this section, the correlations between the factor scores are analysed. This allows an observation of how factors interact and relate to each other. After removing three questions and combining Culture and Commitment there are now four factors (rather than five), namely:

i. Organisational Effectiveness (Factor 1)

ii. Strategic Agility (Factor 2)

iii. Power (Factor 3)

iv. Culture and Commitment (Factor 4)

The most popular correlation used is Pearson's correlation coefficient, but typically requires the factor scores (or data) to follow the normal distribution. The first test was to establish if the factor scores are normally distributed, and then proceed from there.

The Shapiro Wilk Test is used to test for normality.

Table 17: Shapiro Wilk Test for Normality

	Shapiro-Wilk Test p-value
Factor 1	<0.0001
Factor 2	<0.0001
Factor 3	0.1287
Factor 4	<0.0001
PDM	0.0027

Source: Author's Compilation from Survey Analysis (2024)

Since the p-values of the Shapiro-Wilk test are less than 0.05, or 5%, we would reject the hypothesis of normality and conclude that the factor scores are not normally distributed. The only exception is Factor 3, which has a p-value greater than 5%. As a result, we can use Spearman's rank correlation instead, which does not rely on the normality assumption.

5.4.3. Spearman's Rank Correlation

Table 18: Spearman Correlation Test Results

	Correlation Coefficient (Spearman)	**p-value**
Factor 1 vs Factor 2	0.3675	0.0001
Factor 1 vs Factor 3	-0.2381	0.0120
Factor 1 vs Factor 4	0.5228	<0.0001
Factor 2 vs Factor 3	0.0722	0.4511
Factor 2 vs Factor 4	0.3812	<0.0001
Factor 3 vs Factor 4	-0.1639	0.0856
PDM vs Factor 2 (SA)	0.2890	0.0022

Source: Author's Compilation from Survey Analysis (2024)

In the table of results above, if the p-value is less than 5%, it means that the correlation between the two factor scores is statistically significant. The correlations between Factors 1 and 2,3 and 4 are all statistically significant. There is also a statistically significant correlation between Factor 2 and Factor 4.

5.4.4. Hypotheses 1

There will be a positive correlation between the level of participative decision making and the level of Strategic Agility in organisations. Organisations that utilize higher levels of PDM will exhibit greater Strategic Agility.

H1: Higher levels of PDM lead to greater SA.

The correlation coefficient between PDM and Strategic Agility is 0.298, which is a moderate strength positive relationship. This is a statistically significant correlation, as indicated by the p-value being less than 0.05. This means that as the level of PDM increases, Strategic Agility also increases.

5.4.5. Hypotheses 2:

H_4 : Culture and Commitment: Higher levels of commitment within PDM will be positively associated with SA.

H_4 : *Higher Culture and Commitment is correlated with higher SA.*

Since we were not able to validate three values within Culture and Commitment, and these values had low factor loadings, the values were removed, and the two constructs were collapsed into one single construct “Culture and Commitment”. Therefore hypotheses 2 was changed from assessing levels of commitment withing PDM and its impact on Strategic Agility, to assessing the impact of Culture and Commitment on strategic agility.

The correlation coefficient between Culture and Commitment (Factor 4) and SA (Factor 2) is 0.3812, which is a moderate strength positive relationship. This is a statistically significant correlation, as indicated by the p-value being less than 0.05. This means that as the level of Culture and Commitment within PDM increases, Strategic Agility also increases.

5.4.6. Hypotheses 3:

H_3 : Power: Perceptions of the relationship between power and Strategic Agility will negatively correlate with the level of Strategic Agility experienced in organisations.

H_3 : *Negative correlation between perceived power and SA.*

There is a weak negative correlation between Factor 3 (Power) and SA (Factor 2), at 0.0722. In addition, the p-value is high at 0.4511. This means that as power does not directly impact SA.

It can however be observed that the correlation between Organisational Effectiveness (Factor 1) and Powe (Factor 3) is -0.2381, with a p-value of less than 0.05, confirming a negative correlation between power and organisational effectiveness, that is, as power increases, organisational effectiveness decreases. The same can be observed between Power and Culture and Commitment with a correlation of -0.1639, therefore we can conclude that as Power increases, culture and commitment decreases.

5.4.7. Hypotheses 4

H_2 : Moderating Effect of Culture and Commitment: The relationship between PDM and SA will be moderated by organisational culture and commitment. The positive relationship between PDM and Strategic Agility will be stronger in organisations with cultures that support collaboration and employee empowerment, and strong commitment.

H_2 *: Culture and Commitment Supports stronger relationship between PDM and SA*

Hypotheses 2 suggests that organisational culture is a moderator for the relationship between PDM and strategic agility. Based on the findings in the factor analysis, commitment was merged with culture, forming the “Culture and Commitment” factor.

These factor scores are again used in this analysis. To explore whether culture and commitment is a moderator for the relationship, moderation analysis was conducted. This includes the use of multiple linear regression testing. The histograms result of these models can be found in Appendix 5.

To investigate if PDM and Strategic Agility is moderated by Culture and Commitment, the table below presents a p-vale of below 0.05 for culture and commitment. It is acknowledged that PDM includes Culture and Commitment.

Table 19: Model 1 – Culture and Commitment as a moderator of Strategic Agility

Characteristic	Beta	95% CI[1]	p-value
(Intercept)	-0.10	-0.30, 0.09	0.3
PDM	-0.03	-0.41, 0.34	0.9
Culture and Commitment	0.52	0.25, 0.78	<0.001
Interaction	0.26	0.01, 0.51	0.043
[1] CI = Confidence Interval			

Source: Author's Compilation from Survey Analysis (2024)

All predictors are significant due to p-values being less than 0.05. Culture and commitment is significant and the interaction between PDM and Culture and Commitment is also significant. The findings confirm that Culture and commitment is a moderator for the relationship between strategic agility and PDM.

We note a moderate positive relationship between Factor 2 (Strategic Agility) and Factor 4 (Culture and Commitment), with a correlation of 0.3813 and a p-value below 0.05. We can conclude that as Culture and Commitment improve so too does Strategic Agility.

A strong positive correlation is noted between Factor 1 (Organisational Effectiveness) and Factor 4 (Culture and Commitment), with a correlation of 0.5228 and a p-value below 0.05, this suggests that as Culture and Commitment increases, so too does Organisational Effectiveness.

We also note a moderate positive relationship between Factor 2 (Strategic Agility) and Factor 4 (Culture and Commitment), with a correlation of 0.3812 and a p-value of less than 0.05, we can conclude that as Culture and Commitment improve so too does Strategic Agility.

5.4.8. Investigations with Demographics and Professional variables

Using the data collected an investigation is conducted to establish whether there are differences which exist between our Factors and the demographic areas of:

i. Gender
ii. Age
iii. Work Level
iv. Management Experience

It has already been established that there is a violation in the normality assumption for three of the four factor scores, non-parametric tests are used. These are alternatives to parametric tests (such as the t-test, ANOVA etc) when the underlying assumptions of these tests, such as the normality assumption, are violated.

Missing values: Only complete responses are used in the analysis i.e. missing values are omitted.

5.4.8.1. Demographic and Professional Analysis

Table 20: Demographic and Professional Analysis using Factor Scores

Comparison	p-value
Gender vs. Factor 1	0.1628
Gender vs. Factor 2	0.8024
Gender vs. Factor 3	0.1017
Gender vs. Factor 4	0.8826

Gender vs. PDM	0.7839
Age vs. Factor 1	0.855
Age vs. Factor 2	0.742
Age vs. Factor 3	0.4079
Age vs. Factor 4	0.7367
Age vs. PDM	0.5478
Work Level vs. Factor 1	0.7845
Work Level vs. Factor 2	0.7693
Work Level vs. Factor 3	0.0727
Work Level vs. Factor 4	0.2728
Work Level vs. PDM	0.4321
Management Experience vs. Factor 1	0.6386
Management Experience vs. Factor 2	0.4782
Management Experience vs. Factor 3	0.1818
Management Experience vs. Factor 4	0.8081
Management Experience vs. PDM	0.2413

Source: Author's Compilation from Survey Analysis (2024)

5.4.8.1.1. Gender

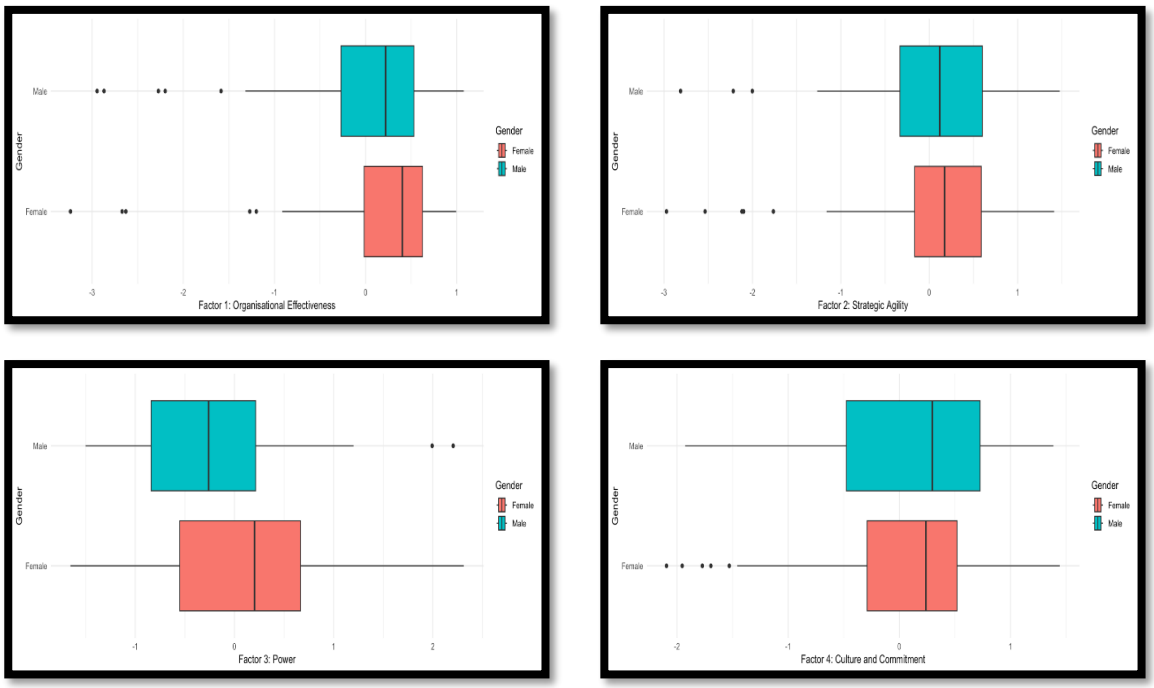
For the purpose of this analysis, the genders of "Nonbinary/third gender" and "Prefer to not say" are excluded due to low counts. Therefore, only the males to females are compared with each other.

The basic hypothesis being tested testing is:

H0 (The null hypothesis): the factor scores for males and females are the same vs. HA (The alternative hypothesis): The factor scores of males and females are different.

First, the graphical representations of the factors vs Gender is presented in Figures 7, 8, 9, and 10.

Figure 8: Boxplots – Gender Analysis



All of the resultant p-values are all greater than 0.05, which indicates that there is not a significant difference between males and females in the context of organisational effectiveness, power, culture and commitment and strategic agility. This is further reinforced by the boxplot, where the spread and the median is similar for both groups.

The null hypothesis is therefore accepted.

5.4.8.2. Age

The basic hypothesis being tested is:

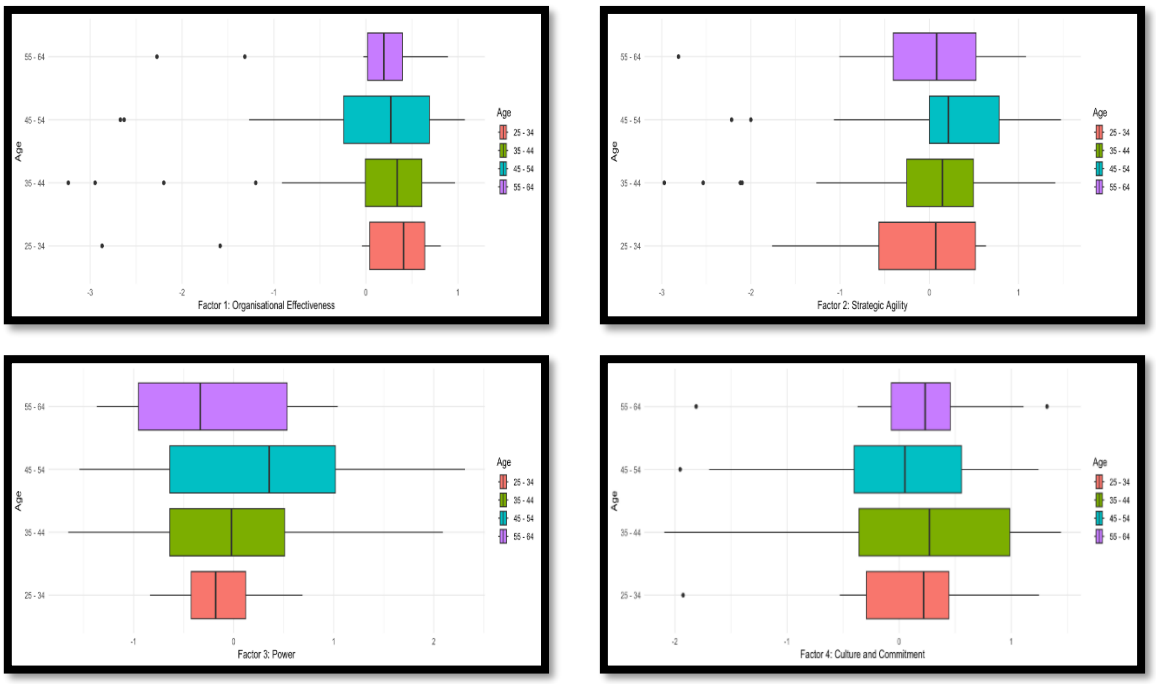
H0 (The null hypothesis): the factor scores for the age groups are the same vs. HA (The alternative hypothesis): The factor scores of the age groups are different.

There are only two individuals who fall into the 18-24 age group. This age group was removed from the analysis due to lack of data.

This is analysed using the Kruskal Wallis test.

First, the graphical representations of the factors vs Age is presented.

Figure 9: Boxplots – Age Analysis



All of the resultant p-values are all greater than 0.05, which indicates that we do NOT have a significant difference between the age groups for all factors i.e. there are no differences between the age groups in the context of organisational effectiveness, power, culture and commitment and strategic agility. This is further reinforced by the boxplot, where we note the spread, and the median is quite similar for both groups. This could speak to a relatively consistent across ages and an inclusive culture.

The null hypothesis is therefore accepted.

5.4.8.3. Current Work Level

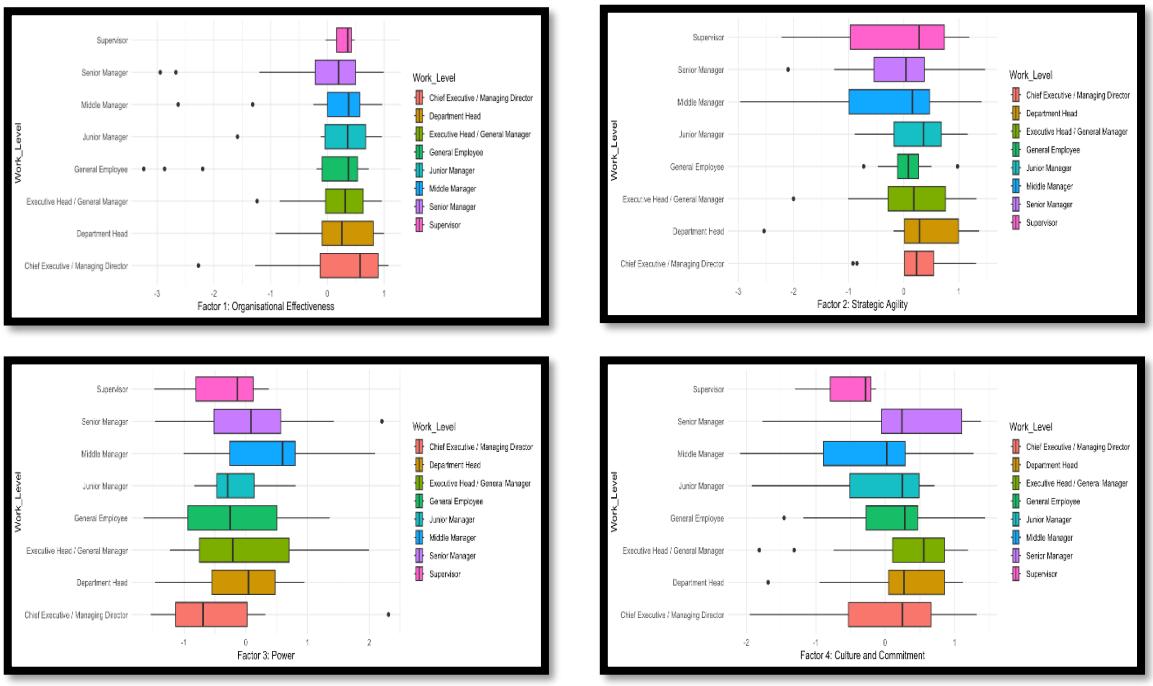
The basic hypothesis we are testing is:

H0 (The null hypothesis): the factor scores for the work levels are the same vs. HA (The alternative hypothesis): The factor scores of the work levels are different.

This is analysed using the Kruskal Wallis test.

First, the graphical representations of the factor's vs Work Level are presented. All of the resultant p-values are all greater than 0.05, which indicates that the is NOT a significant difference between the work levels i.e. there are no differences between the work levels in the context of organisational effectiveness, power, culture and commitment and strategic agility. This is further reinforced by the boxplot, where the spread, and the median is similar for both groups. The hypothesis is therefore rejected.

Figure 10: Boxplots - Work Level Analysis



5.4.8.4. Management experience

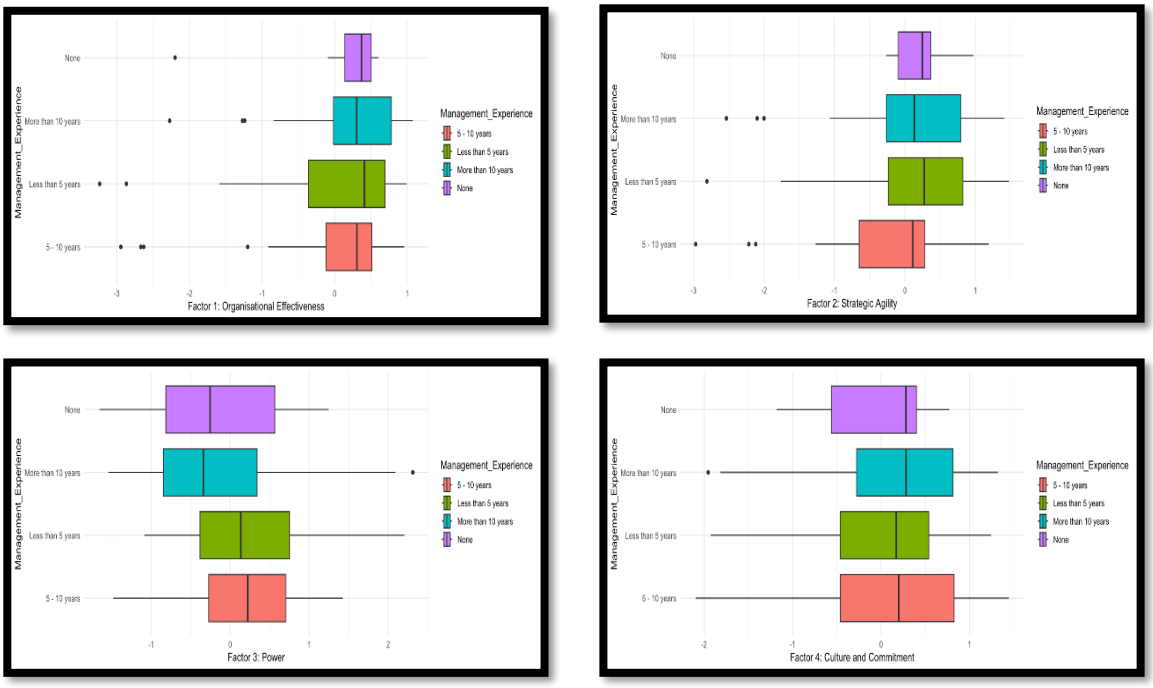
The basic hypothesis we are testing is:

H0 (The null hypothesis): the factor scores for the management experience are the same vs. HA (The alternative hypothesis): The factor scores of management experience are different.

This is analysed using the Kruskal Wallis test.

First, the graphical representations of the factors vs Management Experience are presented.

Figure 11 – Management Experience Analysis



All the resultant p-values are all greater than 0.05, which indicates that there is NOT any significant difference between the years of management experience i.e. there are no differences between the management experience in the context of organisational effectiveness, power, culture and commitment and strategic agility. This is further reinforced by the boxplot, where the spread, and the median is similar for both groups. The null hypothesis is therefore accepted.

5.5. Summary of Analysis

All data was analysed using R Core Team (2022). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL https://www.R-project.org/ (version 4.2.1).

The analysis began with descriptive statistics to provide a general overview to the data collected. To this end an inclusion criterion of 70% of questionnaire completion was used to ensure sufficient information was retained for analysis.

An Exploratory Factor Analysis (EFA) followed, to determine latent groups or constructs in the data, and to validate some of the pre-existing constructs. Four resultant factors were discovered in the data, namely Organisational Effectiveness, Strategic Agility,

Power and “Culture and Commitment”. Two iterations of EFA was conducted to reach the final solution, due to poor performance from four of the variables. All underlying assumptions and checks for the EFA were checked and provided.

Thereafter, (Spearman) correlations between the four factors were analysed and interpreted, where some significant relationships were discovered and commented on, which do provide evidence in support of the established hypotheses initially drafted for exploration. Spearman correlations were used due to violations in the normality assumption of the factor scores.

Any potential differences in the factor scores across the demographic variables were then explored, and no significant differences were found across age, gender, current work level and years of managerial experience. These were analysed using non-parametric techniques (due to the violation of the normality assumption), namely the Wilcoxon Test (for Gender) and Kruskal Wallis Test (for all the others).

The hypothesis for Culture and commitment being a moderating variable for the relationship between PDA and strategic agility was tested using multiple linear regression. It was found that culture and commitment is a moderator for the relationship between organisational effectiveness and strategic agility, but not for Power and strategic agility. All model assumption checks were checked and validated.

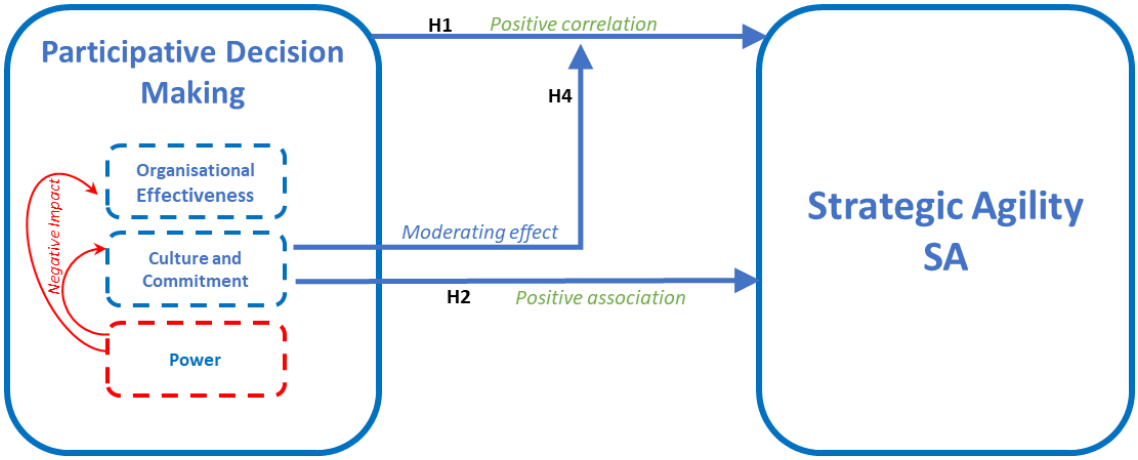
In conclusion, there is evidence in support of many of the hypotheses, however the hypotheses regarding power could not be supported conclusively.

Chapter 6: Discussion

The purpose of this study was to test several hypotheses to understand whether PDM positively influences an organisation's ability to develop strategic agility. The study used scales that were previously used in studies conducted by Tallon and Pinsonneault (2011) and Tallon (2008), where SA was tested using scales previously developed by Johnson et al. (2003) to test market focused strategic flexibility. The PDM scales were adopted from Parnell and Crandall (2000) which was revision of the original scales designed by Parnell and Bell (1994) which included constructs of organisational effectiveness and power.

This chapter will discuss the results of the analysis that was performed in Chapter 5, in relation to the hypotheses presented in Chapter 3. The findings are presented in the context of the literature review presented in Chapter 2. Below is the revised contextual diagram that was originally presented in Chapter 3, this has been updated following the findings in Chapter 5.

Figure 12: Contextual Model – After Hypotheses Testing



Source: Author's Compilation (2024)

6.1. Hypotheses 1

H_1 : *Higher levels of PDM lead to greater SA.*

The results demonstrate that a moderate positive relationship exists between the propensity for PDM and strategic agility, therefore as PDM increases, so too does

strategic agility. The correlation coefficient between PDM and Strategic Agility is 0.298, which is a moderate strength positive relationship. This is a statistically significant correlation, as indicated by the p-value being less than 0.05. This means that as the level of PDM increases, Strategic Agility also increases.

Research conducted by Parnell and Crandall (2000) implies that a higher propensity for PDM and the successful implementation of PDM, is highly correlated to factors that enhance and influences an organisation's ability to adapt and respond to change while increasing the likelihood of quick and efficient decision making. Effective PDM can lead to better decisions and improved employee morale and productivity, all of which enhance an organisation's ability to be agile.

Findings from a study conducted by Carmeli et al. (2009) strongly suggests that the effective use of PDM significantly enhances an organisation's strategic agility, arguing that PDM results in better strategic decisions, which enhances an organisation's ability to adapt to change. This view further supports the findings in this study.

6.2. Hypotheses 2

H_2: *Higher culture and commitment are correlated with higher Strategic Agility.*

Initially hypotheses 2 was focused on testing commitment and its correlation with strategic agility, however during the analysis three items, one within the culture factor and two within the commitment factor returned low factor loadings and communality values of less than 0.3. As a result, these items were removed, and the two constructs were collapsed into one single construct "Culture and Commitment". As a result, hypothesis 2 was changed from assessing levels of commitment withing PDM and its impact on Strategic Agility, to assessing the impact of Culture and Commitment on strategic agility.

The results of analysis performed on the new construct of culture and commitment demonstrated a moderate strength, positive relationship between culture and commitment and strategic agility. Indicating that as the level of Culture and Commitment within PDM increases, Strategic Agility also increases.

This theory is also implied in the original study by Tallon and Pinsonneault (2011). Although not explicitly tested, the study implies that culture and commitment play a significant role in influencing strategic agility. The study finds that there is a significant impact of agility on performance, especially in volatile environments, and suggests that a supportive culture is crucial for effectively implementing and leveraging agility initiatives.

Strongly advocating for culture and commitment in the enablement of strategic agility, Cunha et al. (2020) emphasises the importance of culture that supports and balances accountability and psychological safety to encourage improvisation and ultimately create strategic agility. The organisation's ability to achieve strategic agility is dependent on both a top-down approach with management providing strategic direction through shared purpose, as well as a bottom-up approach where decision-making and improvisation is encouraged, this further encourages a culture of commitment, fostering trust and accountability. Driving strong commitment and accountability becomes crucial in aligning the organisational purpose with individual goals while advocating for a balanced approach in dealing with environmental turbulence (Cunha et al., 2020).

Ultimately, commitment is a binding force that brings together all the elements required for strategic agility in a coherent manner, to create an agile system. It is an essential component for sustained strategic agility, being able to adjust strategy continuously based on environmental factors required sustained effort and dedication from all levels within the organisation (Ahammad et al., 2021).

The findings of the study are supported by literature that both culture and commitment are necessary in creating a system that facilitates shared purpose, improvision, trust and ownership. The literature reviewed above suggests that these elements are essential in creating and sustaining strategic agility.

6.3. Hypotheses 3

H_3: There *is a negative correlation between perceived power and SA.*

The results to test the correlation between power and strategic agility yielded a weak negative correlation suggesting that within the context of this study, power did not directly impact strategic agility.

It was however discovered during analysis that there is a negative correlation between power and organisational effectiveness, that is, as power increases, organisational effectiveness decreases. The same was observed between Power, and Culture and Commitment therefore concluding that as Power increases, culture and commitment decreases.

The study conducted by Parnell and Crandall (2000) found that a manager's perception of power will significantly influence their propensity for PDM as managers may resist PDM due to a fear of a loss of power.
Presenting a model to explain the role of power dynamics in organisational paradoxes Berti and Simpson (2021) notes that oppressive power restricts the ability for people to choose legitimate responses, significantly impacting the decision making processes.

According to Parayitam and Papenhausen (2018) there is a positive association between cooperative conflict management and agreement-seeking behaviour, suggesting that in a cooperative environment, power is less likely to be concentrated in the hands of a few and is more likely to result in a decision-making process in which all members contribute, reducing the influence of any single individual or subgroup.

A decentralised approach to power distribution and a shift away from hierarchical structures empowers individuals across an organisation to make decisions and encourages collaboration and sharing of information (Bernstein & Barrett, 2011). Highlighting the fact that even when optimal, power structures can hinder the organisation’s ability to exploit new opportunities or respond to change Li et al. (2017) further note that power divisions hinder strategic agility and the organisations overall profitability.

While the PDM scale used in this study as well as literature review supports the view that power, the perception of power and the misuse of power can have a negative effect on PDM (organisational effectiveness, culture, commitment) and strategic agility, the findings of this study only support the view that power is negatively correlated with organisational effectiveness, and culture and commitment. There were no strong findings to support the theory that power negatively impacts strategic agility, which is in

contradiction to the literature reviewed. This could be because the population of respondents for this study was small and skewed heavily to the financial services sector. In addition, the researcher, being from the financial services sector used her own professional network to distribute the survey and it is plausible that the respondents are from the same or similar organisation, where there is more diversity in decision making and a wider distribution of power.

This study could yield different results, and the role of power on strategic agility re-assessed in a differed context with a more diverse set of respondents.

6.4. Hypotheses 4

H_4: Moderating Effect of Culture: The relationship between PDM and Strategic Agility will be moderated by organisational culture. The positive relationship between PDM and Strategic Agility will be stronger in organisations with cultures that support collaboration and employee empowerment.

H_4*: Organisational Culture Supports stronger relationship between PDM and SA*

Initially hypotheses 4 was focused on testing the moderating effect of culture on PMD and strategic agility, however during the analysis three items, one within the culture factor and two within the commitment factor returned low factor loadings and communality values of less than 0.3. As a result, these items were removed, and the two constructs were collapsed into one single construct “Culture and Commitment”. As a result, hypotheses 4 was changed from assessing the moderating effect of culture on PDM and strategic agility to assessing the moderating effect of Culture and Commitment on PDM and strategic agility.

The results of analysis performed on the new construct of culture and commitment demonstrated that culture and commitment only moderated the relationship between strategic agility and Organisational Effectiveness and did not moderate the relationship between strategic agility and Power.

A strong positive correlation was noted between Organisational Effectiveness and Culture and Commitment which suggests that as Culture and Commitment increases, so too does Organisational Effectiveness.

Brozovic (2018) suggest that there is an inter-relationship between PDM, culture and strategic agility, noting that a culture that values adaptability is more likely to encourage agility and a decentralized decision-making process (implicitly more participative), while high levels of commitment, aided by a supportive and trusting organisational culture would likely enhance an organisation's capacity for rapid and effective responses to changing environmental conditions (strategic agility).

The study conducted by Parnell and Crandall (2000) resulted in the scale for PDM being refined to include culture and commitment. These two factors were distinguished as two separate factors in the study by Parnell and Crandall (2000), however in this study culture and commitment were collapsed into one factor due to low communality and factor loadings. Parnell and Crandall (2000) identified culture as playing a crucial role in influencing a manager's propensity for PDM and the study implies that there is a connection between strategic agility, organisational change and adaptability, with culture being an important facilitator. The findings in this study support the view that culture moderates the relationship between PDM and strategic agility and that a strong culture that values knowledge sharing, communication, adaptability, responsiveness, continuous learning, and a willingness to experiment is more likely to enable strategic flexibility (Brozovic, 2018).

6.5. Demographics & Professional Investigations

In the study by Parnell and Crandall (2000), it emerged that there were significant differences in response between female and male respondents, with males showing a greater propensity for PDM. The study did acknowledge limitations in its data and suggested that further studies be conducted on the difference between gender and the propensity for PDM.

During the course of this study, additional data collected was analysed against the four factors to establish whether any significant trends emerged between the demographic

data and the four factors. The factors were tested against gender, age, work level and management experience.

The null hypotheses were accepted for all four demographic variables of gender, age, work level and management experience. There appeared to be no significant difference between each of these items and organisational effectiveness, culture and commitment and power which together make up PDM and there was also no significant difference between the four demographic variables and strategic agility.

These results could speak to the fact that these demographic and professional characteristics do not significantly influence the perceptions or experiences related to PDM (organisational effectiveness, power, culture and commitment) and strategic agility based the context of this study and the data collected.

This uniformity could be a strength, which highlights that no group feels particularly excluded or disadvantaged regarding the four factors, however the absence of differences could also speak to uniform perceptions across groups, which could imply that the respondents had consistent experiences and environments. Organisational policies, culture and practices linked to decision-making, organisational structure and strategic priorities appear to be broadly inclusive.

Employees could feel equally empowered, engaged, and committed regardless of the explored differences in demographics and professional standing, which could be supportive of collaborative and inclusive practice amongst the participants of this study.

A quantitative study conducted by Sumrall et al. (2008) included an investigation into the relationship between demographics (age, gender, tenure, education) and commitment, with no significant findings to support the relationship between demographics and commitment.

The findings in this study regarding gender differences contrast with the findings from Parnell et al. (2013). It must also be noted that the smaller sample size could be masking hidden differences, and although no significant differences were detected across the groups, a larger sample could reveal different results. In addition, the fact that a considerable proportion of participants are from the financial services industry (59.69%) could explain the uniformity in findings.

Chapter 7: Conclusions

7.1. Introduction

This study was conducted to establish whether, PDM influences an organisation's ability to exercise strategic agility. In addition, culture, commitment, and power were assessed to establish their impact within PDM as well as on strategic agility individually. Other demographic and professional information that was collected during the study was also analysed to establish whether these factors had any impact on either PDM or strategic agility.

A quantitative approach to research was adopted for the purposes of this study. While qualitative research is more an inductive process, concerned with words and the emergence of theory or phenomenon, quantitative research is more deductive, and objective making use of data to measure and test theory (Bell et al., 2019, p.19).

Chapter 5 provided a detailed analyses of the data and presented the findings of each hypotheses tested. The findings of the study are discussed further in this chapter, in the context of the literature review and hypotheses presented in this study. Theoretical contributions will be discussed followed by a discussion of management implications. Finally, limitations of the study are presented with recommendations for further research before concluding the discussion.

7.2. Principal Theoretical Conclusions

The main research question of the study was whether PDM influences an organisation's ability to exercise strategic agility. To this end four hypotheses emerged for investigation. The principal findings of the study are now presented.

7.2.1. Hypotheses 1

The first hypotheses in this study sought to understand whether PDM had an impact on the organisation's ability for strategic agility. To this end, the study analysed PDM which in the scale adopted consists of four factors. Organisational Effectiveness,

Organisational culture, Management Commitment and Power, these factors together reveal the propensity for PDM. The propensity for PDM was then compared to strategic agility. The strategic agility construct comprised eight items and no sub-factors. The findings revealed that PDM does indeed positively impact strategic agility, that is, as the propensity for PDM increases so too does strategic agility.

Studies conducted previously only implied that a higher propensity for PDM means that there is a greater likelihood for quick, flexible, more effective decision-making processes, which could result in improved organisational performance and adaptability to changes in the environment (Parnell & Crandall, 2000). A culture that is inclusive and supports a more participative approach to decision making will likely improve organisational agility (Sumrall et al., 2008). The findings of this study now explicitly confirm the literature and support the hypothesis that greater PDM will result in greater levels of strategic agility. While PDM is a complex construct and careful consideration needs to be given to the manner in which PMD will be implemented, the benefits of PDM to strategic agility and thus an organisations ability to respond to environmental shifts is demonstrated in this study.

7.2.2. Hypotheses 2 and Hypotheses 4

Hypotheses 2 and 4 ore combined in this section as both hypothesis test culture and commitment, albeit in different forms. It is interesting to note that culture and commitment both have a positive correlation to strategic agility and also plays a moderating role, strengthening the effects of PDM on strategic agility.

Hypotheses 2 sought to understand whether culture and commitment had an impact on strategic agility. The culture and commitment factors withing the PDM scale were used to reveal the respondent's feelings regarding culture and commitment, this was compared against the strategic agility findings that were already determined for the purposed of analysing hypothesis 1. The findings confirmed the hypothesis, that as culture and commitment increases, so too do the levels of strategic agility.

Hypothesis 4 attempted to confirm the moderating effect of culture and commitment on the relationship between PDM and strategic agility. To this end, the culture and commitment factor within the PDM scale were isolated and analysed to understand whether it strengthened the relationship between PDM and strategic agility. The findings

concluded that culture and commitment do in fact play a moderating role between PDM and strategic agility.

Further analysis also revealed that culture and commitment had a positive effect on organisational effectiveness which is a factor within PDM, therefore strengthening the role of culture and commitment on several factors.

The findings regarding culture and commitment as a driver for both PDM and strategic agility are significant and important for organisations to understand. This finding is supported by a previous study by van der Westhuizen et al. (2012) which found that a culture that values participation and self-expression facilitated greater PDM and higher job satisfaction.

Building business models that encourage employees to express their views, come up with solutions and provide insight into decisions plays a significant role in promoting both PDM and strategic agility. Culture and commitment reinforce the relationship between PDM and strategic agility as when employees feel heard, appreciated, and free to express their views without judgement or penalties, it results in greater levels if employee commitment and greater job satisfaction (Sumrall et al., 2008).

7.2.3. Hypotheses 3

Hypotheses 3 unpacked the perceptions around power and whether power had any impact on strategic agility. The power construct within the PDM scale was isolated and results of this factor was compared to the results obtained from the strategic agility scale.

The main hypothesis was rejected in this case, this means that in the context of this study, power did not have a significant impact on strategic agility. Further analysis was conducted, and it was found that power does have a negative effect on organisational effectiveness and culture and commitment, confirming the finding from Parnell and Crandall (2000), that power negatively influences PDM.

7.3. Research Contribution

PDM and strategic agility have been the subject of several studies (Carmeli et al., 2009; Parnell & Crandall, 2000; Schweiger & Jago, 1982; Sumrall et al., 2008; Tallon & Pinsonneault, 2011; Wohlgemuth et al., 2019). The studies mentioned, either tested PDM or strategic agility against other constructs such as productivity, employee satisfaction, decision making and culture. The studies mentioned have not directly tested the impact of PDM on strategic agility, however the relationship between PDM and strategic agility has been implied in several studies (Carmeli et al., 2009; Parnell & Crandall, 2000; Parnell et al., 1991; Sumrall et al., 2008)

Some of the findings in this study support previous findings, the research by Parnell and Crandall (2000) found power to be a significant influence on PDM and the findings in this study support this view, however tests to understand the effects of power on strategic agility did not prove to be significant. The effects of power, appear diluted outside of the PDM model, this could be as a result of other factors such as culture and commitment which we have found to have a direct positive effect on strategic agility, organisational effectiveness, culture and commitment, and PDM which all have an effect on both the propensity for PDM and strategic agility. In addition, culture and commitment strengthens the relationship between PDM and strategic, which could suggest that the effects of power are negated when operating in an organisation that demonstrates a culture and commitment that is supportive to PDM and strategic agility.

An interesting outcome of the data analysis revealed that in this study culture and commitment were not separate factors, and certain items within the culture and commitment factors had to be removed due to low factor loadings and low communality. This could talk to the inter-relatedness of culture and commitment. While culture facilitates the adoption of PDM and therefore improving strategic agility, it requires managements sustained commitment to encourage such a culture (Parnell & Crandall, 2000).

7.4. Recommendations for Management

Dynamic capabilities show up in management decisions O'Reilly and Tushman (2008) and managements cognitive ability is considered a key dynamic capability (Teece et al., 2016). Management's ability to make sound, effective and timely decisions in response

to environmental change is not just a dynamic capability on its own (Eisenhardt & Martin, 2000), as management make decisions on how to allocate key skills and resources and configure work creates ambidexterity and strategic agility(Wohlgemuth et al., 2019). This creates re-enforcement of between the concepts of strategic agility, decision making and dynamic capabilities, all interconnected and having an impact on each other.

The study highlights some important concepts for both organisations and managers.

The findings indicate that there is a direct link between the propensity for PDM and strategic agility. For organisations to strengthen strategic agility it is recommended that managers facilitate and encourage PDM via a supportive culture that is flexible, encourages participation and provides psychological safety. It is recommended that management demonstrate commitment to PDM by re-enforcing cultural enablers.

Commitment by managers and a supportive culture result in trust among employees, the freedom to self-manage and improvise and ultimately job satisfaction. Employees who are satisfied in their jobs are more likely to support strategic decisions. These employees are also more likely to actively participate in the decision-making process, thereby re-enforcing PDM.

Greater levels of PDM allow the organisation to exercise greater strategic agility, as the decisions related to the best course of action and the reconfiguration of resources will be supported and informed, and quicker to implement when all levels of the organisation have been involved in the decision. Managers must note the discussion by Cotton et al. (1988), that PDM must be modelled with the context of the environment, employees, and organisation in mind.

Power and the misuse of power have significant implications for management, as it erodes trust and triggers unproductive responses from employees (Berti & Simpson, 2021). Decentralisation and distribution of power, in particular decision-making power allows quick, decisive, and effective response to change. Managers are encouraged to consider hierarchies and business models to assess whether there is a concentration of power at certain levels. While this study did not find a significant negative impact of power on strategic agility, it did find that power negatively influences PDM, that consequently it will impact employee morale, participation, culture, and ultimately strategic agility.

7.5. Limitations of the Research

The original intention of the study was to understand the impact of PDM on strategic agility. While the study was concluded successfully, several limitations have been noted that could be limiting to the findings of the study.

Firstly, the number of respondents was small, even though the analysis found the data to be sufficient, certain professional factors such as work level and industry type did not have a desirable distribution of respondents, and as such some responses were skewed heavily to one or a few variables on those scale items.

The financial services sector made up 59.60% of responses, with all other industries comprising less than 7% each, of the responses. These response rates related to the industry participants makes it difficult to apply the findings to a particular industry and any specific industry reviewing the results of this study should consider recreating the study, with a greater set of responses and a targeted population.

The questionnaire made used of scales that were not developed for a South African context or audience. The results and findings could be reflective of the fact that the context of the original studies was outside the borders of South Africa and may have been applicable to the context of the countries they were designed for. Particular attention is drawn to the culture, commitment, power factors and demographic factors. In the context of this study culture and commitment had to be collapsed into a single factor since a number of questions had to be removed. Power also did not provide the anticipated results, and this could be because of cultural nuances within the South African context.

7.6. Recommendations for Future Research

In view of the findings and limitations of this study, several recommendations have emerged.

The study by Parnell and Crandall (2000) found a difference in the propensity for PDM between males and females, with their finding revealing that males have a higher propensity for PDM than females, in contrast to this view van der Westhuizen et al. (2012) conducted a study which found that females had a higher propensity for PDM

than males. These are two opposing views, while the results of this study found that there was no difference between male and females for PDM. It is suggested that a further study be conducted to understand PDM in the context of gender differences, within the South African context, and include a more representative sample of respondents as most of the respondents in this study were from the financial services industry and the results could be reflective of this.

Since the demographic and professional characteristics did not indicate differences in the factors, other unexplored factors such as team dynamics, organisational culture or job specific challenges could play a larger role in shaping employee perceptions and experiences. Further exploration of a larger-scale sample from more participants, from different industry backgrounds could provide further valuable insights.

Another recommendation is that further investigations be conducted into the effects of power on strategic agility. Once again, due to the skew toward the financial services industry, the results in this study could speak to the uniformity in power structures and decentralised business models. This kind of structure is not typical of all industries and further research could yield different results.

References

Ahammad, M. F., Basu, S., Munjal, S., Clegg, J., & Shoham, O. B. (2021). Strategic agility, environmental uncertainties and international performance: The perspective of Indian firms. *Journal of World Business*, *56*(4). https://doi.org/10.1016/j.jwb.2021.101218

Ahammad, M. F., Glaister, K. W., & Gomes, E. (2020). Strategic agility and human resource management. *Human Resource Management Review*, *30*(1). https://doi.org/10.1016/j.hrmr.2019.100700

Beavers, A. S., Lounsbury, J. W., Richards, J. K., Huck, S. W., & Skolits, G. J. (2013). Practical Considerations for Using Exploratory Factor Analysis in Educational Research. *Practical Assessment, Research, and Evaluation*, *18*(6). https://doi.org/10.7275/qv2q-rk76

Bell, E., Bryman, A., & Harley, B. (2019). *Business Research Methods* (Second International). Oxford University Press.

Bernstein, E. S., & Barrett, F. J. (2011). Strategic change and the jazz mindset: Exploring practices that enhance dynamic capabilities for organizational improvisation. *Research in Organizational Change and Development*, *19*, 55–90. https://doi.org/10.1108/S0897-3016(2011)0000019005

Berti, M., & Simpson, A. V. (2021). The dark side of organizational paradoxes: The dynamics of disempowerment. *Academy of Management Review*, *46*(2), 252–274. https://doi.org/10.5465/amr.2017.0208

Black, S. J., & Gregersen, H. B. (1997a). Participative decision making: An integration of multiple dimensions. *Human Relations*, *50*(7), 859–878.

Brozovic, D. (2018). Strategic Flexibility: A Review of the Literature. *International Journal of Management Reviews*, *20*(1), 3–31. https://doi.org/10.1111/ijmr.12111

Buckley, P. J. (2022). Navigating three vectors of power: Global strategy in a world of intense competition, aggressive nation states, and antagonistic civil society. *Global Strategy Journal*, *12*(3), 543–554. https://doi.org/10.1002/gsj.1444

Cardona, P., & Rey, C. (2022). *Management by missions: connecting people to strategy through purpose* (2nd ed.). Palgrave Macmillan. https://doi.org/https://doi.org/10.1007/978-3-030-83780-8

Carmeli, A., Sheaffer, Z., & Halevi, M. Y. (2009). Does participatory decision-making in top management teams enhance decision effectiveness and firm performance? *Personnel Review*, *38*(6), 696–714. https://doi.org/10.1108/00483480910992283

Chen, M., Kaul, A., & Wu, B. (2019). Adaptation across multiple landscapes: Relatedness, complexity, and the long run effects of coordination in diversified firms. *Strategic Management Journal*, *40*(11), 1791–1821. https://doi.org/10.1002/smj.3060

Child, D. (2006). *The Essentials of Factor Analysis* (3rd ed.). Continuum International Publishing Group. https://www.google.co.in/books/edition/The_Essentials_of_Factor_Analysis/rQ2vdJgohH0C?hl=en&gbpv=1&pg=PA1&printsec=frontcover

Clauss, T., Kraus, S., Kallinger, F. L., Bican, P. M., Brem, A., & Kailer, N. (2021). Organizational ambidexterity and competitive advantage: The role of strategic agility in the exploration-exploitation paradox. *Journal of Innovation and Knowledge*, *6*(4), 203–213. https://doi.org/10.1016/j.jik.2020.07.003

Cooper, D. R., & Schindler, P. (1997). *Business Research Methods* (6th ed.). Irwin/McGraw-Hill.

Cooper, R. D., & Schindler, S. P. (2001). *Business Research Methods* (Seventh Edition). McGraw-Hill Book Co.

Cotton, J. L., Vollrath, D. A., Froggatt, K. L., Lengnick-Hall, M. L., & Jennings, K. R. (1988). Employee Participation: Diverse Forms and Different Outcomes Empire Blue Cross/Blue Shield. In *Academy ol Management Reviaw* (Vol. 13, Issue 1).

Creswell, W. J. (2012). *Educational Research* (Fourth Edition). Pearson.

Crossan, F. (2003). *Research Philosophy: towards an understanding*. Retrieved 12 May 2024, from https://www.proquest.com/scholarly-journals/research-philosophy-towards-understanding/docview/200824349/se-2

Cunha, M. P. e., Gomes, E., Mellahi, K., Miner, A. S., & Rego, A. (2020). Strategic agility through improvisational capabilities: Implications for a paradox-sensitive HRM. *Human Resource Management Review*, *30*(1). https://doi.org/10.1016/j.hrmr.2019.100695

Douglas, S. (2020). Building organizational resilience through human capital management strategy. In *Development and Learning in Organizations* (Vol. 35,

Issue 5, pp. 19–21). Emerald Group Holdings Ltd. https://doi.org/10.1108/DLO-08-2020-0180

Doz, Y. (2020). Fostering strategic agility: How individual executives and human resource practices contribute. *Human Resource Management Review*, *30*(1). https://doi.org/10.1016/j.hrmr.2019.100693

Doz, Y. L., & Kosonen, M. (2010). Embedding strategic agility: A leadership agenda for accelerating business model renewal. *Long Range Planning*, *43*(2–3), 370–382. https://doi.org/10.1016/j.lrp.2009.07.006

Earnst & Young Globlal Ltd. (2023). *How disruption is shaping opportunities for global trade*. https://www.ey.com/en_kz/tax/how-disruption-is-shaping-opportunities-for-global-trade

Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: What are they? *Strategic Management Journal*, *21*(10–11), 1105–1121. https://doi.org/10.1002/1097-0266(200010/11)21:10/11<1105::AID-SMJ133>3.0.CO;2-E

Eisenhardt, K. M., & Zbaracki, M. J. (1992). Strategic Decision Making. In *Management Journal* (Vol. 13). Winter. https://about.jstor.org/terms

Elbanna, S. (2006). Strategic decision-making: process perspectives. In *International Journal of Management Reviews* (Vol. 8, Issue 1, pp. 1–20). https://doi.org/10.1111/j.1468-2370.2006.00118.x

Godard, B., Schmidtke, J., Cassiman, J. J., & Aymé, S. (2003). Data storage and DNA banking for biomedical research: Informed consent, confidentiality, quality issues, ownership, return of benefits. A professional perspective. In *European Journal of Human Genetics* (Vol. 11, Issue SUPPL. 2). https://doi.org/10.1038/sj.ejhg.5201114

Hair, J. F., Howard, M. C., & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research*, *109*, 101–110. https://doi.org/10.1016/j.jbusres.2019.11.069

Hair, J. Jr., Page, M., Brunsveld, N., Merkle, A., & Cleton, N. (2023). *Essentials of Business Research Methods* (5th ed.). Routledge. https://books.google.co.in/books?id=g1bJEAAAQBAJ&lpg=PP1&ots=M2spBQH_Cb&lr&pg=PR4#v=onepage&q&f=false

Helfat, C. E., & Peteraf, M. A. (2003). The dynamic resource-based view: Capability lifecycles. *Strategic Management Journal*, *24*(10 SPEC ISS.), 997–1010. https://doi.org/10.1002/smj.332

Heracleous, L., Wawarta, C., Papachroni, A., & Paroutis, S. (2023). Logical Incrementalism as a Path to Strategic Agility: The Case of NASA. *California Management Review*, *65*(4), 63–92. https://doi.org/10.1177/00081256231180878

Holden, M. T., & Lynch, P. (2004). *Choosing the Appropriate Methodology: Understanding Research Philosophy*.

Hollensbe, E., Wookey, C., Hickey, L., & George, G. (2014). Organizations with purpose. In *Academy of Management Journal* (Vol. 57, Issue 5, pp. 1227–1234). Academy of Management. https://doi.org/10.5465/amj.2014.4005

Johnson, J. L., Lee, R. P. W., Saini, A., & Grohmann, B. (2003). Market-focused strategic flexibility: Conceptual advances and an integrative model. In *Journal of the Academy of Marketing Science* (Vol. 31, Issue 1, pp. 74–89). https://doi.org/10.1177/0092070302238603

Kale, E., Aknar, A., & Başar, Ö. (2019). Absorptive capacity and firm performance: The mediating role of strategic agility. *International Journal of Hospitality Management*, *78*, 276–283. https://doi.org/10.1016/j.ijhm.2018.09.010

Kruskal, W. H., & Wallis, W. A. (1952). Use of Ranks in One-Criterion Variance Analysis. *Source: Journal of the American Statistical Association*, *47*(260), 583–621. https://www.jstor.org/stable/2280779

Lam, S. S. K., Chen, X.-P., & Schaubroeck, J. (2002). Participative decision making and employee performance in different cultures: The moderating effects of allocentrism/idiocentrisim and efficacy. *Academy of Management Journal*, *45*(5), 905–914.

Laureiro-Martínez, D., & Brusoni, S. (2018). Cognitive flexibility and adaptive decision-making: Evidence from a laboratory study of expert decision makers. *Strategic Management Journal*, *39*(4), 1031–1058. https://doi.org/10.1002/smj.2774

Ledesma, R. D., Ferrando, P. J., Trógolo, M. A., Poó, F. M., Tosi, J. D., & Castro, C. (2021). Exploratory factor analysis in transportation research: Current practices and recommendations. *Transportation Research Part F: Traffic Psychology and Behaviour*, *78*, 340–352. https://doi.org/10.1016/j.trf.2021.02.021

Li, J., Matouschek, N., & Powell, M. (2017). Power dynamics in organizations. *American Economic Journal: Microeconomics*, *9*(1), 217–241. https://doi.org/10.1257/mic.20150138

Li, J., Mukherjee, A., & Vasconcelos, L. (2023). What Makes Agility Fragile? A Dynamic Theory of Organizational Rigidity. *Management Science*, *69*(6), 3578–3601. https://doi.org/10.1287/mnsc.2022.4512

Lowin, A. (1968). Participative Decision Making: A Model, Literature Critique, and Prescriptions for Research. *Organizational Behavior and Human Performance*, *3*, 68–106.

Muijs, D. (2013). *Doing Quantitative Research in Education with SSPS* (2nd ed.). SAGE Publications Ltd. https://doi.org/https://doi.org/10.4135/9781446287989

Oglesby, M. T., Parnell, J. A., & Kutz, D. C. (2023). Strategy, flexibility and performance: how cost leaders' lack of structural flexibility negatively impacts nonfinancial performance. *Journal of Strategy and Management*, *16*(4), 689–707. https://doi.org/10.1108/JSMA-07-2022-0120

O'Reilly, C. A., & Tushman, M. L. (2008). Ambidexterity as a dynamic capability: Resolving the innovator's dilemma. *Research in Organizational Behavior*, *28*, 185–206. https://doi.org/10.1016/J.RIOB.2008.06.002

O'Reilly, C. A., & Tushman, M. L. (2013). Organizational ambidexterity: Past, present, and future. *Academy of Management Perspectives*, *27*(4), 324–338. https://doi.org/10.5465/amp.2013.0025

Pallant, J. (2020). *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using IBM SPSS* (7th ed.). McGraw Hill.

Parayitam, S., & Papenhausen, C. (2018). Strategic decision-making: The effects of cooperative conflict management, agreement-seeking behavior and competence-based trust on decision outcomes. *Management Research Review*, *41*(1), 2–28. https://doi.org/10.1108/MRR-12-2016-0285

Parnell, J. A., Bell, E. D., & Taylor, R. (1991). The propensity for participative management: A conceptual and empirical analysis. *The Mid-Atlantic Journal of Business*, 31–42.

Parnell, J. A., & Crandall, W. (2000). Rethinking participative decision making. *Personnel Review*, *30*(5), 523–535.

Parnell, J. A., Koseoglu, M. A., & Dent, E. B. (2013). Propensity for Participative Decision Making (PPDM) In Turkey and the USA. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2331200

Salkind, N. J. (2010). *Encyclopedia of Research Design*. SAGE Publications, Inc.

Salvato, C., & Vassolo, R. (2018). The sources of dynamism in dynamic capabilities. *Strategic Management Journal*, *39*(6), 1728–1752. https://doi.org/10.1002/smj.2703

Schoemaker, P. J. H., Heaton, S., & Teece, D. (2018). Innovation, dynamic capabilities, and leadership. *California Management Review*, *61*(1), 15–42. https://doi.org/10.1177/0008125618790246

Schwarz, J. O., Rohrbeck, R., & Wach, B. (2020). Corporate foresight as a microfoundation of dynamic capabilities. *Futures and Foresight Science*, *2*(2). https://doi.org/10.1002/ffo2.28

Schweiger, D. M., & Jago, A. G. (1982). Problem-solving styles and participative decision making. *Psychological Reports*, *50*, 1311–1316.

Shams, R., Vrontis, D., Belyaeva, Z., Ferraris, A., & Czinkota, M. R. (2021). Strategic agility in international business: A conceptual framework for “agile” multinationals. *Journal of International Management*, *27*(1). https://doi.org/10.1016/j.intman.2020.100737

Stanton, E. S. (1993). Employee participation: A critical evaluation and suggestions for management practice. *SAM Advanced Management Journal*, 18–23.

Sumrall, W. H., Cox, D. W., Adrian Doss, D., & Jones, D. W. (2008). Participative decisions and organizational commitment: A quantitative analysis. *Southern Business Review*, 39–52.

Tallon, P. P. (2008). Inside the adaptive enterprise: An information technology capabilities perspective on business process agility. *Information Technology and Management*, *9*(1), 21–36. https://doi.org/10.1007/s10799-007-0024-8

Tallon, P. P., & Pinsonneault, A. (2011). Competing Perspectives on the Link Between Strategic Information Technology Alignment and Organizational Agility: Insights from a Mediation Model. *Source: MIS Quarterly*, *35*(2), 463–486. https://www.jstor.org/stable/23044052

Tandon, L., Bhatnagar, T., & Sharma, T. (2024). Leadership agility in the context of organisational agility: a systematic literature review. *Management Review Quarterly*. https://doi.org/10.1007/s11301-024-00422-3

Teece, D., Peteraf, M., & Leih, S. (2016). Dynamic Capabilities and Organizational Agility: Risk, Uncertainty, and Strategy in the Innovation Economy. *California Management Review*, *58*(4), 13–35. https://doi.org/https://doi.org/10.1525/cmr.2016.58.4.13

Teece, D., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, *18*(7), 509–533. https://doi.org/10.1002/(SICI)1097-0266(199708)18:7<509::AID-SMJ882>3.0.CO;2-Z

Tourangeau, R. (2018). The survey response process from a cognitive viewpoint. *Quality Assurance in Education*, *26*(2), 169–181. https://doi.org/10.1108/QAE-06-2017-0034

Tushman, M. L., & O'Reilly, C. A. (1996). Ambidextrous organizations: managing evolutionary and revolutionary change. *California Management Review*, *38*, 8–30.

Uhl-Bien, M., & Arena, M. (2018). Leadership for organizational adaptability: A theoretical synthesis and integrative framework. *Leadership Quarterly*, *29*(1), 89–104. https://doi.org/10.1016/j.leaqua.2017.12.009

United Nations Conference on Trade and Development (UNCTAD). (2024, January 26). *UNCTAD raises alarms on escalating disruptions to global trade due to the geopolitical tensions and climate change affecting the world's key trade routes*. UNCTAD/PRESS/PR/2024/001. https://unctad.org/press-material/unctad-raises-alarms-escalating-disruptions-global-trade-due-geopolitical-tensions

Uz Zaman, N., Bibi, Z., Ur Rehman Sheikh, S., & Raziq, A. (2020). Manualizing Factor Analysis of Likert Scale Data. *Journal of Management Sciences*, *7*(2), 56–67. https://doi.org/10.20547/jms.2014.2007204

van der Westhuizen, D. W., Pacheco, G., & Webber, D. J. (2012). Culture, participative decision making and job satisfaction. *International Journal of Human Resource Management*, *23*(13), 2661–2679. https://doi.org/10.1080/09585192.2011.625967

Waddock, S. (2020). Achieving sustainability requires systemic business transformation. *Global Sustainability*, *3*. https://doi.org/10.1017/sus.2020.9

Watkins, M. W. (2018). Exploratory Factor Analysis: A Guide to Best Practice. *Journal of Black Psychology*, *44*(3), 219–246. https://doi.org/10.1177/0095798418771807

Weber, Y., & Tarba, S. Y. (2014). Strategic Agility: A State of the Art. *California Management Review*, *56*(3).

Wilcoxon, F. (1945). Individual Comparisons by Ranking Methods. *Bulletin*, *1*(6), 80–83. https://www.jstor.org/stable/3001968

Wohlgemuth, V., Wenzel, M., Berger, E. S. C., & Eisend, M. (2019). Dynamic capabilities and employee participation: The role of trust and informal control. *European Management Journal*, *37*(6), 760–771. https://doi.org/10.1016/j.emj.2019.02.005

Appendix 1: Survey Questionnaire

Dear Participant,

I am conducting research on the Propensity for Participative Decision Making as an enabler of strategic agility. To that end, you are asked to complete a survey relating to my topic. The survey should take no more than 15 minutes. Your participation is voluntary, and you can withdraw at any time without penalty. Your participation is anonymous and only aggregated data will be reported. By completing the survey, you indicate that you voluntarily participate in this research. If you have any concerns, please contact my supervisor or me. Our details are provided below.

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Research supervisor name: Dr Tracey Toefy
Email: ToefyT@gibs.co.za
Phone: 0822020792

Q1

Are you currently employed?

- YES
- NO

Q2

Do you work and reside in South Africa?

- YES
- NO

Q3

What is your gender?

- Female
- Male
- Other
- Prefer not to disclose

Q4

Please indicate your current age group.

- 18 – 24
- 25 – 34
- 35 – 44
- 45 – 54
- 55 – 64
- Over 65
- Retired

Q5

What is the current level of your role at work?

- General Employee
- Supervisor
- Junior Manager
- Middle Manager
- Senior Manager
- Department Head
- Executive Head / General Manager
- Chief Executive / Managing Director

Q6

How many years of management experience do you have?

- None

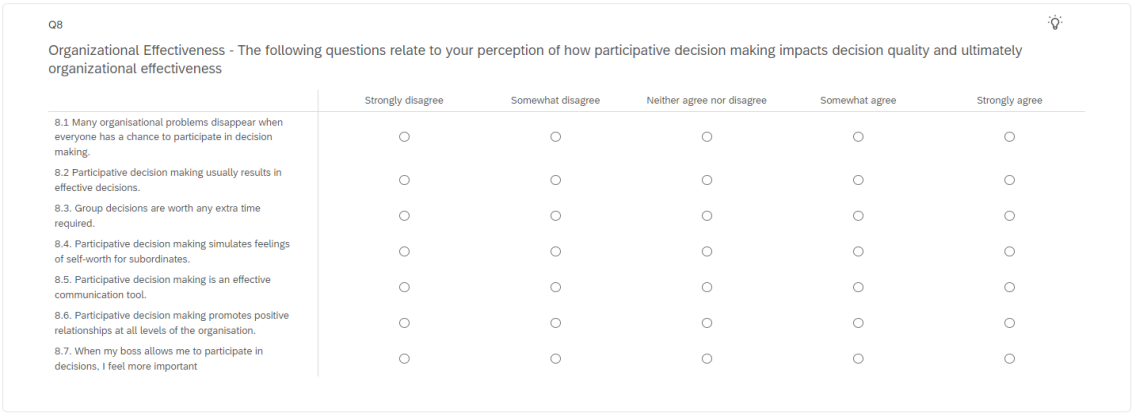
- Less than 5 years
- 5 - 10 years
- More than 10 years

Q7

Please indicate which industry you are employed in?

- Agriculture
- Financial Services
- Logistics/Warehousing
- Manufacturing
- Mining
- Retail
- Technology
- Tourism
- Other

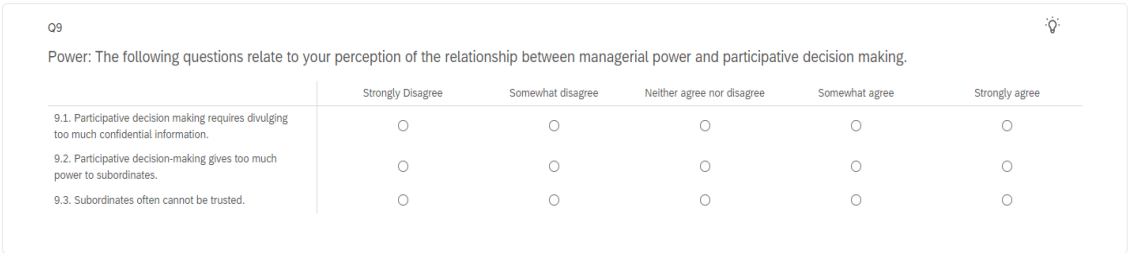
Section 1: Participative Decision Making



Q8

Organizational Effectiveness - The following questions relate to your perception of how participative decision making impacts decision quality and ultimately organizational effectiveness

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
8.1 Many organisational problems disappear when everyone has a chance to participate in decision making.	○	○	○	○	○
8.2 Participative decision making usually results in effective decisions.	○	○	○	○	○
8.3. Group decisions are worth any extra time required.	○	○	○	○	○
8.4. Participative decision making simulates feelings of self-worth for subordinates.	○	○	○	○	○
8.5. Participative decision making is an effective communication tool.	○	○	○	○	○
8.6. Participative decision making promotes positive relationships at all levels of the organisation.	○	○	○	○	○
8.7. When my boss allows me to participate in decisions, I feel more important	○	○	○	○	○



Q9

Power: The following questions relate to your perception of the relationship between managerial power and participative decision making.

	Strongly Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
9.1. Participative decision making requires divulging too much confidential information.	○	○	○	○	○
9.2. Participative decision-making gives too much power to subordinates.	○	○	○	○	○
9.3. Subordinates often cannot be trusted.	○	○	○	○	○

Q10

Cultural Factors: The following questions relate to your perception of the influence of culture on participative decision making.

	Strongly Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
10.1. My Subordinates tend to possess the same organisational goals that I have.	○	○	○	○	○
10.2. My subordinates are generally informed and experienced.	○	○	○	○	○
10.3. Participative decision making is widely used in my organisation.	○	○	○	○	○
10.4. My boss frequently solicits my participation in his or her decisions.	○	○	○	○	○

Q11

Commitment: The following questions relate to managements level of commitment to participative decision making.

	Strongly Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
11.1. Participative decision making is an effective management style over the long term.	○	○	○	○	○
11.2. It is better for a manager not to solicit subordinate participation than to do so and ignore the suggestions.	○	○	○	○	○
11.3. Participation works in some cases, but most of the time the manager should make the decision based on his or her expertise and information.	○	○	○	○	○
11.4. Participative decision making is a philosophy, not a technique.	○	○	○	○	○

Section 2: Strategic Agility

Q12

Strategic Agility

In this case refers to your organisations ability to adapt and reconfigure resources and competencies, in response to changing environmental factors, with relative speed and decisiveness.

	Strongly Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
12.1. Respond to changes in aggregate consumer demand.	○	○	○	○	○
12.2. Customize a product or service to suit an individual customer.	○	○	○	○	○
12.3. React to new product or service launches by competitors.	○	○	○	○	○
12.4. Introduce new pricing schedules in response to changes in competitors' prices.	○	○	○	○	○
12.5. Expand into new regional or international markets.	○	○	○	○	○
12.6. Change (i.e., expand or reduce) the variety of products / services available for sale.	○	○	○	○	○
12.7. Adopt new technologies to produce better, faster and cheaper products and services.	○	○	○	○	○
12.8. Switch suppliers to avail of lower costs, better quality or improved delivery times.	○	○	○	○	○

End of Survey

We thank you for your time spent taking this survey.

Your response has been recorded.

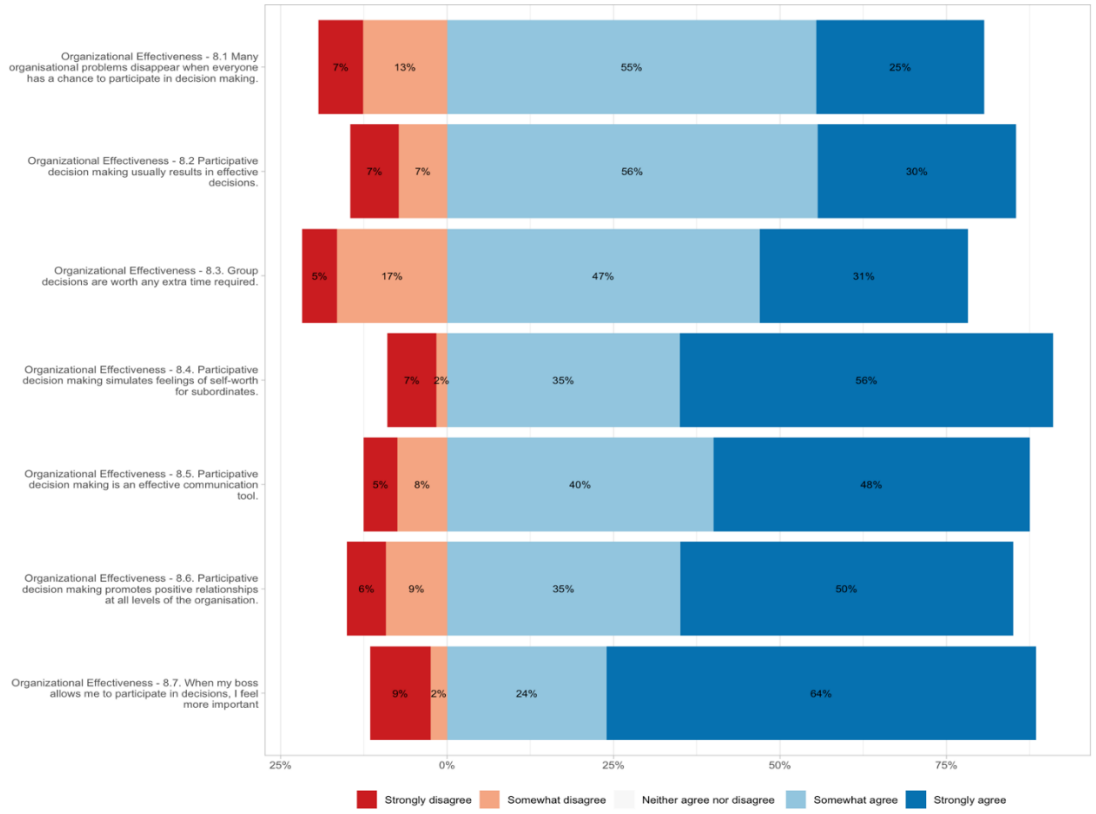
Appendix 2 – Code Book

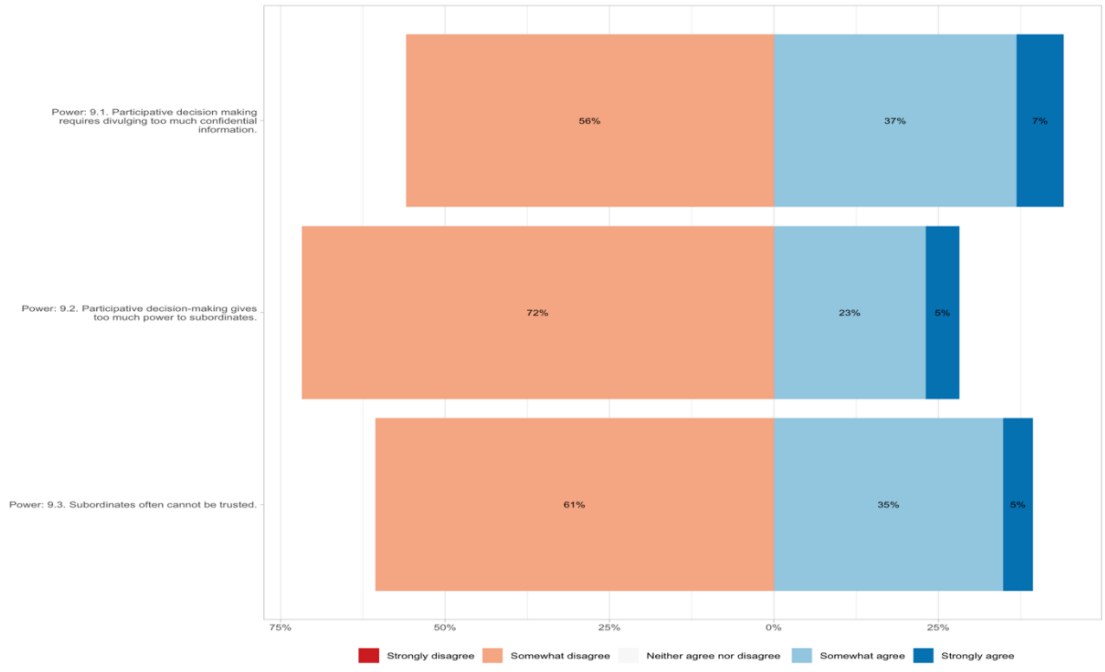
Coding for Survey Responses	
Survey Finished	
True	1
False	2
Q1 Are you currently employed?	
Yes	1
No	0
Q2 Do you work and reside in South Africa?	
Yes	1
No	0
Q3 Please indicate your current age group.	
Male	1
Female	2
Non-binary / third gender	3
Prefer not to say	4
Q4 What is your current age group?	
18 – 24	1
25 – 34	2
35 – 44	3
45 – 54	4
55 – 64	5
Over 65	6
Retired	7
Q5. What is the current level of your role at work?	
General Employee	1
Supervisor	2
Junior Manager	3
Middle Manager	4

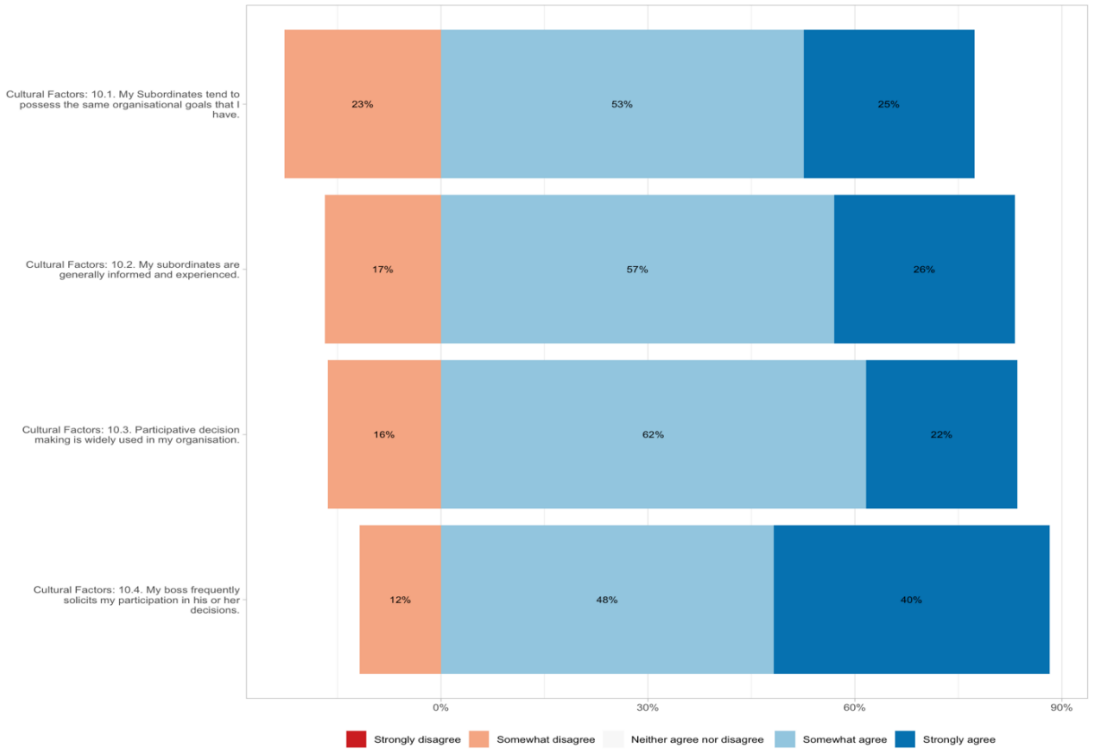
Senior Manager	5
Department Head	6
Executive Head / General Manager	7
Chief Executive / Managing Director	8
Q6. How many years of management experience do you have?	
None	1
Less than 5 years	2
5 - 10 years	3
More than 10 years	4
Q7. Please indicate which industry you are employed in?	
Agriculture	1
Financial Services	2
Logistics/Warehousing	3
Manufacturing	4
Mining	5
Retail	6
Technology	7
Tourism	8
Other	9
Q8 – Q12: Likert Scale Codes	
Strongly Disagree	1
Somewhat Disagree	2
Neither Agree not Disagree	3
Somewhat Agree	4
Strongly Agree	5

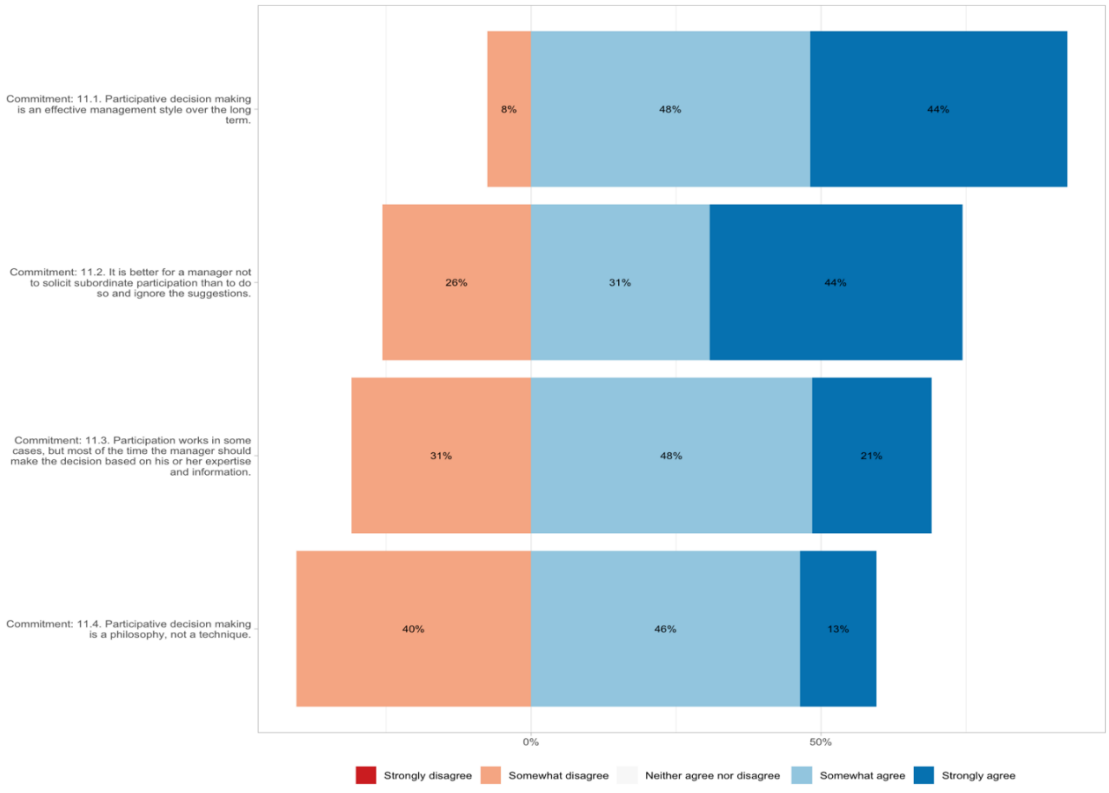
Appendix 3 – Likert Plots

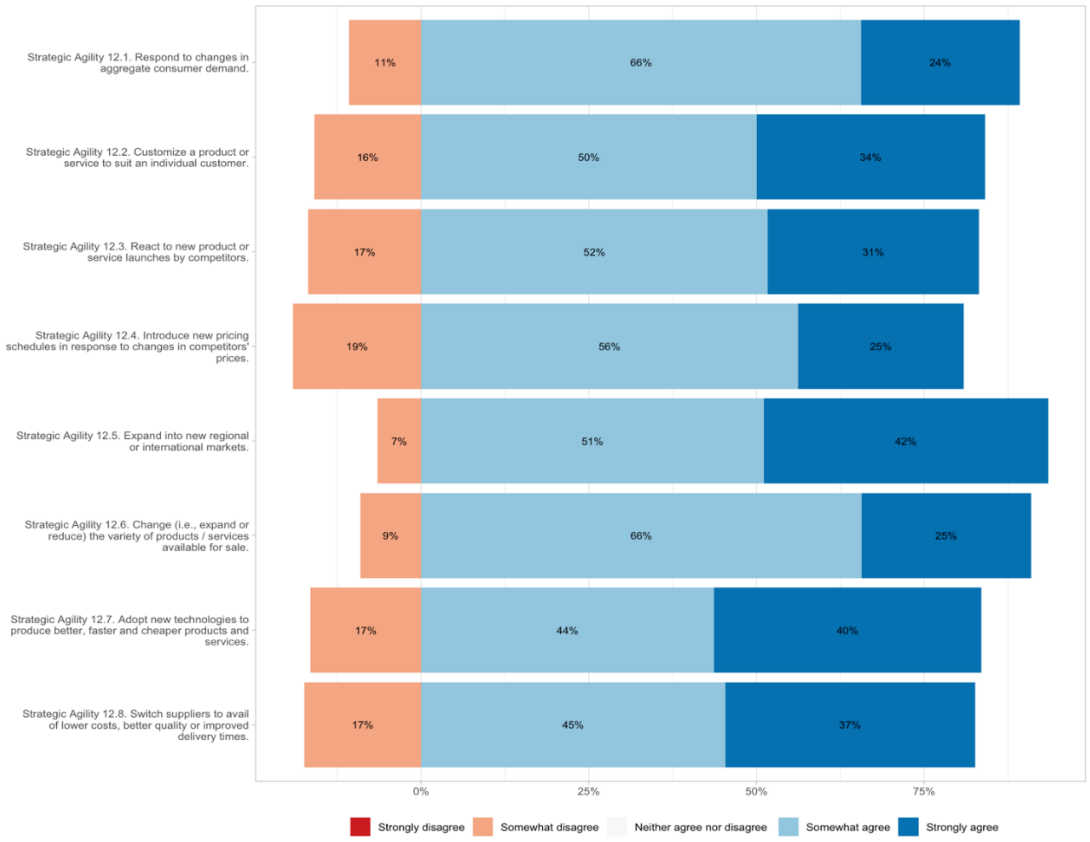
Since the questionnaire (beyond the demographic questions) are all 5-point Likert scale items the Likert plots below highlight the spread of responses





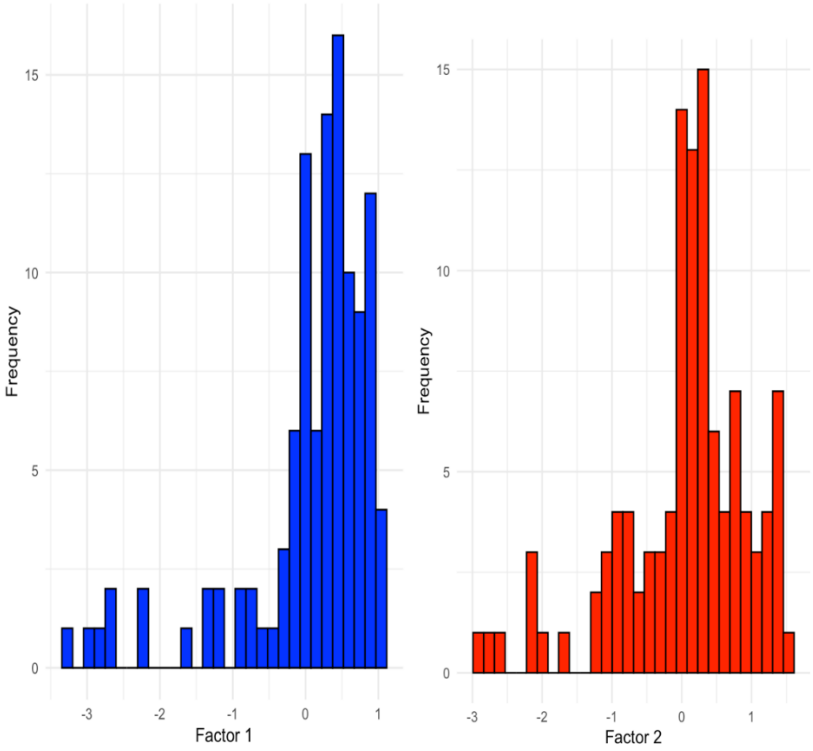

Cultural Factors: 10.1. My Subordinates tend to possess the same organisational goals that I have.
23%
53%
25%
Cultural Factors: 10.2. My subordinates are generally informed and experienced.
17%
57%
26%
Cultural Factors: 10.3. Participative decision making is widely used in my organisation.
16%
62%
22%
Cultural Factors: 10.4. My boss frequently solicits my participation in his or her decisions.
12%
48%
40%
0%
30%
60%
90%
Strongly disagree
Somewhat disagree
Neither agree nor disagree
Somewhat agree
Strongly agree

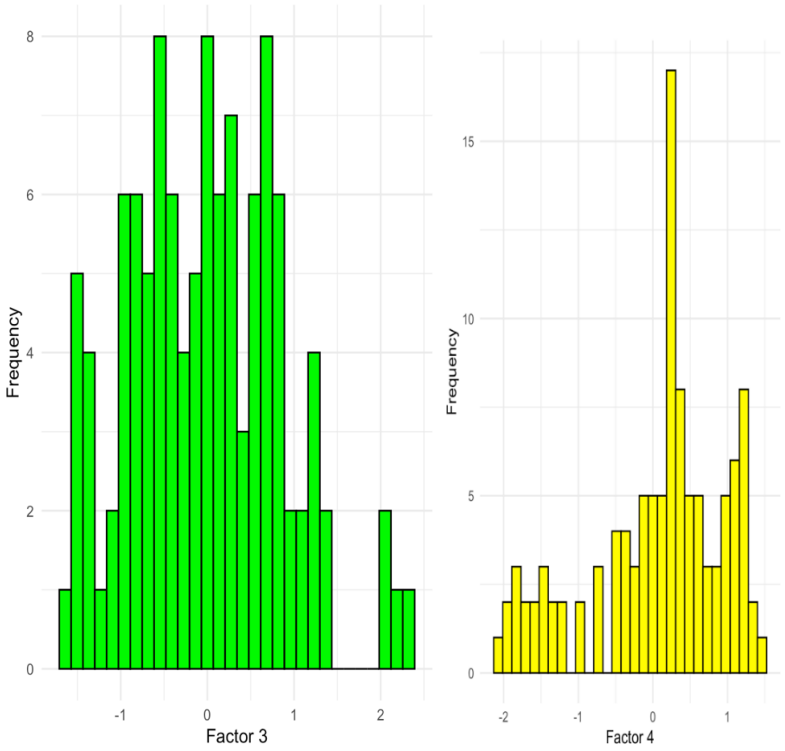

Commitment: 11.1. Participative decision making is an effective management style over the long term.
8%
48%
44%
Commitment: 11.2. It is better for a manager not to solicit subordinate participation than to do so and ignore the suggestions.
26%
31%
44%
Commitment: 11.3. Participation works in some cases, but most of the time the manager should make the decision based on his or her expertise and information.
31%
48%
21%
Commitment: 11.4. Participative decision making is a philosophy, not a technique.
40%
46%
13%
0%
50%
Strongly disagree
Somewhat disagree
Neither agree nor disagree
Somewhat agree
Strongly agree


Strategic Agility 12.1. Respond to changes in aggregate consumer demand.
11%
66%
24%
Strategic Agility 12.2. Customize a product or service to suit an individual customer.
16%
50%
34%
Strategic Agility 12.3. React to new product or service launches by competitors.
17%
52%
31%
Strategic Agility 12.4. Introduce new pricing schedules in response to changes in competitors' prices.
19%
56%
25%
Strategic Agility 12.5. Expand into new regional or international markets.
7%
51%
42%
Strategic Agility 12.6. Change (i.e., expand or reduce) the variety of products / services available for sale.
9%
66%
25%
Strategic Agility 12.7. Adopt new technologies to produce better, faster and cheaper products and services.
17%
44%
40%
Strategic Agility 12.8. Switch suppliers to avail of lower costs, better quality or improved delivery times.
17%
45%
37%
0%
25%
50%
75%
Strongly disagree
Somewhat disagree
Neither agree nor disagree
Somewhat agree
Strongly agree

Appendix 4 – Correlation Between Factors

Figures: Correlation Histograms for Factor 1, Factor 2, Factor 3 and Factor 4





Appendix 5 – Models to test Culture and Commitment

Exploring Culture and Commitment as moderator between PDM and SA

In this study, the independent variable is SA (Factor 2) and the dependent variables which form part of PDA is Organisational Effectiveness (Factor 1) and Power (Factor 3), with the moderator being Culture and Commitment (Factor 4).

The model is as follows:

Y = \(\beta_0\) + \(\beta_1*X\) + \(\beta_2*Z\) + \(\beta_3*X*Z\) + e

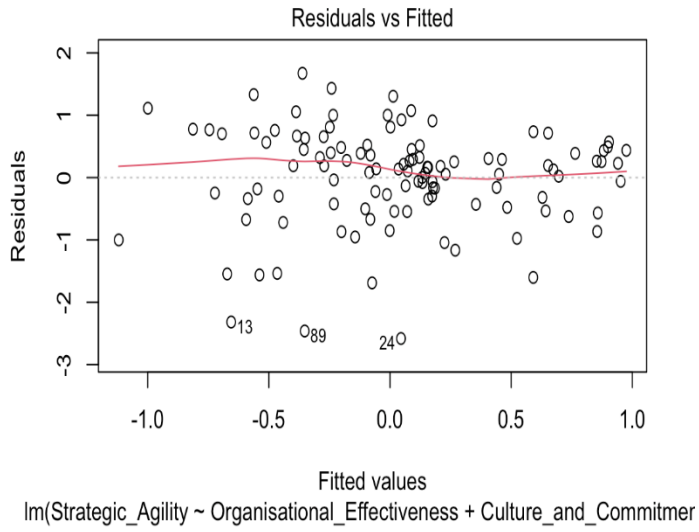
where: -Y is the independent variable (SA)

- \(\beta_0\) is the intercept (the value of Y when all the X's are zero)
- \(\beta_1\), \(\beta_2\) and \(\beta_3\) are the "regression coefficients" (slopes or gradients) that represent the change in Y for a one unit increase X or Z, assuming all other variables are constant.
- X represents either organisational effectiveness or power (dependent variables)
- Z is the moderator variable, culture and commitment
- e is the error term, capturing variance in Y not explained by Z or X.

Two models were built: Model 1, which will have X be the factor scores of organisational effectiveness; and Model 2: which will have X be the factor scores of power.

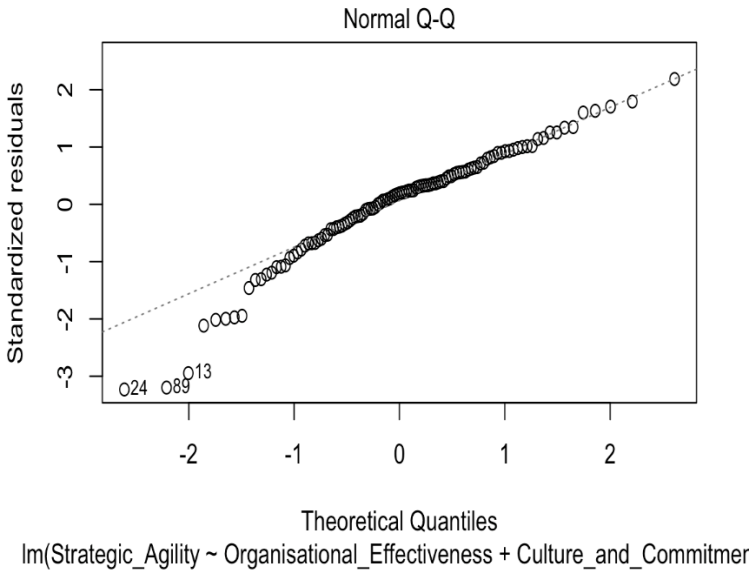
Model 1: SA and Organisational Effectiveness moderated by Culture and Commitment

Figure: Residuals for Model 1



Note that the red line is fairly horizontal which little upswing and downswing, so the constant variance assumption (homoscedasticity) is met. Next, a check is run to establish if the residuals are normally distributed.

Figure: Normality Distribution for Model 1



Based on the qqplot, if the residuals are normally distributed, it would follow the dotted reference line. Note, only minor deviations from this on the bottom left, which might indicate that residuals are slightly skewed, but roughly follow the normal distribution. Next, the multicollinearity assumption is checked, which checks if there are severe correlations between the predictors. High correlations will yield less reliable results. To this end, the variance inflation factors (VIF) metric is used.

Table: VIF Metric for Model 1

VIF Results	
Variables	**VIF**
Organisational Effectiveness	1.808
Strategic Agility	1.402
Power	1.09
Culture and Commitment	1.498
Interaction	1.453

If the VIF measure is above 5, multicollinearity is present. However, all measures are below 5, which is excellent. Therefore, it can be concluded that all assumptions are met for the regression model.

Model 2: Strategic Agility and Power moderated by Culture and Commitment

Model 2 is now built to investigate if culture and commitment moderate the relationship between strategic agility and power.

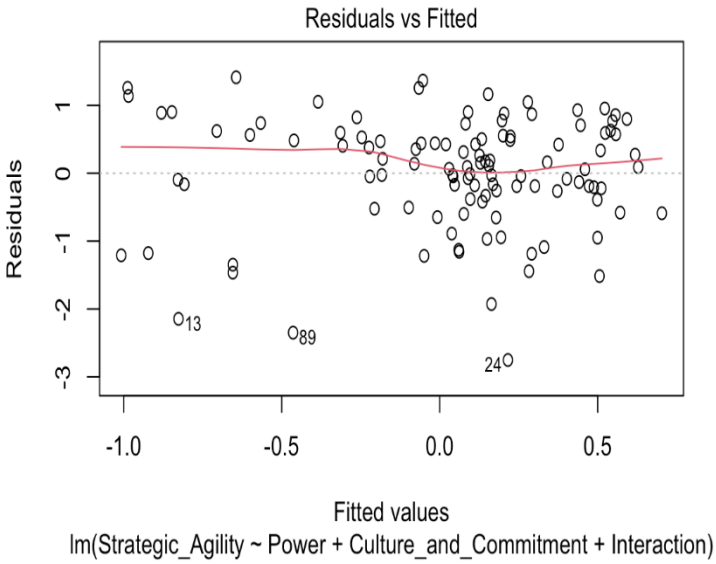
Table: p-vales for

Characteristic	**Beta**	**95% CI**[1]	**p-value**
(Intercept)	0.00	-0.16, 0.16	>0.9
Power	0.13	-0.06, 0.31	0.2
Culture and Commitment	0.46	0.28, 0.63	<0.001
Interaction	-0.12	-0.31, 0.07	0.2

[1] CI = Confidence Interval

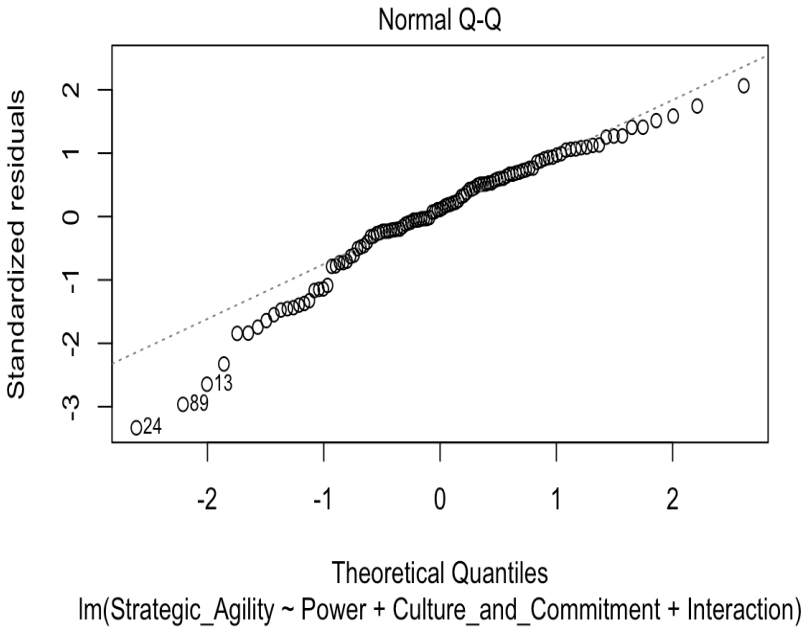
Note that only culture and commitment is significant. The interaction between power and culture and commitment is not significant, and therefore, culture and commitment is not a moderator for the relationship between strategic agility and power. The relationship between strategic agility and power in itself is not significant. To check if the underlying assumptions of the regression model are fulfilled the constant variance assumption is first checked:

Figure: Residuals for Model 2



Note that the red line is fairly horizontal which little upswing and downswing, so the constant variance assumption (homoscedasticity) is met. Next, a check is conducted to see if the residuals are normally distributed.

Figure: Normality Distribution for Model 2



Based on the qqplot, if the residuals are normally distributed, it would follow the dotted reference line. Note that only minor deviations from this on the bottom left,

which might indicate that residuals are slightly skewed, but roughly follow the normal distribution. Next, the multicollinearity assumption is checked, which checks if there are severe correlations between the predictors. High correlations will yield less reliable results. Again, the variance inflation factors (VIF) metric is used.

Table: VIF Metric for Model2

VIF Results	
Variables	**VIF**
Organisational Effectiveness	1.363
Strategic Agility	1.268
Power	1.074
Culture and Commitment	1.513
Interaction	1.032

Note that all measures are below 5, which is excellent. Therefore, it can be concluded that all assumptions are met for the regression model.