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Forms and use of collective intuition in strategic decision-making processes of South African fintechs

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ABSTRACT

Strategic decision-making is one of the core responsibilities of the senior executives in any firm, as these decisions impact firm profitability and survivability. The use of intuition by executive managers has been acknowledged in the literature as an important decision-making approach. Until recently though, little was known about team-level intuitions, and even less is known about the strategic decision-making processes in FinTech firms. This research sought to develop a deeper understanding of collective intuitions and the strategic decision-making processes in FinTechs firms. This study also sought to contribute to the nascent literature on collective intuition, by testing the validity of a recently proposed collective intuition framework.

The research was conceptualised as a qualitative study with an exploratory design. Fourteen semi-structured interviews were conducted with executives tasked with of 5 South African FinTech firms.

Findings highlight the high reliance that FinTech top managers place on their collective intuitions during strategic decision-making. A secondary finding is that the collective intuition framework has been shown to have both predictive and explanatory power, which contributes to the current theoretical work in this area.

Finally, the insights of this study have led to a CEO-integrated collective intuition framework being proposed, with management recommendations, and impetus for further research in this research area.

KEYWORDS

Intuition
Collective Intuition
Strategic Decision-Making Processes
Top Management Teams
FinTech

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CHAPTER 1: RESEARCH PROBLEM AND PURPOSE

1.1. Introduction to the research problem and purpose

This research study was aimed at developing a better understanding of the use of collective intuition as an approach to strategic decision-making (SDM) in top management teams (TMTs) within the South African FinTech sector.

Research on organisations has focused for many years on how decisions are made and how these decisions impact business outcomes. Herbert Simon (1956) described decision-making as the central activity of the firm. He postulated that managers must make complex decisions under constraints of time and information. His concept of bounded rationality explains that the constraints of management cognition are due to incomplete information, inability to anticipate every consequence of action and a lack of knowledge of every behaviour (Simon, 1956). Because of these cognitive limitations, or bounds and limits on human rationality, decision makers tend to make “satisficing” decisions instead of optimal or perfectly rational choices (Simon, 1987). Simon’s concept of bounded rationality set the foundations for developing a non-rational view of decision-making under uncertainty.

Since then, a significant body of academic work has developed in the field of strategic decision-making. Businesses have increased in complexity over time, resulting in managers having to make many decisions of differing complexity and importance whilst having to balance competing strategic demands (Smith, 2014). Strategic decision-making is considered a fundamental activity that ensures long-term competitiveness and drives firm action (Gavetti, Levinthal & Ocasio, 2007). The mechanics of decision-making continues to be a significant area of research interest (Glöckner & Witteman, 2010).

Strategic decision-making solves for problems that are unstructured, non-programmed, poorly defined, and with uncertain outcomes (Shepherd & Rudd, 2014). Strategic decisions concern the future of the organisation, and are often novel, non-routine, and of high importance, involving multiple decision-makers, stakeholders, and objectives (Shepherd & Rudd, 2014). The consequence of these

decisions is resource intensive to the firm (Elbanna, 2006). Making these critical strategic decisions is the key responsibility of top management teams.

Strategic decision-making, in the management literature, is conceptualised as a largely rational process (Calabretta, Gemser & Wijnberg, 2017). Cabantous and Gond (2011) describe this process of decision-making as structured, analytical, and linear. It can also consume cognitive effort and time, with the attendant risk that the decision maker can become overwhelmed with information overload. Scholars have recognised in practise however, that top managers can call upon their intuition, or 'gut feel' when making complex, important and non-routine decisions (Eisenhardt, 1999; Simon, 1987).

Studies exploring the use, form, and effectiveness of intuition in strategic decision-making have been a focal point in the area of managerial and organisational cognition for the past two decades (Dane & Pratt, 2007; Hodgkinson & Healy, 2011; Hodgkinson & Sandler-Smith, 2018). Dane and Pratt (2007) define intuitions as "affectively charged judgements that arise through rapid, non-conscious and holistic associations". Intuition, in contrast to rational or analytical decision-making, is fast, non-linear and is explainable after the event (Simon, 1987). Using intuitive approaches to make strategic decisions has been shown to result in faster decision-making (Wally & Baum, 1994), enhanced outcomes under uncertainty, and better firm performance (Khatri & Ng, 2000).

Until recently, the key focus of academic interest in intuition research has been on the individual decision maker, typically the CEO (Dane & Pratt, 2007; Dörfler & Ackermann, 2012). It is now well established in the literature that senior decision makers in the organisation rely on intuition. In practise, however, not all strategic decisions are made by an individual. It is common in complex organisations for many strategic issues to be discussed collectively by a top management team with strategic decisions being made collectively. This collective decision-making process is an important means through which top management teams influence their organisations.

A search through the strategic leadership and decision-making literature reveals a historical gap in exploring intuition and its emergence in complex social settings, like

that found in top management teams (Samba, Williams & Fuller, 2019). Recently some scholars have started to investigate the use of intuition in strategic decision-making in both the individual and team context. Team intuition, alternatively described by some scholars as 'collective intuition', has been described in contexts of organisational learning, supplier performance and new product development (Akinci & Sadler-Smith, 2019).

This emerging research indicates that the benefits of intuition can be exploited by teams as well as individuals. As this body of work exploring collective intuition amongst top management teams is relatively new, without a firm theoretical base, it is somewhat imprecise in its attempts to explain the emergence and functional mechanism of collective intuition (Samba et al., 2019).

Samba et al. (2019) sought to address this problem by merging team intuition and top management team research. The outcome of their synthesis describes four forms of top management team intuition. These forms are differentiated by *locus* and *integration of intuition* as well as clarifying their mechanisms and characteristics. Akinci and Sadler-Smith (2019) also propose a framework for collective intuition research through the lens of organisational learning and strategic decision making. They offer a definition of collective intuition as "independently formed judgements based on domain specific knowledge, experience and cognitive ability, shared and interpreted collectively" (Akinci & Sadler-Smith, 2019). With these early foundations laid, both groups of scholars have put out the call for further research on a critically important but under- researched phenomenon in organisations.

This study sought to explore the use of collective intuition among top management teams of FinTechs in South Africa. "FinTech" is a neo-logistic term that originates from merging the words "financial" and "technology". It refers to the merging of new internet technologies with the traditional financial services sector (Gomber, Koch & Siering, 2017). The term is generally reserved for innovators and disruptors in the financial services sector, which exploit the advances in online communication and automated information processing. The literature draws a distinction between "sustaining FinTechs" and "disruptive Fintechs" (Lee, 2015). "Sustaining FinTech's" are established financial services providers that embark on digitisation journeys to protect their market share (Gomber et al., 2017). "Disruptive Fintechs" are defined

by Gomber et al. (2017) as “new companies and start-ups that challenge the existing service providers using new business models to deliver innovations in products and services”. These new business models leverage the latest technology to provide greater flexibility, efficiency, and flexibility with reduced time to market on product and service innovations (Lee, 2015). The focus of this study is on Disruptive Fintechs.

In the past, traditional financial services providers used technology as a tool to support the primary business (Gomber et al., 2017). FinTech companies are, in effect, IT companies, where the technology is the central component in delivering the primary business activities. This provides FinTech companies with a distinct advantage in providing novel solutions, meeting customer needs that were not previously possible and are more suited to responding quickly to innovations and changes in technology. Technology companies also have a culture of change and development that make them more dynamic in responding to market conditions (Gomber et al., 2017). The business models are more cost efficient as digital platforms are easily scalable. Top management teams in Fintechs are typically made up of former bankers with deep financial and regulatory expertise and technology experts. Unlike traditional financial services, however, the focus of the business is on its technology and business model innovation (Gomber et al., 2017).

This distinction is prescient as the context of the proposed research is within the arena of the “disruptive FinTechs”. The strategic decision-making environment that top management teams of FinTechs operate in can be characterised as novel, fast changing, uncertain, complex, and ambiguous. It is postulated that top management teams would be inclined towards a more intuitive approach to strategic decision-making, and this would be an ideal context and ecosystem within which to conduct strategic decision-making research. This also answers calls made in literature to extend qualitative research in collective intuition to different sectors. With the advent of the fourth industrial revolution, the wide adoption of technology and burgeoning technology disruptors, it is vitally important to study this key growing sector. As far as this author has been able to determine, at the time of writing virtually no academic literature existed on the study of strategic decision-making processes (SDMP) within the FinTech industry.

This research paper also sought to answer the call in the literature (Samba et al., 2019; Akinci & Sadler-Smith, 2019) by adding to the knowledge on collective intuition in top management teams and testing the validity of their proposed theoretical contributions within the natural setting of the top management team. Research was carried out on senior managers and executives in the FinTech sector, who are intimately involved in strategic decision-making within a group or team environment. Shepard and Rudd (2014) describe strategic decisions as having material consequences, require significant capital investment and impact multiple areas in an organisation. The ability of the top management teams to make sound judgements with desirable outcomes is critical for firm success. This study sought to better understand the nature and experience of collective intuition within top management teams. It is envisaged that an addition to the extant body of knowledge would ultimately enhance the effectiveness of strategic decision-making amongst top management teams in organisations.

1.2. Research Purpose

In a fast moving and complex business environment, top management teams must make quick and effective strategic decisions which have a material consequence on the prospects of the firm. This consideration is particularly relevant in the burgeoning and nascent FinTech sector. The FinTech sector is characterised by the delivery of major products innovation that must be delivered rapidly to market. This is supported by increasingly advancing technological infrastructure and the widespread adoption of mobile technologies in society. FinTech firms are already having a major impact in the financial services sector, threatening to disintermediate traditional financial services with an intense pace of digital innovation delivering client focused, personalised products and services.

The purpose of this research was to develop a deeper understanding the phenomenon of collective intuition in top management teams during strategic decision-making in the FinTech sector in South Africa. This study was aimed at also understanding what factors informed the forms and use of collective intuition. In doing so, the research ultimately sought to assess the validity of recent theoretical contributions on collective intuition in the literature (Samba et al., 2019; Akinci & Sadler-Smith, 2019).

1.3. Research Problem

The aim of this research was to develop insight into how senior managers and executives in top management teams use the team's collective intuition in making strategic business decisions. This investigation was intended to evaluate the validity of a foundational theoretical framework for collective intuition that was recently proposed by Samba et al. (2019). The literature review conducted in Chapter 2 focused on the use of intuition in the strategic decision-making process, its effectiveness, and how a collective intuition may emerge within the social context of a top management team.

1.4. Research Scope

The scope of this research explored the phenomenon of collective intuition during strategic decision-making as experienced by senior managers of an organisation's top management team, within the context of the South African FinTech sector. The objective was to assess and analyse the data developed from the research study to validate the top management team collective intuition framework as proposed by Samba et al. (2019). The research incorporated the data received from C-suite executives and senior managers from five FinTechs in South Africa. These FinTechs will henceforth be anonymised as FinTech V, W, X, Y and Z.

1.5. Research Definitions

The following definitions are offered in this section for ease of reference and to ensure clarity of the core concepts under investigation in this study:

Strategic Decision-making: Strategic decision-making solves for problems that are unstructured, non-programmed, poorly defined, and with uncertain outcomes. They concern the future of the organisation, and are often novel, non-routine, and of high importance, involving multiple decision-makers, stakeholders, and objectives (Shepherd & Rudd, 2014).

Intuition: Intuitions are defined by Dane and Pratt (2007) as "affectively charged judgements that arise through rapid, non-conscious and holistic associations."

Intuitions are often described as a “gut feeling” or “hunch” (Ashkanasy, Humphrey & Huy, 2017).

Collective intuition: Collective Intuition is premised on the fact that individual members in a team setting bring with them a diverse set of knowledge, experiences, beliefs, and values which can ‘cross-contaminate’ with other members during shared social exchanges, resulting in concepts variously described as “shared mental structures”, “dominant logic” and shared “schemas” (Akinci & Sadler-Smith, 2019).

Top Management Teams: The top management team in an organisation is made up of the most senior managers in the firm which are responsible for making strategic decisions that shape the outcomes of the firm with a primary responsibility to define and frame the strategic priorities of the firm as well as enforcing the firm’s policies and operating standards (Samba, 2016).

FinTech: “FinTech” is a neo-logistic term that originates from merging the words “financial” and “technology”. It refers to the merging of new internet technologies with the traditional financial services sector (Gomber, Koch & Siering, 2017) and is reserved for innovators and disruptors in the financial services sector, which exploit the advances in online communication and automated information processing.

1.6. Theoretical Contribution

Until recently, little was known about the mechanisms involved in team-level intuitions, and even less is known about the strategic decision-making processes in FinTech firms. This research sought to develop a deeper understanding of both team-level or collective intuitions and strategic decision-making in FinTechs. In achieving these objectives, and by answering the call in the literature, (Samba et al., 2019; Akinci & Sadler-Smith, 2019), this study hopes to contribute by validating the theoretical foundations of the collective intuition framework proposed by Samba et al. (2019) through a qualitative investigation of collective intuition in FinTech top management teams.

1.7. Practical Contribution

As far as the researcher was able to establish, very little empirical work exists in the literature on strategic decision-making processes in FinTech top management teams. The FinTech sector is a new, rapidly evolving, and increasingly important sector with top management teams making strategic decisions in an environment of both complexity and a high uncertainty of outcomes. In developing a deeper understanding of strategic decision-making, through interpreting and analysing the experiences of FinTech executives, this study sought to develop insights that will lead to practical recommendations which will aid in higher quality decision outcomes, improving firm survivability and profitability.

1.8. Structure of the Research Report

This research report has been structured as follows:

Chapter 2 is a discussion of the relevant theoretical developments in the field of strategic decision-making and collective intuition and substantiates the for this study from the academic literature.

Chapter 3 explains why this study is being conducted and defines the research questions that will be addressed by this study.

Chapter 4 outlines the research methodology utilised in conducting the research.

Chapter 5 is a presentation of the research findings.

Chapter 6 analyses and discusses the findings in relation to the Chapters 2 literature review.

Chapter 7 is a presentation of the main findings, management recommendations and avenues for future research.

CHAPTER 2: LITERATURE REVIEW

2.1. Introduction to theory and literature review

"Some have argued that management IS decision-making" (Ireland and Miller, 2004)

Strategic Decision-making (SDM) is a core responsibility of the top management team in any organisation. In this chapter, the theory that is relevant to the research concepts and research questions under investigation, is discussed. The core purpose of this research study is to investigate the construct of collective intuition in strategic decision-making as it is experienced by the top management team in FinTechs.

To meet this objective, a review of the literature on strategic decision-making processes and approaches by top management teams is conducted. In addition, the most contemporary literature available on collective intuition is reviewed, specifically in relation to the collective intuition framework proposed by Samba et al. (2019). This study has been designed to assess the validity of the theoretical propositions of the collective intuition framework.

2.2. Strategic Decision-Making Processes (SDMP)

Simon (1956) described decision-making as the central activity of the firm. The process of firm decision-making and how decision-making behaviours affect firm outcomes has been a focus of management research for many years (Eisenhardt & Zbaracki, 1992; Elbanna, 2006). A feature of strategic decisions is their complexity, non-routine nature, ambiguity, and criticality to long term firm success with many firm resources at stake (Ireland & Miller, 2004). Coined as 'big-bet decisions" by Ireland and Miller (2004), these types of decisions can involve such diverse but important decisions such as whether to expand internationally, what products and services to develop, how to compete against major competitors or whether to acquire other firms. Shepherd and Rudd (2014) also weigh in on the discussion, adding that the context of strategic decisions involves, by definition, a lack of structure, uncertain outcomes, and decision novelty. Mitchell, Shepherd and Sharfman (2011) contend that it is

important to elucidate the mechanics of strategic decision-making due to the impact on firm outcomes.

Shivakumar (2014) offers a classification for strategic and non-strategic decisions. Characteristics such as decision reversibility and firm scope such as products, services, markets, and business activities influence whether a decision is strategic on non-strategic. Another conception of strategic decision-making offered by Shivakumar (2014) is as an ongoing considerate analysis, planning and implementation within the bounds of the decision makers rationality (Shivakumar, 2014). Smith (2015) extends on the dynamism of strategic decision-making by introducing the dimensions of exploration and exploitation as strategic paradoxes. Exploration and exploitation are opposing and inconsistent strategies that effective strategic decision makers are required to move between, to ensure firm profitability and survivability (Smith, 2015).

Lewis (2013) further observed that the variable contexts and uncertainty in which strategic decisions are made can pose a challenge for senior managers and executives as their experiences in one domain may not translate into effective decision-making in a novel situation. He proposes four principles to enhance decision-making in complexity, namely reframing, experimentation, modelling outcomes and theorising to explain outcomes.

Research in managerial decision-making has been pivoting from rational and analytical models and theories towards more cognitive and behavioural ones (Hodgkinson & Healey, 2011). Traditionally, theories of decision-making have focussed on a cognitive perspective, where individuals are assumed to follow the rational approach of economic utility maximization. This implies that decision makers select alternatives that maximise their expected preference utility. This is achieved, according to this model, by logically assessing alternative probabilities and evaluating outcomes mathematically (Smith, 2008). It assumes that a decision maker is perfectly rational and can predict future outcomes of various decision options logically and without the influence of affect. This theory supported the idea among practitioners and academics that sound decision-making happens ideally with a “cool head”, that is, under perfectly rational conditions and without the influence of emotions (Ashton-James & Ashkanasy, 2008).

Of recent, however, there has been a growing body of literature that posits that decision makers do not follow these precepts of utility maximization, don't fully consider all available options objectively and weight differing decision attributes and outcomes subjectively (Plous, 1993). It has been recognised increasingly that except in very specific situations, the assumptions of decision-making under economic utility models are of limited use (Smith, 2008).

Herbert Simon (1956) provided one of the earliest rebuttals of expected utility theory, when he outlined the concept of "bounded rationality" – that there are boundaries to an individual's cognitive abilities - and proposed that decision makers often ***satisfice*** as opposed to optimise their decisions. This means that a decision maker will choose an option that satisfies most of the important criteria under consideration without pursuing an exhaustive analysis of every available course of action. Tversky and Kahneman (1979) later offered an alternative perspective to expected utility theory called prospect theory, which considers the decision maker's irrationality and emotiveness. They explain, in this theory, that decision makers tend to be risk-seeking in their decision-making to prevent losses and tend to be risk sensitive to potential gains. These ideas resulted in a profitable stream of research over the subsequent years that came to be known as the Heuristics and Biases model of decision-making under uncertainty. Since then, a strong research effort, known as the 'affect revolution' provided empirical support to the idea that emotions, mood, and temperament influence management decision-making (Ashkanasy et al., 2017; Walsh, 2008).

It is recognised that management decision-making is complex, involves multi-level processing and is influenced by a host of inter, intra and extra-personal factors. Dual Process Theories (DPT) of reasoning, judgement and social cognition form the centre of the current literature in managerial and organisational cognition (Healy & Hodgkinson, 2017).

The responsibility of making these complex and critical decisions as well as directing the scarce firm resources in support of these decisions lies fundamentally with senior management (Elbanna, 2006). Elbanna (2006) further explains that these decisions have both an inner and outer context. The inner firm context considers the cultural,

structural, and political dimensions impacting decision-making whereas the external context looks outwardly towards the business environment and related competitive forces. Upper Echelons Theory, first proposed by Hambrick and Mason (1984), posits that an organisation's strategic choices are influenced by the perceptions and reflections of its top management team. This, which is made up of the most senior managers in the firm, collectively direct strategic decision-making rather than this being the sole domain of the CEO (Hambrick, 2007). Research has traditionally focused on determining links between top management team demographics such as tenure, team size, team educational level and firm outcomes of innovation and firm performance (Lou, 2021). The impact of these characteristics to top management team strategic decision-making processes is considered in greater detail in section 2.5. which reviews the literature on Top Management Teams.

2.3. Rational approaches to strategic decision-making

Rational or analytical decision-making processes have traditionally been a hallmark of decision-making research. This perspective emphasizes a slow, effortful, costly, and structured approach, where the decision maker accumulates as much information on the business problem, generates an exhaustive list of scenarios and evaluates each scenario systematically against firm goals (Dane & Pratt, 2007; Glockner & Betsch, 2012). Cabantous and Gond (2011) describe this process of decision-making as structured, analytical, and linear. It can also consume cognitive effort and time, with the attendant risk that the decision maker can become overwhelmed with information overload.

Mason (2015) offers a framework for the drivers of decision-making, namely, speed, strategy, and leadership. Rational decision-making is described alternatively as evidence or fact- based decision-making, driven by information, and enabling continuous improvement and learning. According to Franklin (2013), the rational decision-making process is characterised by being systematic, iterative, adaptive, self-correcting, and active. Sadler-Smith (2015) describes situations that favoured analytical or rational decision- making process that include conflict resolution, optimisation problems, developing justifications, decision-making in low validity environments and situations where decision criteria can be determined objectively.

The individual senior manager's propensity to adopt a rule-based and analytical approach to decision-making can be correlated to their distinctive cognitive style (Armstrong, Cools & Sadler-Smith, 2012). Armstrong et al. (2012) defines cognitive style as a person's consistent difference in the way they think and process information and suggest that individuals with analytical cognitive styles are better at tasks requiring assessment, evaluation, and arrangement.

At the top management team level, strategic decision-making research has focused on the constructs of procedural rationality (Dean & Sharfman, 1996), strategic rationality (Khatri, 1994), formal analysis (Langley, 1989) and decision comprehensiveness (Dean & Sharfman, 1996). Decision comprehensiveness and procedural rationality are the most common constructs in the literature. Dean and Sharfman (1993) describe procedural rationality as "the extent to which the decision process involves the collection of information relevant to the decision, and the reliance upon analysis of this information in making the choice". They further define strategic decision-making comprehensiveness as "the extent to which an organisation attempts to be exhaustive or inclusive in making and integrating strategic decisions."

2.4. Intuition in Decision-making

The study of intuition as a decision-making tool has been an important topic in management research for the last few decades, with a rapidly increasing interest over the last years. The imperative in understanding the effectiveness of intuition in strategic decision-making has increased in response to a business environment that has become more complex, uncertain, fast paced, and globalised.

It has been argued that the use of intuition plays an important role in strategic decision-making (Khatri & Ng, 2000; Dane & Pratt, 2007). The traditional view in strategic decision-making research has favoured the rational decision process. This requires that the decision maker conduct in-depth research, gather information on the issue, develop multiple options and systematically evaluate these options. This systematic analysis to decision-making is regarded as highly effortful, time consuming and costly process (Dane & Pratt, 2007; Glöckner & Witteman, 2010). Given these characteristics, and without certainty of the effectiveness of analytical

thinking, some scholars have favoured the use of intuition as an alternative decision tool. Intuition has the advantages of increasing effectiveness but shorting decision time, cost, and cognitive effort of the strategic decision maker (Ashkanasy et al., 2017). Reliance on intuition is beneficial in making effective decisions in complex and ambiguous environments, provided there is experiential basis for the intuition (Hodgkinson, Sadler-Smith, Burke, Claxton & Sparrow, 2009).

Expert-based intuition must be differentiated from novice or “immature” intuition (Salas, Rosen & DiazGranados, 2010). Dane and Pratt (2007) and Salas et al. (2010) offer a description of expert intuition which draws a clear distinction between these two conceptions of intuition. Expert-based intuition calls on the deep domain expertise of the individual and must rooted in rich experience in a specific area (Dan & Pratt, 2007). Expert-based intuitions have been found to result in more effective decisions in highly complex and ambiguous environments (Salas et al., 2010). Salas et al. (2010) also observed that experts often used a mix of strategies, which increased the probability of high-quality decisions and positive outcomes.

There exist multiple definitions of intuition, depending on the locus of study. Within the management literature, Dane and Pratt (2007) describe the four key characteristics of intuition as being non-conscious and holistic with fast associations producing affectively charged judgements. Decision makers often describe intuition as ’knowing without reasoning”. This absence of awareness in making the cognitive effort in reaching a decision is considered the main characteristic of intuition.

Intuition is considered holistic in so far as the decision maker can combine disconnected pieces of information into a single view of the problem (Sinclair & Ashkanasy, 2005). It is suggested, in the decision science literature, that this is possible due to the brain’s non-conscious ability to map disparate informational elements onto cognitive structures (Dane & Pratt, 2007). The major advantage to using intuition is the speed at which decisions are made. This is seen as a major benefit within the business context and has been an important driver for understanding, promoting, and using intuitive decision-making (Khatri & Ng, 2000).
Although affect is known to influence intuition, its role has yet to be fully clarified. Affect can be defined as the mood or emotion of the decision maker and has been shown to impact intuition at different stages of intuition (Ashkanasy et al., 2017). As

an antecedent to intuition, positive emotions have been shown to enhance intuition with negative emotions inhibiting it (Dane & Pratt, 2007). Dane and Pratt (2007) also describe affect as having an impact during intuitive synthesis. Once an intuition has surfaced in consciousness, it can also be experienced as feeling. Intuitions are often described as a “gut feeling” or “hunch”. Research into intuition in increasingly supporting the view that it can be conceptualised as a multi-construct phenomenon (Ashkanasy et al., 2017).

2.4.1. A dual-processing view of strategic decision-making strategies

Decision-making is a cognitive process; in that it is a process of reasoning that occurs in the mind of the decision maker. Managers, either directly or indirectly, come to select a cognitive strategy when engaging their minds in the process of decision-making. There are various ways in which a decision can be reached; from careful, analytical, and systematic deliberation of various options, known as rational or analytical decision-making, to quick hunches or “gut feels” which is characteristic of intuitive decision-making. This choice of decision approach has been described in the literature conceptually as dual-process theories of cognition (Hodgkinson & Sandler-Smith, 2018; Dane & Pratt, 2007; Hodgkinson et al., 2009).

In the psychology literature, dual process theory describes two distinct types of information processing during cognition, namely non-conscious (Type 1) processing, conscious processing (Type 2) or combinations of both (Epstein, 2010; Evans, 2006; Kahneman, 2003). It is generally accepted in the management literature that managers can call upon intuition-based strategies or rational decision-making approaches (Hodgkinson & Sandler-Smith, 2018; Dane and Pratt, 2007; Hodgkinson et al., 2009). Kahneman and Fredrick (2002) explain that these types of processing are related to the two approaches to decision-making, namely, intuition and rational / analytical decision-making. In summary, intuitions are thoughts that come quickly to mind, because of engaging Type 1 processing whereas slower, analytical thinking is defined as Type 2 processing. This conscious and deliberate Type 2 processing can override this intuitive Type 1 processing.

Type 1 information processing is described as effortless and automatic, is fast, holistic, and outside of conscious awareness. The consequences to the individual engaging a non-conscious process are that type 1 processing preserves cognitive resources at the cost of being aware of potential errors in reasoning and cognitive biases. Evans and Stanovich (2013) describe different Type 1 processes, such as modular, automated, and habitual which can operate independently, allowing for the processing of several reasoning processes in parallel. An advantage of Type 1 processing is its speed of processing, an ability to consume large quantities of data holistically and the ability to learn automatically from experience. Type 2 processing is described by Kahneman (2003, p.698) as “slow, serial, effortful, more likely to be consciously monitored and deliberately controlled”. Type 2 processing consumes significant cognitive resources and calls on a single cognitive resource that is independent of Type 1 processing (Evans & Stanovich, 2013). Information is processed serially hence only a limited number of cognitive processes are possible. Type 2 processing has the advantage of being able to perform abstraction, logic, ideation, long-term planning, and transmission of knowledge via the use of language (Epstein, 2010).

Two schools of thought exist as to how these two information processing types interact: the default interventionist and parallel-competitive (Evans & Stanovich, 2013; Hodgkinson & Sandler-Smith, 2018). From the default interventionist perspective, the baseline processing mode is Type 1 processing, which is faster with lower cognitive intensity. Intervention from Type 2 processing only occurs in certain conditions. Because of its rapid nature and non-conscious characteristics, Type 1 processing can be subject to various cognitive biases, which can be corrected by the intervention of conscious Type 2 processing (Kahneman, 2003).

The parallel-competitive school of thought posits that Type 1 and Type 2 processing occur simultaneously, interact with each other, and compete over control of behaviour and cognition (Epstein, 2010). Interaction between both processes can be simultaneous or sequential. There is an interplay between the two processes such that Type 1 processing provides an initial intuitive result based on existing mental schemas which is automatic and fast, then pauses for the Type 2 processing that will analyse the intuition, develop some internal mental justification before taking a final decision (Akinci & Sadler-Smith, 2020).

It has been argued that within the managerial decision-making context that the parallel competitive view affords a “more insightful generative framework for theorising and studying empirically the interplay of conscious and non-conscious processes in the workplace” (Hodgkinson & Sandler-Smith, 2018). Most of the research applications of dual process theory have been at the individual level within the context of strategic management. The literature is scant on team level conceptualisations of dual process theory and is limited to a paper by Healey, Vuori, and Hodgkinson (2015). Healey et al. (2015) adopted a shared mental model approach and team representation view to argue for a team level conceptualisation of dual process theory.

2.5. Top Management Teams

The top management team in an organisation is made up of the most senior managers in the firm which are responsible for making strategic decisions that shape the outcomes of the firm (Samba, 2016). The primary responsibility of the top management team is to define and frame the strategic priorities of the firm as well as enforcing the firm’s policies and operating standards (Samba, 2016). The consensus view of top management team among scholars is a small group of managers that must make decisions in the context of either

Hambrick and Mason’s (1984) upper echelons model is a seminal work that ignited research interest on senior managers and their influence through the organisation. The upper echelons model posits that senior manager choices are subject to their environmental context and bounded by their values and innate cognition. Since it was published, a significant body of literature has developed exploring the characteristics of senior managers and their influence on decision-making and firm performance.

Since then, legitimate criticisms have been raised concerning the model’s construct validity. A gap in upper echelon’s theory is the lack of explanation between the characteristics and firm performance (Hambrick, 2007). This missing social and psychological connection between manager behavioural and demographic characteristics and firm performance is known ‘black box’ problem (Lawrence, 1997; Hambrick, 2007).

Two main avenues of upper echelons literature have developed. The first avenue investigates the CEO and top management characteristics and how this impacts team and firm performance. The second avenue has developed around the team composition in relation to decision processes and firm performance. Each avenue has been criticised for its limitations, which mostly concern using observable characteristics as a proxy for psychological behaviour and team cognition (Goll & Rasheed, 2005). The main findings of these two strands of research are covered in the next section.

As a result of these criticisms, research focus has shifted to the cognitive structures and interactions within the top management team (Eisenhardt, 1999). The key idea that has emerged is the concept of 'team think', that the cognitive capacity of the team is greater than its parts. It follows then, as a reasonable proposition, that top management teams would be more effective strategic decision makers than an individual member of the team. Eisenhardt's (1999) is the first study to emerge that shines a light on the concept of collective intuition without specifying it in those specific terms.

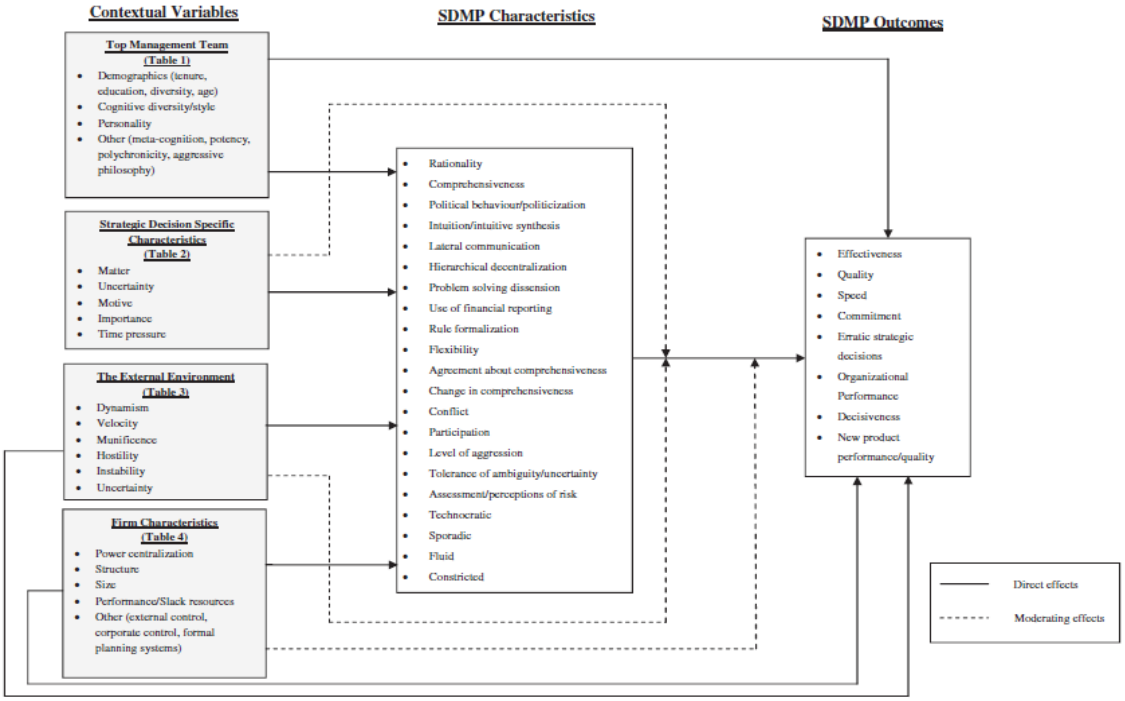
2.5.1 Factors influencing strategic decision-making in TMTs

There are various factors, both at the individual, team and contextual level which can influence the strategic decision-making process. Appelt, Milch, Hangraaf and Weber (2011) outline three types of factors that impact decision-making: individual differences, the specific features of the decision, and the situational context of the decision. The individual differences are related to the unique characteristics of the decision maker such as personality, cognitive style (propensity to intuitive or rational approaches to decision-making), cognitive ability or risk attitude, whereas decision features include how the decision may be framed or the weighting of the various options to be evaluated. Situationally, the decision may be subject to time, financial or political constraints (Appelt et al., 2011).

Shepherd and Rudd (2014) conducted a comprehensive literature review examining the strategic decision-making process. They provide a useful framework linking contextual variables with characteristics of the decision process with decision outcomes, shown in Figure 1. This is used to explore the current literature on the

relationship between Strategic Decision-Making Processes (SDMP) and Top Management Team (TMT) demographic and psychological characteristics. Hambrick and Mason's Upper Echelons' Theory (1984) use demographic characteristics, which are observable, as a proxy for a top management team's behavioural and cognitive characteristic.

Figure 1: Sheperd and Rudd's (2014) Contextual Variables Framework in SDMP



2.5.2. TMT Characteristics

In this section a review of the literature on demographic characteristics, psychological characteristics, and composition of top management teams in relation to decision-making style and decision outcomes is presented.

2.5.2.1. Demographic Characteristics of TMTs:

- **Age:** The average age of the top management team is a key demographic that impacts perceptions, behaviours, and decision-making processes (Hambrick and Mason, 1984). Age has been shown to play an important moderating role between using objective criteria and strategic evaluation. Younger executives are more entrepreneurial in terms of risk averseness and innovation (Lou 2021).

- **Tenure:** Tenure has been linked to firm outcomes such as financial performance. There have been contradictory findings between tenure and rationality, with Banter (1993) finding a negative relationship whilst Goll and Rasheed (2005) found a positive association. Papadakis and Barwise (2002) found no relationship between CEO tenure and rational decision-making.

- **Educational Level:** Hambrick and Mason (1984) use education level as a proxy for cognitive ability and postulate a positive relationship between educational level and firm performance. There is empirical evidence to support the proposition that increases in education levels lead to an increase in analytical approaches (Goll & Rasheed, 2005; Papadakis & Barwise, 2002).

- **Experience:** Experience is expected to influence cognitive function in decision-making, by influencing decision speed and decision-making approach. Forbes (2005) found evidence to support a positive relationship between experience and decision speed and experience, whilst Hill and Tyler (1991) found empirical support for their hypothesis that experience moderates the use of objective criteria in decision-making.

2.5.2.2. Psychological Characteristics of TMTs

- **Decision-making Style / Cognitive Style**

Cognitive style refers to the various ways in which individuals process information, think, learn, perceive, and make decisions (Hough & Ogilvie, 2005). Nutt (1993) argued that cognitive style is an important factor in executive behaviour, risk assessment and decision-making. Nutt (1993) additionally found that managers with flexible decision styles tend to be more aggressive in their decision-making and have a higher tolerance to ambiguity and uncertainty.

Evans (2003) and Akinci and Sandler-Smith (2019) have also explored cognitive style from the perspective of Dual Process Theory. Evans (2003) explored how strategic decision processes unfold in individuals with preferences in either an

intuitive or rational decision-making approach. Akinci and Sandler-Smith (2019) take a dual process theory perspective on collective intuition, firm learning, and decision-making in teams (see section 2.6).

- **Risk Propensity**

Papadakis, Lioukas, and Chambers (1998) defined risk propensity as an individual's appetite for accepting or avoiding risk. They found that CEO propensity for risk had a significant influence on the strategic decision-making process. In their study, they were able to show empirically that the higher the risk propensity of the CEO, the lower the formalisation of the strategic decision-making process (Papadakis et al., 1998). Other studies showed that that an increasing risk tolerance of the CEO was associated with faster decision speed (Wally & Baum, 1994).

2.5.2.3. TMT Composition: Team and Cognitive Diversity

The composition of the top management team, also referred to by different scholars as team diversity or heterogeneity refers to the differences in attributes between persons in a team which creates a perception in person with that attribute that they are different from the rest of the team (Williams & O'Reilly, 1998). Two main themes in this research stream are demographic team diversity (Simons et al., 1999) and psychological diversity (Samba et al., 2018).

There are two theoretical perspectives on team diversity. One lens is through the organisation as a social system, which posits that information processing occurs through these social systems and can impact decision-making outcomes. The other lens is through social categorisation (Van Knippenberg & Schippers, 2007), which categories people into groups and traits resulting in the formation of in groups and out groups.

The main demographic categories researched can be split into job related and less job-related diversity (Simons, 1999). Job related categories include factors such as background, length of tenure, experience, training. Non-job-related diversity relate to factors such as gender, age, and nationality. Although the research in these

categories has been scattered and contradictory, a recent study by Bengtsson, Raza-Ullah & Srivastava (2020) found empirical support for a positive relationship between job related diversity and firm performance as well as a negative relationship between less job-related diversity.

The psychological diversity stream of research has a focus on the team cognitive diversity, which has been described as the beliefs and preferences of the top management team on its strategic objectives (Miller et al., 1998). However, the results are mixed. Although Miller et al. (1998) found a negative relationship between team cognitive diversity and decision-making processes, Samba (2018), in a meta-analysis and Olson (2007) in an empirical study found strong support for a positive relationship between strategic decision quality, strategic goals and team cognitive diversity. Other positive associations with cognitive diversity include creativity and knowledge sharing (Shin, 2012).

2.6. Collective Intuition and Organisational Learning

The prevailing wisdom that intuition can only be produced by individuals is being contested as some researchers focus their attention to understanding how intuition emerges during collective decision-making (Elbanna, 2015; Akinci & Sadler-Smith, 2019). In attempting to explain the social foundations of cognition, it has been postulated that in a group situation individual knowledge structures merge to bring about some type of emergent collective knowledge structure (Akinci & Sadler-Smith, 2019). The idea of a collective intuition is premised on the fact that individual members in a team setting bring with them a diverse set of knowledge, experiences, beliefs, and values which can ‘cross-contaminate’ with other members during shared social exchanges, resulting in concepts variously described as “shared mental structures”, “dominant logic” and shared “schemas” (Akinci & Sadler-Smith, 2019).

Akinci and Sandler-Smith (2019) have proposed a foundational view of collective cognition, argued from the perspective of dual-process theories on reasoning and judgment. The dual process perspective holds that organisational intelligence forms because of team cognition and acts as an organisational heuristic to speed up decision-making. This is in the context of expert decision-making (Salas et al., 2010).

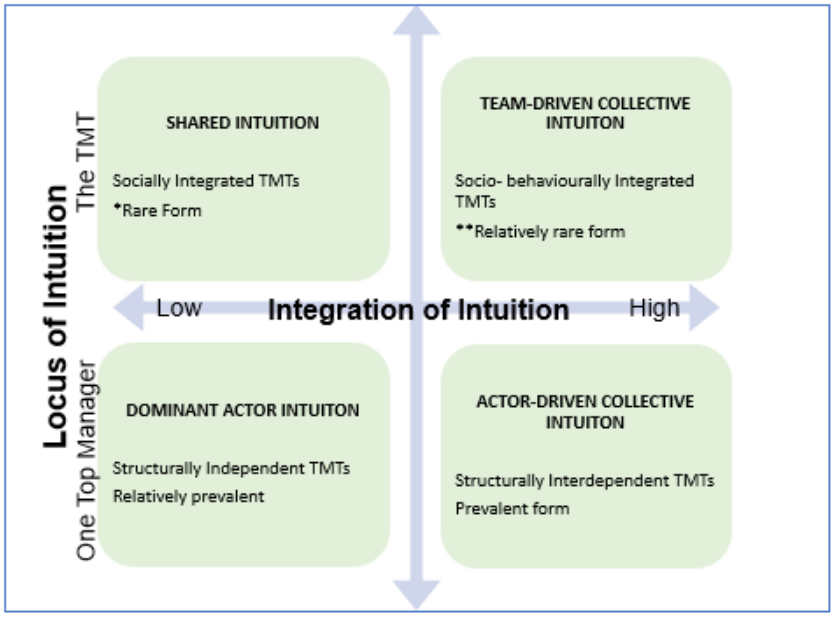
Fast decisions can be made by drawing on Intuitive expertise, which is triggered by accessing old mental schemas of similar problems (Akinci & Sadler-Smith, 2019). This ability of top management teams to respond faster in assessing environment conditions can aid in better and faster decision-making as well as contribute to collective learning (Sadler-Smith, 2008). Expert intuitions in the top management team positively impact on the shared mental models of the team, thereby improving shared cognition resulting in enhanced team processes, performance and ultimately team decision-making capabilities (Akinci & Sadler-Smith, 2019).

2.7. Forms and Use of Collective Intuition in TMTs

Samba et al. (2019) have summarised and organised the existing literature on team intuition with a view to establishing a framework for better defining and describing the phenomenon. Although they find that conceptualisation and theoretical developments are fragmented in the extant body of work, they do observe that the overall theme is consistent (Samba et al., 2019). The benefits that accrue to individuals using intuition for strategic decision-making accrue to the teams as well (Samba et al., 2019). In their analysis they identify four types of top management team intuition which they define as “dominant actor intuition, shared intuition, actor driven collective intuition and team driven collective intuition” (Samba et al., 2019).

Two important dimensions are proposed to explain this phenomenon. The first dimension is the locus of intuition, which differentiates between the team or a top manager as the originator of the intuition (Samba et al., 2019). The second dimension is the integration of intuition, that measures how much the manager’s attitudes, goals, stereotypes, and factual knowledge are integrated into top management team intuition (Samba et al., 2019). The researchers contend that this proposed framework is an important step in explaining how top management teams use collective intuition and extend the invitation for this model to be assessed in the real-world context.

Figure 2: Forms of TMT Intuition



Source: (Samba et al., 2019)

2.7.1. Dominant actor Intuition

This strategic decision-making approach reflects the intuition of one top manager, typically a CEO that is a powerful or autocratic leader (Samba et al., 2019). This top manager is known as the dominant actor. Dominant actor intuition can also occur in circumstances where one top manager has specific domain expertise on which the rest of the top management team places reliance, whereby his intuition is accepted by the team as a team intuition (Akinci & Sadler-Smith, 2019). The locus of intuition is on one top manager resulting in an intuitive decision that is low in terms of integration of team intuition (Samba et al., 2019).

Hambrick (1994) posited that top management teams do not have much 'teamness' between them, being a group of high-fliers with autonomy over their own functional area. There may be limited propensity for collaboration between the top managers in these teams, which Samba et al. (2019) characterised as structurally independent top management teams. This may be why the CEO emerges as the dominant actor, playing a co-ordination and decision-making role across functional areas (Hambrick, 1994).

Structurally independent teams are thought to be more prevalent in large organisations with divisional structures, where top managers are rewarded on the performance of their sub-unit alone and not as a group (Hambrick, Humphrey & Gupta, 2015). There is limited to no social connections between these top managers and any engagement between them may be “ritualistic” (Samba et al., 2019).

A benefit of dominant actor intuition is speed in decision-making, as there is limited collaboration and engagement between the team when one top manager makes the decision. A drawback of dominant actor intuition is that the entire top management team becomes accountable jointly for the decisions made by a single top manager and this may not be procedurally fair (Salas et al., 2013). In addition, by limiting intuition to an individual manager misses the opportunity of integrating a diversity of perspectives available from the team. This may lead to less optimal decision outcomes, as diversity of thought has been shown to enhance the quality of strategic decisions (Samba, Van Knippenberg & Miller, 2018).

2.7.2. Shared Intuition

According to Samba et al. (2019), shared intuition occurs when the top management team tend towards the same intuition, and this intuition is formed independently from each other. It is thought that this phenomenon can occur through homosocial reproduction, a type of selection bias that can permeate the hiring practises of the executive committee. It is known that managers prefer hiring others with similar skills, personalities, and backgrounds to themselves. This can result in a top management team with a very similar social, educational, experiential, and psychological profile (Elsbach, Barr & Hargadon, 2005). As a result of this similarity between the members of this team, they are considered as a socially integrated top management team within this framework (Samba et al., 2019).

The locus of intuition is the team itself, with any validation by other members usually confirming the team’s predetermined views. Despite the team locus, integration of intuition is low due to the lack of diverse perspectives, with the team affirming the intuition of the one top manager as the shared intuition of the group (Samba et al., 2019). This form of team intuition is thought to be rare, as top management teams

are usually comprised of individuals from diverse educational, social, and functional backgrounds (Samba et al., 2018). Teams displaying this type of decision-making approach are more predisposed to groupthink, as they have less availability of alternative options to discuss (Elsbach et al., 2005). This can reduce the effectiveness of the decision-making process, as threats and opportunities could be missed. Decision-making also tends to be faster as decisions are arrived at after limited substantive engagement amongst the top management team (Akinci & Sadler-Smith, 2019).

2.7.3. Actor-driven collective intuition

Actor driven collective intuition represents the intuition of one top manager (Samba et al., 2019). However, this form of collective intuition is different from dominant-actor intuition in two material ways. The first difference is that the actor, or top manager who proposes his intuition to his team, seeks the teams input and validation of his intuition (Akinci & Sadler-Smith, 2019). The actor can then modify his intuitive decision based on the perspectives offered by the team. The other difference is that the actor can change depending on the situation or functional area that the decision relates to (Akinci & Sadler-Smith, 2019). In contrast, dominant actor intuition is often led by one top manager across situations without substantive engagement from the rest of the top management team (Samba et al., 2019).

In the actor-driven context, the ability to shift actor between team members and situations to exploit the expertise available on the team and promotes shared leadership of decision-making (Samba et al., 2019). The team is generally diverse in terms of experience, psychological profile, and educational background. Structurally, the firm is arranged such that there is an interdependence between top managers in delivering the firms objectives (Samba et al., 2019). There is good social integration between the teams, which facilitates substantive engagement and sharing of perspectives and information during decision validation at the executive committee. According to Samba (2019) socially ‘interdependent” teams will be more inclined towards an actor-driven team intuition. Although the locus of intuition is one top manager, the process of information exchange, social engagement and validation provides an opportunity to improve the actor’s initial intuition. Therefore, there is a

higher level of team integration on the actor's intuition than would be observed in dominant actor or shared intuition.

A benefit of actor-driven intuition is that all the top managers who are accountable for the decisions made by the executive committee, have an opportunity to meaningfully contribute to shaping the actor-driven intuition. However, the extended debates and discussions can increase the time taken to make decisions, and this would be a disadvantage of the actor-driven approach.

2.7.4. Team-driven collective intuition

Team-driven collective intuition is described as "producing intuition through interaction" (Samba et al., 2019). This type of intuition emerges from the team because of social interaction and join activity. It is explained by Walsh (1995) in terms the social foundations of cognition, where a group of people share their own knowledge structures with each other, it is likely that a new knowledge structure arises from this collective knowledge.

These team interactions of thinking together and sharing of different views can stimulate ideas and thoughts which would have not been possible by the individual managers alone (Samba et al., 2019). The output of the team's intuition is not ascribable to a specific individual but to the team as a group, hence the team is the locus of decision-making. The integration of intuition is therefore also considered to be high. The emphasis on team interaction and member contribution in generating new intuitions differentiates team-driven collective intuition from the other forms of group intuition, like actor-driven intuition that emphasises validation (Samba et al., 2019).

For a team to be able to interact in this way requires high levels of communication and social interaction, both for the sharing of diverse ideas, building new narratives and working through differences in views (Hambrick, 2007). This type of team, which collaborates effectively, shares information well between them, and places a high value on joint decision-making, can be described as socio-behaviourally integrated (Hambrick, 1994).

Close effective social engagement implies psychological connections and behavioural integration between team members. This connection may be facilitated by frequent, intense, and extended executive committees, creating both a collective information processing and social decision-making unit. Eisenhardt (1999) thought that compulsory and regular meetings requiring information sharing between the top management team was an important antecedent to developing a collective intuition.

The benefits of team driven collective intuition can be significant. The ability to synthesize various diverse perspectives and experiences can vastly improve the team's ability to identify opportunities or threats and respond effectively (Akinci & Sadler-Smith, 2019). The drawbacks of this decision approach are the time require both to engage in ideas and intuitions which slows down decision time. Additionally, a large commitment of time and energy is required to create the environment supportive of team socio-behavioural integration (Akinci & Sadler-Smith, 2019). For these reasons it is expected to be an uncommon approach to team decision-making.

2.7.5. Additional considerations on the collective intuition framework

Samba et al. (2019) have emphasized that the framework proposed on collective intuition is intended to aid in the understanding of TMT intuition. The authors do not suggest that a firm's executive team will only have access to one form of collective intuition. They explain that depending on the inherent qualities of the team, it is possible to move from one form to another. This could be a result of the decision at hand; for example, a decision that is time critical may best be by adopting a shared intuition or dominant actor intuition, which has the advantage of speed in decision-making.

Another reason why top management teams may change form is related to the tenure of the members. As teams change over time, the decision styles of members and the team may evolve as well. Finally, decision cost may play a role as well. Developing an environment that fosters socio-behavioural integration requires time and effort that may not be available to a resource strapped start up firm.

Samba et al. (2019) notes that default collective intuition forms could be influenced by firm size or be fostered by high levels of engagement and team connection when starting new ventures, which could support the development of team-driven collective intuition. They also note that context also influences form. They posit that in innovation led firms, which are led by strong and autocratic CEOs, with visionary ideas are likely to default to dominant actor intuition in order to achieve faster time to market.

2.8. Factors influencing collective intuition

In intuition literature, four factors have been identified as having a Strategic Decision-making (SDM) process-outcome linkage. These factors are decision, managerial, organisational, and environmental factors, also known as the SDM process big 4 driving factors. Samba (2016) highlighted some salient characteristics of these four factors may have influence on the effectiveness of team intuition.

2.8.1. Decision factors:

Decision factors have been shown to play an important role in influencing the categorisation and response of a manager or team to a particular decision. The way in which a firm or manager labels a particular decision influences the firm response and this can vary widely between individuals, teams, and firms. Papadakis et al. (1998) was of the view that decision factors had the most influence on the strategic decision-making process. They found that 'magnitude of impact' was a critical decision factor, with Dayan and Elbanna (2011) proposing that 'decision motive' was another important factor as well. In relation to magnitude of impact, it is thought that the more crucial a decision is to firm survivability, the more a rational and systematic an approach to decision-making will be favoured, and the less likely it will be that intuitive decision-making will be utilised (Dean & Sharfman, 1993).

Decision motives can be characterised as firm responses that are being driven by either opportunities or threats. Although the literature is divided, Elbanna, Child & Dayan (2013) find some empirical support for the view that intuition is more likely to be relied on in circumstances of opportunity exploitation but not when the firm is facing threats. The rationale is that the personal stakes on the team or individual

executive are much higher in defending a threat or crisis relative to exploiting an opportunity.

2.8.2. Managerial factors:

The impact that executives have in influencing the outcomes of firms is critical. Key managerial factors of relevance to the intuition research are the prevailing cognitive climate for decision-making and the knowledge base of managers. Cognitive climate refers to the main information processing style of the top management team. The preferred cognitive style of the top management team, when faced with complex decisions, will influence whether there is a reliance on team intuition. According to Sadler-Smith (2008), cognitive climate is a firm level context that can either favour or impede the use of collective intuition.

The literature discusses two dimensions in relation to knowledge base, knowledge depth and knowledge breath. Miller and Ireland (2005) define knowledge depth as relevant or situation-specific experience, whilst knowledge breath is related to the diversity of experience. Regardless of whether a manager or team places reliance on intuitive or analytical decision-making, the decision outcome is founded on their knowledge base and experience (Dane & Pratt, 2007). Dayan and Elbanna (2011) found that the experience levels of team members influence the effectiveness of intuition during strategic decision-making. Based on this, Samba (2016) postulated that a deeper collective knowledge base leads to increasing effectiveness of collective intuition in strategic decision-making.

2.8.3. Organisational factors:

Organisational factors are internal to the firm and have an impact on strategic decision-making (Papadakis, et al., 1998). Two organisational factors are thought to be relevant to collective intuition are strategic focus and firm size (Samba, 2016).
Strategic focus relates to the orientation of the firm towards either exploration or exploitation, which in turn may influence the effectiveness of intuitive decision-making (Miller & Ireland, 2005). Firms orientated towards exploring are searching for new technologies and business models, taking risks, innovating, and experimenting

(Miller & Ireland, 2005). Firms with an exploitation focus are seeking to optimise performance within its current environment by becoming more productive and efficient (Miller & Ireland, 2005). It is suggested that intuition may be more effective in firms with an exploration orientation.

It is recognised that small and large firms have different approaches, abilities, resources, and structures (Elbanna et al., 2013). This differentially impacts their ability to respond to their environment. Large firms are more structured, formal, and inclined towards structured decision-making, whereas small firms are more agile, innovate and effectuating in their business models (Elbanna et al., 2013). Small firms may then be more inclined to engage in intuitive strategic decision-making, due to less formality, greater agility with faster decision times at lower decision cost (Elbanna et al., 2013). Smaller firms may also have more socially connected top management teams who have greater reliance on each other, a factor which would also enhance the effectiveness of intuitive strategic decision-making (Dean Jr, Brandes & Dharwadkar, 1998).

2.8.4. Environmental factors:

Khatri and Ng (2000) suggest that environmental uncertainty has an influence on the use of intuition and firm performance. Two main causes of environmental uncertainty that are relevant to the use of intuition are the levels of dynamism and complexity faced by a firm. Highly dynamic, or volatile business environments are cognitively demanding for managers to navigate, especially in the context of strategic decision-making (Miller, 2008). This dynamic environmental context, where quick decision-making may be required, is likely to increase reliance on and effectiveness in intuition (Khatri & Ng, 2000).

This reasoning is also valid in the case of complexity. Strategic decision-making in complex environments is cognitively intense, as managers much rapidly scan available data, or external factors and make sense of a multitude of interdependent variables (Dean & Sharfman, 1996).

2.9. Conclusion: Literature Review

This literature review has traversed the theory relevant to the research questions that were to be addressed in this research study.

A detailed coverage of theoretical developments in strategic decision-making theory have informed this literature review. The concept of collective intuition has its roots in social theories of cognition, upper echelons theory and dual process theories of information processing. The context for this study has been established firmly in the academic literature, and the call in the literature for closing the gap on empirical work on collective intuition has been made and heard. This knowledge developed in the literature review forms a solid foundation from which to study the phenomenon of collective intuition.

CHAPTER 3: RESEARCH QUESTION

The primary question that the research study seeks to answer is whether, and how senior managers and executives in FinTech top management teams experience the phenomenon of collective intuition during the strategic decision-making process.

In answering the primary question, the study intends to assess the validity of the collective intuition framework proposed by Samba et al. (2019). The research questions were formulated in relation to the intuition and collective intuition literature and the objective of theoretical validation.

Research Question 1: How do executive managers in the FinTech sector experience the phenomenon of intuition and collective intuition during strategic decision-making within a top management team?

Research Question 2: How does the level of social integration within the top management team shape the form of collective intuition that emerges during strategic decision-making?

Research Question 3: What are the factors that influence the effectiveness of collective intuition during strategic decision-making?

CHAPTER 4: RESEARCH METHODOLOGY AND DESIGN

4.1. Introduction

This chapter discusses the research methodology, approach and design that was used to conduct this research study. It includes a discussion of the sample approach and combines theory and reality to show both why and how the research study was conducted. A clearly outlined research plan is key in determining whether the research questions are achievable, and that the logic of the study is sound. A mono-method, qualitative, exploratory research methodology was proposed as appropriate to best address the research questions in this study (Zikmund, Babin, Carr & Griffin, 2013). Data was developed and collated through the use of semi-structured interviews. Data collection and analysis was subject to the guidelines of the research methodology to mitigate researcher subjectivity and bias (Zikmund et al., 2013).

4.2. Philosophy

The researcher adopts the philosophical lens of interpretivism, from which to approach this study. According to Saunders and Lewis (2018), this research philosophy is appropriate when human experience forms part of the study. This study attempted to extract meaning from the participant's description of their experiences. Each individual is unique and reflects their experiences in slightly nuanced ways. It was required for the researcher to interpret the participants past experiences.

4.3. Approach

This research study followed a deductive approach. Saunders and Lewis (2018), describes deduction as a research approach which tests existing theory by employing an appropriate research strategy to test this theory (p112). The deductive approach is also an appropriate method to testing theory in different contexts, with the sectoral context in this study being the new FinTech sector (Vaismoradi, Turnen & Bondas, 2013). This study sought to evaluate the validity of recent theories and frameworks proposed to describe the forms and uses of collective intuition (Samba et al., 2019) and will be conducted within the context of top management teams in the South African FinTech sector. Although the deductive approach was the

predominate approach used to test the theory, during data gathering and data analysis some induction was utilised as new insights developed (Elo, Kääriäinen, Kanste, Pölkki, Utriainen & Kyngäs, 2014).

Selecting an appropriate methodology is key to the outcomes and conclusions determined by the study (Ritchie & Lewis, 2014). The qualitative method is suitable for research areas that have fragmented theoretical grounding or with limited literature on the population under consideration (Ritchie & Lewis, 2014). This approach is also useful in understanding complex social phenomenon as it occurs within a specific context, especially where the researcher seeks to explore the participants experience and sense-making of a phenomenon (Creswell, 2012).

The literature on collective intuition is nascent, fragmented and in need of foundations. The phenomenon of intuition, as experienced by the decision makers, is intangible and unquantifiable. Exploratory research seeks to discover information not clearly understood by the researcher and is well suited to new or sparsely researched phenomenon (Saunders & Lewis, 2018). Common approaches to conducting exploratory research include semi- and unstructured interviews, unstructured observations, and literature searches.

With these considerations in mind, it was proposed that the qualitative, exploratory approach, using semi-structured interviews, would be the most appropriate approach addressing the research questions posed by the study (Creswell, 2012). The research design was a cross-sectional, mono- method study as only a single research method was used with data collected from interviews with participants at a particular time (Saunders & Lewis, 2018). Fourteen interviewees were conducted over a period of a month, between August and September of 2021.

4.4. Population

Creswell (2012) defined a population ‘as a complete set of members who have the same characteristics”. The population identified as suitable for participation in this study are senior managers and executives that form part of the top management team in FinTech organisations in South Africa.

The choice of this specific sector is relevant to the research questions posed in this study. The strategic decision-making environment that top management teams of FinTech organisations operate in can be characterised as novel, fast changing, uncertain, complex, and ambiguous. It is postulated that FinTech top management teams would be inclined towards a more intuitive decision-making approach making this sector an ideal population within which to conduct research on collective intuition.

4.5. Unit of Analysis

Zikmund et al. (2013 explains that the unit of analysis in a study "describing who will provide the data and the appropriate level of aggregation". The unit of analysis was the individual senior manager or executive manager within an organisation operating in the South African FinTech Sector. The research sought to explore individual senior manager's experiences of collective intuition within top management teams during the strategic decision-making process.

4.6. Sampling Method and Size

Zikmund et al. (2013) defines sampling as "any procedure that draws conclusions based on measurements of a portion of the population".

The sample frame consisted of senior managers and executives in organisations that are part of the South Africa FinTech sector and who are responsible for making strategic decisions within their organisations. By virtue of the role that they hold, this cohort of managers typically sits on various Management Committees and Executive Committees within their respective organisations. This will meet the criteria for being a member of the top management team.

The study utilised purposive sampling techniques. This technique is suitable for identifying potential participants that may be information rich (Saunders & Lewis, 2018). The researcher also employed snowball sampling to identify additional suitable participants. Participants were asked to refer any additional research participant that they believe meet the criteria to contribute to the study. This process continued until descriptive saturation occurs. Saturation point was reached after 10

interviews when no themes emerged from the data analysis (Saunders & Lewis, 2018).

4.7. Measurement Instrument

The semi-structured interview was used as the measurement instrument in this study. An interview guide was used for the semi-structured interview. The objective of this study was to explore the experiences of executives and senior managers in top management teams as they related their understanding and experience of the phenomenon of collective intuition in strategic decision-making process within a team context.

Ten interview questions were conceptualised as an outcome of the literature review conducted, the research objectives identified and research questions this study sought to answer. The research questions were open-ended in order to encourage discussion and allow for the emergence of additional information and unanticipated themes. The interview guide can be located at Appendix 3. A consistency matrix is presented in the below table, to show the link between interview questions and research questions.

Table 1: Consistency Matrix: Mapping of Research Questions to Interview Questions

Research Questions	Interview Questions
Research Question 1: How do executives in the FinTech industry experience the phenomenon of collective intuition in strategic decision-making within a top management team?	Question 1: How would you describe your understanding of intuition in individual decision-making? Question 2: How would you describe your understanding of collective intuition in group decision-making in top management teams? Question 3: Do you believe that the Top Management Team in your organisation uses its collective intuition when making time sensitive or critical strategic decisions? Question 4: Can you describe your experience of strategic decision-making as part of the Top Management Team?
Research Question 2: How does the level of social integration and social diversity within the TMT shape the form of collective intuition that emerges during strategic decision-making?	Question 5: How would you describe the social integration and social diversity of the Top Management Team in your organisation? Question 6: What are the social dynamics that you observe between the different actors in the Top Management Team when making intuitive decisions?
Research Question 3: What are the factors that influence the use and effectiveness of collective intuition in strategic decision-making?	Question 7: Are you able to recall and describe a situation when the Top Management Team's collective intuition led to a successful outcome? Question 8: Are you able to recall and describe a situation when the Top Management Team's collective intuition led to a negative outcome? Question 9: Do you think that harnessing the collective intuition of the Top Management Team enhances the quality of decision-making, and if so how? If not, please explain further. Question 10: What, in your view, are the factors that influence the effectiveness of collective intuition within Top management teams during strategic decision-making?

4.8. Data Collection

The data gathering process is a systematic and precise approach to accessing information by employing methods using interview, observations, surveys, and case studies (Saunders and Lewis, 2018).

Online semi-structured interviews were conducted in order to collect the research data. The individual face to face interview is a common data collection method used by qualitative researchers. Due to current COVID restrictions, interviews were conducted online via Microsoft Teams. Interviews were conducted in a semi-structured way, with a list of questions drawn up that relate directly to each research questions. Analysis of academic literature and interviewing of experts is a common approach to conducting research (Saunders & Lewis, 2018). The researcher provided context of the research study and a definition of the concepts under investigation prior to the interview.

Field testing of the interview questions and interview protocols was performed in advance of the actual research interviews. A sample of colleagues who meet the research criteria were requested to volunteer to assist in the study preparation by participating in a simulation of the interview protocols and the process itself. Feedback from the field tests were used to adjust or improve the protocol and research interview guide, where appropriate.

A list of potential interviewees was developed from the circle of contacts that the researcher has within the South African FinTech sector. Potential interviewees were contacted telephonically and via electronic mail, with an invitation to participate in the study. This communication also included a description of the study and an overview of the research topic. See Appendix I for a copy of the invitation letter.

Twenty-five individuals were invited to participate and fifteen accepted the invitation. Participants that agreed to an interview were contacted to schedule a suitable time and date for the interview. A follow up email was sent to participants in advance of the interview date, to furnish additional study related information such as the consent forms and the interview guide. One participant was subsequently removed from the interview list as he indicated that he was no longer available during the interview

period. Interviews were conducted between August 2021 and September 2021, after the researcher obtaining ethical clearance to proceed with the study. Interviews were conducted and recorded via Microsoft Teams, with the participant's consent, and were transcribed by the researcher.

4.9. Analysis approach

Digitally formatted copies of completed interviews were transcribed using Otter.ai software for analysis. The researcher reviewed the transcribed data and compare this against the recorded interviews to ensure that the transcriptions were accurate.

The researcher followed the process outlined in Saunders and Lewis (2018), to identify constructs, patterns, and common themes in the data as part of the deductive approach. First, meaningful codes or categories were developed from the literature on collective intuition, to describe the data. Next, a unit of data was determined and attached to the category or code. Finally, categories and codes were assigned to units of data. Thematic analysis and categorisation were performed using Microsoft Excel. Thematic analysis is a method of determining patterns in the data and interpreting the emerging narratives within the context of the research questions (Nowell, Norris, White & Moules, 2017).

For research to be trustworthy, it must meet criteria such as credibility, transferability, dependability, and confirmability (Pratt, Kaplan & Whittington, 2020). In order to ensure credibility, responses between participants were triangulated to filter in relevant data (Shenton, 2004). Transferability was maintained by employing a purposive sampling strategy, ensuring participants meet the predetermined narrow criteria of being decision makers in top management teams operating in the South African FinTech sector. The research process can be considered dependable when all salient steps involved in designing and conducting the study and analysis of data have been reliably documented. The interview guide that was used in the semi-structured interview format supports dependability. This allows for a consistency in the data gathering process. The documentation of all research decisions, triangulation of data and acknowledgment of potential researcher biases within the research report ensures the principle of research confirmability.

4.10. Limitations

It is recognised that qualitative research, by its very nature, is subjective and can be subject to biases that may limit the generalisability of a study (Zikmund et al., 2013). The researcher acknowledges that sampling bias could be present as the researcher is part of the industry which is being studied. A purposive sampling strategy was employed to mitigate this bias.

The researcher also recognises that he has no previous experience of formal training in conducting interviews for research studies. The sample group was limited to senior managers and executives in the FinTech industry. Results that are obtained from studying this sector may limit generalisability to other business sectors. This sector is geographically clustered in the Johannesburg and Cape Town regions, which may also result in a geographical bias.

When determining findings from this study, it must be acknowledged that these findings are reliant on how well the research questions were designed as well as the duration and quality of the engagement with participants.

4.11. Ethical Considerations

This research study was conducted using the research protocol outlined in this document subject to receiving approval from the ethical clearance committee of the university. All participants were required to provide their consent before any interviews are conducted. Participants were advised in the informed consent letter that their involvement in this research study was voluntary and confidential. Consent to record the interview as requested from participants. The purpose of the study was explained, and interview duration was advised in advance of the interview.

Interview recordings, electronic notes and any other data that was derived during analysis was encrypted and stored securely to prevent inadvertent leakage of information. Participation in this study did not pose any physical or mental risk to participants. The researcher is subject to the ethical standard of non-disclosure if any confidential or sensitive information was inadvertently provided by participants.

CHAPTER 5: RESULTS

5.1. Introduction to Results

In this chapter the results of the research study are presented. The results are derived from data collected in the interview process. The data was collected in accordance with the research design and methodology described in Chapter 4. The research objectives that were described in Chapter 1 as well as the research questions defined in Chapter 3 are addressed here by interpreting and reporting on the data that was gathered.

Respondents' answers to the three Research Questions are reported in this section. The results for each question are provided at either a firm level, individual level, or both, as was deemed meaningful to the deductive analysis of themes and the validation of the collective intuition framework described in the literature review in Chapter 2. Results relating to research question 1 are provided at both the individual perspective and at a firm level analysis. Research question 2 results are provided at the firm level only. Research question 3 results are reported at the individual level.

5.2. Sample Description

The researcher conducted fourteen semi-structured online interviews with executive managers at five FinTech companies based in Johannesburg and Cape Town. Seven respondents were at the C–suite level (CEO, Deputy CEO, CIO, COO, CDO, and CTO), six executives were at the level of business unit head and one executive was a functional unit head. All Interviews were conducted via Microsoft Teams. All interviews, except one, were conducted during business hours. None of the other interviewees required rescheduling. All interviewees were conducted between August and September of 2021. Interviewees ranged in duration from 36 minutes to 70 minutes. All the respondents where highly engaged throughout the interview process. Many respondents remarked that they had been looking forward to the interview, and that they thought the topic was fascinating and relevant to their day-to-day work.

Of the fourteen executives interviewed, three were female. The low gender diversity is likely due to the technology sector under research, where female representation has traditionally been low. Three participants held undergraduate degrees, with the rest holding post graduate qualifications. Among the post graduate qualifications where 6 honours degrees and three MBA degrees. Two participants were enrolled on MBA and PhD programmes. All participants had experience of strategic decision-making as they were members of the firms EXCO (executive committee). One participant was also a member of the Group Executive committee, but his responses were limited to his experience on his business executive committee. Experience of strategic decision- making in these FinTech top management teams ranged from two to nine years, with an average of five years for the sample. Coding saturation was reached after the first ten interviewees, thereafter new codes declined.

FinTech V is a Cape Town based start-up in operation for two years and develops Artificial Intelligence (AI) and Machine Learning based solutions for its clients. The executive committee has three members and meets twice per week. The business has twenty employees. One respondent was from FinTech V. The respondent was the company co-founder and held the role of Chief Operations Officer.

FinTech W is a Johannesburg based digital bank that was formed five years ago but launched to the public two years ago. The long lead time to launch is due to the significant system build time and regulatory approvals required to obtain a banking license. The executive committee has fifteen members and meets weekly. The business has four hundred employees. Seven respondents worked at FinTech W and held various C-suite and executive roles. Four of the seven respondents were part of the founding executive team of the firm.

FinTech X, based in Johannesburg, develops blockchain solutions in the Capital Markets sector and provides technology advisory services to the financial services sector. It has been in operation for nine years. The executive committee is made up of seven members, five of whom are founding partners, and meets weekly. The business has eighty employees. Four respondents were employed at FinTech X and held various C-suite and executive roles. Three of the respondents were founding partners of the firm.

FinTech Y operates in the behavioural finance segment, is based in Johannesburg and has been in operation for twelve years. It has an executive committee of ten members. The executive committee meets weekly, and the business employs 250 people. The single respondent from this firm holds the position of Chief Executive Officer and has been a member of the executive committee for the last 8 years.

FinTech Z is a two-year-old start-up based in Cape Town and develops AI and Machine Learning solutions for its financial services client base. It has an executive committee of five members with a staff complement of 20 employees. The single respondent of the firm is a co-founder and holds the role of Chief Technology Officer.

Table 2 below lists the respondents, their position, and firms. The respondents' names and firm names are anonymised in accordance with the approved research methodology, associated ethical considerations and the respondent's informed consent.

Table 2: Respondent List and Functional Roles

Respondent	Firm	FinTech Type	Role
P1	FinTech X	Blockchain in Capital Markets	Executive: Head of People
P2	FinTech W	Digital Bank	Head of Finance
P3	FinTech W	Digital Bank	Head of Treasury
P4	FinTech Y	Behavioural Finance	Chief Executive Officer
P5	FinTech W	Digital Bank	Group Treasurer
P6	FinTech W	Digital Bank	Chief Design Officer
P7	FinTech X	Blockchain in Capital Markets	Executive: Business Unit Head
P8	FinTech W	Digital Bank	Deputy Chief Executive Officer
P9	FinTech Z	AI & Machine Learning	Chief Technology Officer / Co-founder
P10	FinTech X	Blockchain in Capital Markets	Executive: Business Unit Head
P11	FinTech W	Digital Bank	Executive: Head of People
P12	FinTech X	Blockchain in Capital Markets	Chief Information Officer
P13	FinTech W	Digital Bank	Chief Information Officer
P14	FinTech V	AI & Machine Learning	Chief Operations Officer / Co-founder

5.3. Overview of Themes and Codes

High level themes were developed deductively from the collective intuition framework proposed by Samba et al. (2019). This framework proposed that the social integration of the team and locus of decision-making as two determinants influencing the type of collective intuition in use. Themes, categories, and sub-categories were determined from a content analysis of the interview data and grouped logically using Excel. Six major themes were developed following this analysis, derived from 18 categories and 33 sub-categories; 17 categories and 28 subcategories were determined deductively from the theory using a top-down approach, whilst 1 category and 5 sub-categories were determined inductively from the insights that emerged during the interview analysis. Table 3 below tabulates the relationship between research questions, themes, categories, and sub-categories.

Table 3: List of Themes, Categories and Sub-Categories

	Themes	Categories	Sub-Categories
RQ1	Intuition in Decision-making	Intuition as Experience	Intuition as Affect
			Intuition as Non- Conscious Thought
			Intuition as Rapid
		Use of Intuition	Reliance on Intuition
			*Intuition Checks
		Limitations of Intuition	Cognitive Biases
	Collective Intuition in Strategic Decision-making	Decision Factors	Decision Magnitude
			Decision Motive
		Environmental Factors	Environmental Dynamism
			Environmental Complexity
		Organisational Factors	Strategic Focus
			Firm Size
		Use of Collective Intuition	Understanding of Collective Intuition
			Reliance on Collective Intuition
	Strategic Decision-Making Processes	Decision-making Culture	Frequency of Engagement
			Intensity of Engagement
			Joint Decision-Making
		Organisational Factors	Size of TMT
			*Stage of Firm Maturity
RQ2	TMT as a Social Unit	Social Integration	Socio-Behaviorally Integrated Teams
			Socially Integrated Teams
			Structurally Interdependent Teams
		Social Diversity	Decision Quality
		Social Dynamics	Level of Engagement in SDMP
	Form and Locus of Collective Intuition	Team Based Intuition	Team-driven Collective Intuition
			Shared Intuition
		Top Manager Intuition	Actor-driven Collective Intuition
			Dominant Actor Intuition
	Themes	**Categories**	**Sub-Categories**
RQ3	Factors influencing use and effectiveness of Collective Intuition	*CEO Influence	*TMT Culture
			*CEO Cognitive Style
		TMT as a Social Unit	Team Diversity
			*Team Cohesion
		Managerial Factors	Team Expertise and Learning

5.4. Research Question 1: The experience of intuition and collective intuition in SDM amongst FinTech TMTs

The first four interview questions listed in the semi-structured interview guide, originate from Research Question 1 and have been designed to firstly; elicit the respondents' understanding, reliance, and experience of the use of intuition in decision-making at the individual level and secondly; to test with the respondents whether, in their experience and understanding of intuition, whether the concept of intuition could be extended from the individual level up to the team level of cognition.

5.5. Theme 1: Intuition in Decision-making

Question 1: How would you describe your understanding and experience of intuition in individual decision-making?

Theme 1 of Research Question 1 discusses the results derived from respondents on their experience of intuition in decision-making. This theme is segmented into categories exploring the concept of intuition as it is experienced, how intuition is used and what the possible limitations of reliance on intuition during decision strategic making may be.

5.5.1. Intuition as Experience

The use of intuition is, by its nature, non-conscious and rapid. All the respondents reported that they had previously relied on their intuition in making certain strategic decisions, both in their personal lives and in their roles as managers. Respondents described the experience of using intuition as intangible and as a feeling or sensation that arose that guided the decision-making process. One executive described his experience of the use of intuition as follows:

> "I think of it as objective versus subjective … I use the word gut feeling, and so whether that's, you know, whether that comes from the soul, or from the spirit, or whatever, it's that almost intangible feeling you get that you are making the right decision." (P1)

This description was supported by a CIO who expressed quite colourfully that intuition for him is “basically what I call the University of Life…. Or what I would refer to as the sixth sense. You know, it’s a mental decision, without all the facts.” (P13).

5.5.2. Use of Intuition

Most respondents reported that they placed a high degree of reliance on their intuition when making decisions, although there was recognition of some contextual considerations in using intuition during strategic decision-making. Respondents described a higher reliance on expert intuition, awareness of cognitive biases that influence decision-making effectiveness, and seeking validation from facts to support an intuition. Time pressure was also a decision context that required reliance on the use of intuition as applicable decision-making strategy, as this respondent observed when discussing the role of analytical and intuitive decision-making:

> “I almost see the stress in leadership is between those two [decision strategies], rational and intuitive, and that leadership is finding the balance between those two, because you have to make decisions timeously, and under extreme time pressure, but you can't make it timeously, from an analytical point of view. You then ***have to*** rely on your intuition.” (P1)

A common proviso to the use of intuition was the search for information to support or refute the initial intuition, described by one respondent as “the intuition check” (P14). The respondent, an executive in a start-up company, explained that when it came to new product development, and notwithstanding the intuition that the new product would sell, it was always valuable to test this intuition with his current client base for some validation. The respondent further states:

> “ I think when it comes to quick decision-making, sort of to make progress, but the one thing that we do try to do though is that, as intuitive as we are, [in our decision-making] you know as we try to be reflective as well when it comes to uncertain decisions, you may be able to present a view but you always want to try to validate it somehow with some fact and even if it is a qualitative fact right? So, an intuition check, so to speak.” (P14)

In support of this view, regarding the reliance on and validation of intuition, a junior executive made the following observation:

> “I think I heavily rely on my intuition. I look for validation, often. But yeah, it's not such a major thing, I make a lot of decisions without being an expert, or without having the knowledge of stuff. Because of my intuition, and sort of peripheral stuff that I've picked up.” (P2)

Respondent P4 described intuition as a sense that derives beyond ones accumulated wisdom and develops with both time and experience. He also introduced the idea of intuition as a creativity:

> “It's not wisdom, it's the accumulation of experience and the expertise over time… the one additional thing, which I think is missing from the experience and expertise is creativity. Yep. So that was the other element, which is I find some people who are, can come up with real curveball ideas that are just, you know, by virtue their intuition.” (P4)

5.5.3. Limitations of Intuition

There were some qualifications on intuition offered by respondents, in that the effectiveness of intuitive decisions may be influenced by cognitive biases, described by this respondent as “assumptions”:

> “If assumptions are incorrect, and therefore you will use your gut, but your intuition will lead you around the zoo, (towards the) wrong decision. But, you know, if your assumptions are roughly in line with the reality of the situation, then absolutely, the intuition is likely to be correct.” (P13)

Emotions and mood were also found to influence the effectiveness of individual intuition, as this respondent cautioned:

> “The dangerous thing about intuition also is because it has [increased] emotion, right, like you could be thinking about [a certain decision] because

> you could be emotionally, for some historical reason, and can become attached to some specific point that could send you downhill [towards making a poor decision].” (P14)

The decision-makers level of management, and complexity of the decision context also influences the reliance on intuitive decision-making, as Respondent P11 noted:

> “I think more junior levels, you can be more educated [rational], I need the facts, I need the data. But as you move up to the executive committee, when it comes to making more complex strategic decisions, you must be able to do both, you've got to be able to swing between both [analytical and intuitive decision-making].” (P11)

5.6. Theme 2: Collective Intuition in Strategic Decision-making

The second theme derived from Research Question 1 explores the respondents understanding and use of and reliance on collective intuition in strategic decision-making, as well as exploring the contextual considerations of its use in practise.

5.6.1. Understanding of Collective Intuition

Question 2: How would you describe your understanding of collective intuition in group decision-making in top management teams?

Most respondents were able to provide a reasonable and logically consistent account of how they thought individual intuitions could be extended to a team level intuition. A general observation from the discussions emerging from this question was that all the respondents were able to recognise the phenomenon of collective intuition, in their experience of team decision-making, but had lacked a label to define the experience precisely.

Respondent P13 described his understanding of collective intuition as akin to the entire top management team’s expertise being accessible to the group, with the ability to shape each team members intuitions:

> “Because you an experienced old dog and you've been around the block for a few times, you've hit a whole bunch of facts in the past. And those facts lead you to a certain pattern of thinking and solutioning. And now, when you bring all the old dogs into one room [the executive committee], experienced people, everybody's got basically a set pattern [of thinking], but they can influence each other, which leads to a certain level of collective intuition.” (P13)

Respondent P14 described collective intuition as an emergent phenomenon. He explains this in terms of social integration, which he believes develops in the team over time, as the team becomes more cohesive.

> “One way is that, in a group, each individual has their own intuition, which encompasses into a collective intuition. And then the other way of collective intuition is I think it's in my view is intuition collectively, that's built into a team as it integrates over time. So as a management team, you sort of start syncing in that intuition.” (P14)

5.6.2. Reliance on Collective Intuition

Question 3: Do you believe that the Top Management Team in your organisation uses its collective intuition when making time sensitive or critical strategic decisions?

All the respondents believed that their top management teams relied on its collective intuition when making certain strategic decisions. This question led into a discussion on the contextual factors that favoured the use of collective intuition in FinTech firms. Data extracted from the content analysis was categorised by environmental, decision and organisational factors that led to reliance on collective intuition during strategic decision-making processes.

5.6.2. Environmental Factors

Respondents across firms described the business environment in which FinTech’s operate in as highly dynamic. They noted that the industry is operating at the frontiers

of technology, developing new products and business models which are untested and require organisational agility. All these factors create a decision context for FinTech firms that is suited to intuitive strategic decision-making.

Respondent P14 noted a high reliance on collective intuition for most strategic decisions that are made by the executive committee at FinTech V. Many decisions facing the executive committee are made under intense time constraints, are novel and often have limited data to support the big strategic decisions. There is also a high degree of uncertainty in the decision outcome. The firm has a small client base and strategic decisions on product development can have a significant impact on firm profitability and survivability.

> "Our business model is high risk and is highly intuitive, there is no template for what we do…We develop products that clients don't know they need until we show them what it does" (P14)

5.6.3. Decision Factors

Respondent P4, the CEO from FinTech Y described the organisation as highly data driven in terms of its decision-making processes. However, for certain critical decisions facing the firm, he observed that solely relying on the data is insufficient when trying to innovate, enter a new market or shift strategic direction. His top management team is highly regarded for the development of notable world first product and service innovations in behavioural economics. He noted:

> "it's quite clear to us that most of the decisions we need to make do not have enough data behind them. Because … we're always looking at the next thing, as opposed to trying to manage what we did yesterday" (P4)

In these strategic, complex, and visionary type decisions, the executive committee placed a high reliance on its team's intuition during decision-making processes. He elucidated further on the limitations of data-driven rational decision-making and the firm's reliance on collective intuition when he noted:

> “There's a strong sense of a collective intuition that will guide us and make us visionary, …because the data is always backward looking, correct… to decide whether to go into [digital] banking, you need like a deep, intuitive feel that this is the next big thing.” (P4).

Respondent (P9) of FinTech Z also agreed that his top management team relied on intuition in their strategic decision-making processes. His observes that there is very little data available, both internally and externally to support their decision-making. The FinTech segment which firm operates in, is largely in product development in Artificial Intelligence and Machine Learning. There also limited resources and skills available in the country that can be used to validate strategic decisions, or engage in a structured, rationally inclined decision-making process. Operating in this nascent segment, requires effectuating and experimentation to figure which solutions will achieve product-market fit. Decision outcomes are characterised as highly uncertain. Respondent P9 summed up this decision-making context as follows:

> “So, I think like there's a lot where we don't know, where I think most people would already have the data to rationally work through to make a decision. Whereas in our case … we have to trust our instincts. And then if it didn't work out, you just sort of pause, reflect, correct course, and then move forward.” (P9)

5.6.4. Organisational Factors

Respondents also indicated that the main driver for the use of collective intuition in their top management team was the short product lifecycle of the digital solutions that they developed. The business environment is characterised as one of rapid change, due to changes in technology, product effectuation and strategic pivoting that must all be navigated successfully to achieve product market fit. This often requires many decisions that need to be made under intense time constraints. The CIO of FinTech X explains how a culture of agility is required to cope in a highly dynamic technology-based environment:

> “I think a lot of our initiatives that we currently are taking is very, is very rapid, in terms of digital, definitely. So, to cope with a lot of change, we have to be very agile … And part of that [agile] methodology is really, to do something, get feedback, take the feedback, decide as a team, based on the feedback, and then either pivot or cancel it.” (P12)

Respondent P2 of FinTech W observed that in his experience of team intuition, where the strategic decision was material or time sensitive, it would occur that a quick search for information, or data validation would be performed to validate the group’s intuition:

> “Yeah, I think it does. It's not necessarily with everything. And maybe the bigger the decision is, the more it moves away from just collective intuition. But smaller decisions, time sensitive decisions without a significant risk of, of impact or failure with anything. It does get used a lot.” (P2)

Some respondents described their decision-making process as largely data driven. However, often there is insufficient data to support their decision-making process fully. Respondent P4’s firm has developed a unique and disruptive behavioural finance business model that is the first of its kind in the world. This requires the executive committee to make decisions on future financial outcomes that is contingent on human behaviour, with a concomitantly high degree of uncertainty. Consequently, the executive committee relies heavily on its collective intuition when making strategic decision relating to its business model, partner engagements, new product pipeline and pricing strategies. Respondent (P11) explains the tension between analytical and intuitive decision-making in his firm:

> ” You know, we are a data driven organization…so data is everything. But bank is new, so there is not enough historical data to make some strategic decisions, so that group intuition, it plays a significant part, without a doubt.” (P11)

This view on the reliance of collective intuition was supported by Respondent P2 from who observed:

> “Collectively, if there's enough people and the right people having the same feeling, you'll go with it. And I think I think it is an important structural decision-making strategy. I think it works well. If you've got the right group of people. You've got the right collective intuitions together.” (P2)

5.7. Theme 3: TMT Experience of the Strategic Decision-Making Process (SDMP) in FinTechs

Theme 3 of Research Question 1 derives from interview question 4 and explores the strategic decision-making process that occurs at each firm, to develop a firm level profile of the decision-making style. Firm decision-making culture and firm specific considerations have been identified as salient in understanding the strategic decision-making process and its relevance to the use collective intuition.

Question 4: Can you describe your experience of strategic decision-making as part of the Top Management Team?

5.7.1. Decision-making Culture and Organisational Factors in FinTechs

Respondent from FinTech V explained that strategic decisions are made during the executive committee, which is held twice a week. The executive committee is held online as the 3 executives are based in different locations across the globe. Information relating to the decisions is shared between the executives during the week, in between the executive committee meetings. There is regular one on one communication between each executive, to attend to any questions or concerns relating to the decisions that need to be made. Decisions are made jointly and emerge from the group during their discussions. There is a high reliance on intuitive strategic decision-making.

Respondent from FinTech W explained that they have large formal executive committee made up of 15 executives and had a standing weekly executive committee meeting where strategic decisions are made. A memo is distributed prior to the

executive committee meeting and lists the issues that are to be addressed, with any relevant background information. The executive committee meets once a week, and each executive is an expert in their functional area. Executives take the lead on strategic decisions that need to be made in their functional area and offer their intuition for validation by the group, with a final decision being made by the executive leading the decision. The decision-making process can be long and cumbersome, with the executive committee meeting lasting the entire day in some instances as Respondent P11 noted:

> “We do seek we seek broad input. And I think the fact that our executive committee is so big, is a plus and a minus. It's unwieldy in some ways. But it does mean that you get a variety of inputs that ultimately improves our intuition”. (P11)

This view was supported by Respondent P7 who said: “And, and so everyone's intuition is accepted and listened to but with the knowledge of what their experiences are and what the expertise on.” (P7)

FinTech X holds bi-weekly executive committee meetings at its Johannesburg head office. During the COVID pandemic, the executive committee met online. The executive committee is made up of seven executives. As each issue is raised, a first pass is made around the table to assess an initial feeling of each executive around the decision. If there is a majority consensus, the intuition is ratified. This allows the team to rapidly get through the large number of decisions that face them. Most strategic decisions are concluded during the first pass, as there is generally a consensus view amongst the team on the decision. In the event of contesting views or a decision impasse, the CEO will then make the final decision. The respondents did note that this group decision-making process at FinTech X is markedly different to how decisions were made by the top management team during its early stages as a start-up. For the first few years, decisions were presented to the top management team by the founding CEO for ratification. Most decisions passed through uncontested. As the company matured, and quantity of decisions increased, the decision-making process became a shared responsibility of the top management team.

Respondent P4 from FinTech Y explained that the large executive committee had a formal hierarchical structure, with representation from 10 executives representing the different functional areas of the business. Decisions are tabled for discussion and ratification at the weekly executive committee. Executives take the lead on decisions that relate to their areas of expertise. Decision validation is sought from other members of the executive committee, after which the final decision is made by the leading executive. Most strategic decisions taken by this executive committee are highly data-driven and this team tends towards a more rational decision-making process. There is a culture of collective decision-making and team integration at the executive committee level. Respondent P4 explained that his team is comfortable making quick strategic decisions when the decision was supported by the data. This creates time and space for the entire executive committee to engage more meaningfully on the complex problems that require the team's collective intuition to guide the strategic decision-making process. He says on his executive committee deliberations:

> "It's a big discussion. And it could add 20 minutes to a discussion [bringing in the silent voices in the room]. but I think the fact that we've seen enough of good come out of some of those that we always entertain it." (P4)

Respondent P9 of FinTech Z described the strategic decision-making process in the context of the recently formed executive committee. The agenda items for discussion are received from the members of the executive committee and assimilated by him for tabling at the weekly executive committee. The co-founders are trying to encourage a culture of shared ownership, transparency, and space for the various voices to be heard on the matters that must be decided. Although they try to ensure that the decision-making is not authoritarian, most of the intuition around strategic decisions still originates from the CEO. He observes: "We've created a culture that's quite open, transparent, that, you know, welcomes people to speak up. But there's always this sense [among the team] of, okay, ultimately, let's see what the CEO says". (P9)

5.8. Key Findings from Research Question 1

A summary of the key findings is provided according to the themes, categories and sub-categories developed from the results of Research Question 1:

5.8.1. Intuition in Decision-making

- All the respondents articulated a clear conception of intuition and described their experience of intuition as an affective, non-conscious and fast approach to decision-making in their personal and professional lives.
- Most respondents had learned to place reliance on their intuitions, especially when it concerned areas of expertise. This reliance was not non-conditional. In some circumstances a check on their intuition was performed, by validating via a search for information when available.
- Some respondents acknowledged that the use of intuition could be subject to cognitive biases which may result in decision errors or reduce the quality of decision outcomes.

5.8.2. Collective Intuition in Strategic Decision-making

- The respondents articulated a reasonable conception of collective intuition, and believed it was a valid construct that was a suitable subject of enquiry.
- Most respondents were able to clearly describe their experience of the use of collective intuition during strategic decision-making activities.
- Most respondents believed that their top management team placed a reliance on the use of collective intuition in time sensitive, complex, or critical strategic decisions.
- Contextual factors common to the FinTech sector, such as the FinTech environment, the types of decisions that are made, and FinTech organisational characteristics favour, in general, the use of collective intuition above rational decision-making approaches.

5.8.3. Strategic Decision-Making Processes

- Respondents from all the firms in this study report a high degree of frequency and regularity to their decision-making processes.
- Most of the respondents report that the intensity of engagement between top managements teams is high. Some firms have a lower level of engagement, this is related to the decision-making culture prevalent at the firm
- Most firms have a strong culture of information sharing and collaboration, with emphasis on joint decision-making.
- The strategic decision-making process, and decision outcomes is influenced by the size of the top management team. Larger teams have more formalised processes, of longer duration than smaller teams.
- The stage of firm maturity influences the strategic decision-making process. Start-up and near start-up firms place higher reliance on CEO-led decision-making.

5.9. Research Question 2: How does the level of social integration, social diversity and social dynamics shape the form of collective intuition.

This research question is associated with interview questions 5 and 6. It has been designed to develop a firm level profile of both the social integration and social dynamics of the top management teams, as well as the respondents view on the form and locus strategic decision-making, within the context of the collective intuition framework proposed by Samba et al. (2019).

5.10. Theme 4: TMTs as a Social Unit

Question 5: How would you describe the social integration and social diversity of the Top Management Team in your organisation?

Theme 4 is the first theme derived from Research Question 2. It consolidates results obtained from interview questions 5 and 6. The theme explores the social characteristics of the top management team, with a view to developing a firm level perspective on the nature of social integration, level of social diversity and social dynamics that play out during strategic decision-making processes.

5.10.1. Social Integration in TMTs

Respondent P14 described his top management team at FinTech V as a highly communicative team, that can move past their differences with ease. The executives interact with each other often in between the executive committee meetings. The executive management team meets twice a week for 2 to 3 hours and place a high value on collaboration and joint decision-making. It is noteworthy to observe that since the firm was launched two years ago, that the executive team has yet to meet in person. Respondent P14 categorised the top management team of FinTech V as a socio-behaviourally integrated group.

FinTech W has a hierarchical structure, with a formal group approach to decision-making. Each executive is responsible for the decisions and performance of their own functional area; however, they are all collectively accountable for achieving the overall objectives of the firm. Discretionary bonuses at the executive committee level are largely determined by the overall performance across the business and not individual functional unit performance, which engenders a culture of interdependence between the top management team. Respondents also self-rated social integration of the top management team as being interdependent. Respondent P11 offered the following analogy to describe the top management team's interdependence:

> "Let me use a military analogy, we rise and fall together, we are captains of our units, but we all need to be on the same page and moving in the same direction when it comes to the battle plan." (P 11)

The top management team at FinTech X is described by the various respondents as a close social unit. Respondent P7, a co-founder, explained that the five founding partners worked together as systems analysts and developers in the same technology team at a big four South African bank for a few years before launching their own company. Six of the seven executives attended the same university. All seven members have an educational background in mathematics or computer science. Most of the respondents concurred that their top management team is a socially integrated.

The CEO of FinTech Y, Respondent P4, characterised his top management team as socio-behaviourally integrated. There is excellent information sharing between the executives and they often reconcile differences in views through the in-depth engagement that he encourages amongst them at the executive committee. He is quite intentional in maintaining this level of social integration, and highly selective of the people he brings onto the executive committee. He explained it is very important for him that he has the right mix of skills and personality in the executive committee to ensure that it is effective in its strategic decision-making. He explained this discernment in this comment by saying:

> "I've taken some people off executive committee. And I've added some new roles onto the executive committee. Right? So over time its critical you try and figure out what's the right team to have in the room (P4).

According to Respondent P9, the top management team of FinTech Z has an informal structure. There tends to be some sharing of information and collaboration between the members of the top management team. As the teams is in its early stages of formation, social relationships are still developing between the various team members. Socially, the team was categorised by Respondent P9 as an interdependent team. "So, there is a strong element of us being an interdependent top team, …We do then depend on each other and affect each other" (P9)

Table 4 provides a firm level summary view of how respondents reported on the degree of social integration of their top management teams. FinTechs V and Y were ranked as having socio-behaviourally integrated top management teams, whilst FinTechs W and Z were ranked as having interdependent top management teams. The consensus amongst respondents of FinTech X was that they had a socially integrated top management team.

Table 4: FinTech TMT Social Integration

	Type of TMT Social Integration			
	Socio-behavioural	Social	Interdependent	Independent
FinTech V	**X**			
FinTech W			**X**	
FinTech X		**X**		
FinTech Y	**X**			
FinTech Z			**X**	

5.10.2. Social Diversity in FinTech TMTs

Respondent P14 ranked social diversity in FinTech V as high. The top management team is described as highly diverse in terms of nationality, culture, previous work experience, race, and educational background.

The top management team is described by most respondents from FinTech W, as reasonably socially diverse in terms of experience, and educational background but ranked as average for racial and gender diversity. Overall, respondents rated social diversity of the top management team as average. The Head of People for FinTech W sums up the social diversity of her executive committee in the following comment:

> "We've only got three women in the group, which is not enough representation. And I think it is often difficult for a woman to find her voice…. I think, where we do have diversity, I guess, is in background … Yeah, gender, not great, on race… we're not bad. We're making progress" (P11)

Six of seven members in of the top management team of FinTech X are male, and all have a common social, racial, language and cultural background. All the respondents from FinTech X concurred that the top management team could be characterised as a socially integrated unit with a low degree of social diversity.

The social diversity of the executive committee in FinTech Y is described by Respondent P4 as high, with executives from varied professional and educational backgrounds, and above average gender diversity. He stated on diversity "the exco

has actuaries, I'm an engineer, by the way, a data scientist, HR people, doctors, behavioural economists, right? so incredibly diverse group of people" (P4).

When considering the social diversity of the top management team at his firm, Respondent P9 ranked it as low. It is an all-male team, with similar social, cultural, and educational backgrounds. Four of the five-member team had a technology background. He expressed some concern about the impact of confirmation bias and group think on the quality of intuitive decision- making from the team. Due to the nature of technical skills that his firm requires to grow, which is in advanced mathematics and computer science, improving diversity in the top management team was an ongoing challenge. He noted "So I don't rank social diversity very highly. It's one of the things we struggle with." (P9)

Table 5 is a firm level view of how respondents reported on the degree of social diversity of their top management teams. Firms V and Y are reported as having high social diversity, with Firms X and Z are reflected as having low social diversity by their respondents. The consensus amongst respondents of FinTech W was that its top management team was average, in terms of social diversity.

Table 5: FinTech Social Diversity

	Degree of TMT Social Diversity		
	High	Average	Low
FinTech V	**X**		
FinTech W		**X**	
FinTech X			**X**
FinTech Y	**X**		
FinTech Z			**X**

5.10.3. Social Dynamics in FinTech TMTs

Question 6: What are the social dynamics that you observe between the different actors in the Top Management Team when making intuitive decisions?

FinTech V's respondent noted that the company value of collaboration and joint decision-making influences the decision-making process in a fundamental way. Each executive is given an opportunity to outline his perspective on the decision at hand and offer his intuition, irrespective of his expertise in the decision domain. It often occurs that the decision taken emerges as an outcome of this collaborative discussion and is enhanced by the engagement between them. In the rare event of a deadlock, the CEO is the final arbiter.

FinTech W has a culture that encourages collaboration, exchange of information and engagement between the executives of the top management team. There is an emphasis on collective decision-making and sharing of leadership responsibility. Once the initial intuition of the relevant executive is tabled, the executive committee of FinTech W opens the proposed decision for extended discussion by the rest of the top management team, which results in a collegial, but robust exchange of views and ideas on the proposed decision. Each executive is encouraged by the CEO to offer their perspective to enhance the decision-making process. Once the discussion has concluded, the functional executive will either modify or retain his initial intuitive decision, based on the input from his or her colleagues. As the CEO encourages shared leadership of strategic decision-making, it is rare for him to override a decision that has achieved consensus with the team.

The decision-making style was categorised by most of the respondents as predominantly 'dominant-actor' intuition. It was observed by a few respondents of this firm's top management team that this decision-making style, in retrospect, seemed effective for the stage at which the firm was, due to the intense build plan, and the number of decisions that needed to be made on a regular basis. With the firm now clearly out of the starting blocks and making good progress, in terms of market share, the change in leadership and decision-making culture has made the top management team much more effective in its group decision-making process.

According to most of the respondents from FinTech X, the culture is one that values consensus seeking and conflict avoidance. Having worked together for most of their career to date, and with a common technical background, the top management team is able to find consensus on strategic decisions quickly and finds themselves “In sync” according to Respondent P1 on many intuitive decisions. Respondent P1 also described a “management culture of avoiding disagreement.

The top management team at FinTech Y has a culture of collaboration, joint decision-making, and social engagement. The CEO describes his role as a guiding the strategic decision-making process. Depending on the nature and complexity of the decision, he categorises the decision types as ones that can be made by either placing reliance on the data, reliance on team members expert intuition or reliance on the team’s collective intuition.

For decisions that are at a domain or functional level, the relevant lead executive tables his intuition which is then validated by the rest of the team. Respondent P4 explained that his role was to ensure that all views on the executive committee were given enough space to be contemplated, so that the proposed intuition is well informed. Some complex strategic decisions are determined by him to be best decided by harnessing the collective intuition of the entire executive committee. He explained that once he had the right people in the room, he expected each of them to have a view on decisions that shaped the firm’s direction. He leveraged the social dynamics of the group, which he selectively curated, and encouraged a deep conversation amongst them. As the guide to this conversation, he ensures that all voices on the executive committee are heard and that the discussion moves in the right direction. Often the team can come to a common intuition once all the discussions have subsided. On their executive committee conversations, he had the following to say:

> “Because they can have a [long] conversation, right? We're quite a social band. So, you want them to have a conversation. And I'm like, just remember, what we're deciding. And at that point, they will try and narrow it down. And at some point, then you got to call it. I think, very seldom do I end up calling it. A lot of time, it ends up being a lot of head nodding towards the end.” (P4)

Respondent P4 further that depending on the confidence levels of the team with regards to their collective intuition, a decision may be settled, or further action may be required. If the team intuition is to go in a certain direction, but there is still some uncertainty, a search for information is carried out to test the collective intuition. Respondent P4 said when commenting on this intuition check:

“Or we end up saying, you know, we're still not sure about this intuition, let's actually do some more work. What’s two or three things we need to do that will give us more comfort in our decision.” (P4)

According to the Respondent P9 from FinTech Z, the firm is in a transition phase in terms of its top management team. In the early stages of the start-up phase, there was a greater reliance on the CEO to drive strategic decision-making, using his individual intuition. Decision-making in the organisation has largely been reliant on intuition. Recently the two co-founders have brought in three senior managers onto their top management team to enhance the effectiveness of their decision-making processes. Although debate and discussions are encouraged amongst the team, in practise, the engagement tends to be less than robust. The team will aggregate quickly onto a particular decision, which is usually aligned with the intuition of the CEO.

5.11. Theme 5: Forms of Collective Intuition in FinTech TMTs

This theme derives from respondents’ description of the form and locus of collective intuition they experienced in their top management teams during strategic decision-making processes. The descriptions were elicited in response to interview question 6, regarding the social dynamics that occur during decision-making and how intuitive decisions emerged from the team engagement. Respondents then selected, from the collective intuition framework, the type of collective intuition that most closely represented the strategic decision-making process prevalent in their top management team. The results are presented according to the locus of intuition, being either the team or a single top manager.

5.11.1. Team Based Intuition

Respondent P4 felt that his top management team at FinTech Y moved between team-driven collective intuition and actor-driven intuition, depending on his characterisation, or framing of the decision type. The extended Executive committee conversations lead to the team-driven collective intuition that he sought to elicit when the decision was strategic and complex.

Most respondents from FinTech X felt that the 'shared intuition' definition most closely represented the current dominant form of collective decision-making in their top management team. Three respondents did observe that the firm decision-making process was largely of the 'dominant actor' form during its early start-up phase, as it was mostly driven by the founding CEO, who was the majority shareholder, through the top management team with little challenge. Respondent P1 noted:

> "But previously the best decisions collectively did not come out because of the dominance of the CEO. So going against him would get you ostracized or excluded" (P1)

Respondent P14 selected 'team-driven' collective intuition as the dominant form of strategic decision-making in FinTech V:

> "It is part of our culture to make group decisions based on our combined intuition. What we have experienced is that our group intuition, in the past, is often better, than the sum of its parts is, even better than our individual initial gut feel – it has worked for us and we want to promote this." (P14)

5.11.2. Top Manager Intuition

Most respondents reported that the 'actor-drive' form of collective intuition most closely matched the top management team's dominant strategic decision-making process presently at FinTech W. Respondent P11 'I think primarily actor-driven collective intuition. Because we have sort of experts heading up each function, they typically take the lead for their topic, in their area of expertise" (P11). It is notable that most respondents from FinTech W described the current group decision-making

culture as markedly different to the culture during its start-up phase. This cultural shift was associated with a change in CEO. Respondents described the previous CEO as a powerful leader with an autocratic decision-making style.

According to the Respondent P9 from FinTech Z, the firm is still at the early stages on this journey of transition, and he observes of his newly formed top management team: “I think we are [increasingly using team intuition] … it's something we're gradually getting better at.” (P4). The respondent identified dominant-actor intuition as the main form of intuition relied on during team strategic decision-making processes at present. He also indicated that actor-driven intuition was emerging as an important secondary form of decision-making approach, and this was being intentionally cultivated by the co-founders amongst the new top management team. He expressed the view that he believed that as the top management team matured, they would evolve fully into an actor-driven intuition over time.

5.11.3. Results on Forms of Collective Intuition per FinTech

Table 6 provides a summary of the respondents’ responses as it related to their self-classification of the dominant forms of collective intuition presently observable during team strategic decision-making processes. FinTech V was categorised as having a team driven collective intuition and FinTech W was categorised as shared intuition. FinTech Y had support for both team-driven and actor-driven collective intuition in its top management team and this is denoted by indicators X_1 and X_2. Firms W, Y and Z have been categorised as reflecting an actor-driven intuition. Respondents from Firms W, X and Z noted that their top management teams reflected a strong dominant actor approach, with a locus on the CEOs, during the start-up phase of the firms. This observation is deemed notable and is denoted as X_0 on the table. FinTech Z is still in its start-up phase and is transitioning from dominant-actor towards actor-driven intuition, as denoted by X_1 and X0 in the table.

Table 6:FinTech Forms of Collective Intuition

	Form of Collective Intuition			
	Team-Driven	Shared Intuition	Actor Driven	Dominant Actor
FinTech V	X			
FinTech W			X	$\mathbf{X_0}$
FinTech X		X		$\mathbf{X_0}$
FinTech Y	X_1		X_2	
FinTech Z			X_1	$\mathbf{X_0}$

5.12. Key Findings from Research Question 2

- The top management team of FinTech V is highly engaged with excellent communication during strategic decision-making, meet most often in the sample and place a high value on joint decision-making. The team is highly diverse and socio-behaviourally integrated. Decision-making is ascribed as team-driven collective intuition.

- The top management team of FinTech W is engaged with good communication during strategic decision-making, meets weekly and place a high value on joint decision-making. The team is diverse and structurally interdependent. Decision-making is ascribed as actor-driven collective intuition.

- The top management team of FinTech X is weakly engaged with fair communication during strategic decision-making, meets weekly and place a high value on consensus seeking and conflict avoidance. The team is not diverse and is socially integrated. Decision-making is ascribed as shared intuition.

- The top management team of FinTech Y is highly engaged with excellent communication during strategic decision-making, meets weekly and place a high value on joint decision-making. The team is highly diverse and socio-behaviourally integrated. Decision-making is ascribed as both team-driven and actor-driven collective intuition.

- The top management team of FinTech Z is engaged with good communication during strategic decision-making, meets weekly and place a high value on joint decision-making. The team has low diversity and is structurally independent. Decision-making is ascribed as transitioning between dominant actor and actor-driven collective intuition.

5.13. Research Question 3: What are the factors that influence collective intuition in FinTech SDMPs?

Interview questions 7 to 10 were designed stimulate discussion and elicit an individual perspective on the internal and external factors that could impact the quality of collective intuition. Respondents were asked to recollect circumstances where they believed that the use of collective intuition had either a positive or negative outcome. They were also asked to consider any factors they thought played a role in enhancing or limiting the effectiveness of collective intuition in strategic decision-making.

5.14. Theme 6: Respondent's perception of factors that influence the effectiveness of collective intuition

Theme 6 is derived from responses to interview questions 7 to 10, relating to Research Question 3. The responses are categorised into CEO Influence, TMT as a Social Unit and Managerial Factors. Results are based on a discussion on the below interview questions:

Question 7: Are you able to recall and describe a situation when the Top Management Team's collective intuition led to a successful outcome?

Question 8: Are you able to recall and describe a situation when the Top Management Team's collective intuition led to a negative outcome?

Question 9: Do you think that harnessing the collective intuition of the Top Management Team enhances the quality of decision-making, and if so, how?

Question 10: What, in your view, are the factors that influence the effectiveness of collective intuition within Top management teams during strategic decision-making?

5.14.1. CEO Influence in TMT

The CEO has been recognised by most respondents as having the most significant impact on the effectiveness of collective intuition. Two strands of CEO influence have been identified in the results as most salient, the CEO's influence on Team Culture and CEO Cognitive Style

5.14.1.1. Team Culture

Most respondents reported that they believed the CEO, as the leader of the top management team, played a key role in influencing the effectiveness of collective intuition, by virtue of his influence over the social dynamics as well as the overall decision culture in the top management team. The CEO can enhance the effectiveness of team intuition by entrenching a culture of collaboration and engagement. On firm culture Respondent P4 noted:

> "a company culture and subsequently, like a management culture that allows like, collaboration, sharing of information. So that allows like, voices to be hard. And it's, I think it's a big part of our role [as CEO] to then promote, for example, collaboration, shared leadership, a shared ownership, and accountability. So, I think those are the values that go with creating like a company culture that supports collective intuition'" (P4)

This view on the role of the CEO and culture was supported by Respondent P14:

> "The role of the CEO is to create the best environment for collective decision-making, I think the one thing is that the CEO, of course, then sets the tone and the culture, everybody contributes to the culture and values and those sort of things" (P14)

Respondent P1 observed the following on values and team connectedness:

> “Intuition comes from inside; it is the thing that drives us from the inside just like individual purpose. If you [as CEO] can align the team, on a common purpose, I would believe that the first step towards enhancing team intuition over time.” (P1)

The CEO was considered to have an important role in monitoring the environment in the executive committee during decision-making engagement, to ensure that all voices are being heard. An expert ability in managing the quantity and quality of contributions and ensures the team is engaging meaningfully, as Respondent P14 indicated:

> “And I think the CEOs role for that collective decision-making is more of a puppet master than anything else, to be honest with you, … he just must facilitate that, that everybody has the platform to, you know, to be able to give a view of their intuition, and that the best decisions can then be made collectively as a group.” (P14)

5.14.1.2. CEO Cognitive Style

Respondents from two firms described how they experienced the decision-making styles of two contrasting CEOs and the impact it had on the effectiveness of strategic decision-making when using team intuition.

In one anecdote, a respondent recalled how the CEO had a detrimental impact on the quality of strategic decision-making as he had an autocratic style, drowning out alternative views and discussion in top management team. This theme came through as he reflected on how the team’s collective intuition failed, leading to a negative outcome:

> “There was quite a lot of, I guess, dissonance around the market, as you know, the decision was made … We had vigorous debates, obviously, but the CEO had his ideas. And that's why we went that way. “(P6)

A colleague of Respondent P6 concurred, and added:

> “I think that's also an interesting thing to have seen, when experiencing team intuition… is going from the previous CEO to the current CEO, the previous CEO almost fitted very much into a dominant role, and because of that he muted the effect of our group intuitions.” (P2)

5.14.2. TMTs as a Social Unit

A focal point of many responses clustered on the importance of social aspect of the top management team and its influence on collective intuition. The effectiveness of collective intuition was thought to be highly influenced team diversity and team cohesion.

5.14.2.1. Team Diversity

Team diversity was seen as an important factor in enhancing the outcomes of collective intuition during decision-making. On social diversity and collective intuition, Respondent P9 said:

> “I see it more in terms of like, let's say, demographic diversity, so like, ethnicity, race, gender, and how that influences group decision-making. So, I think team intuition is important for business success and is influenced by the diversity of the group.” (P9)

The positive impact of diversity on intuition was also observed by Respondent P3:

> “And there should be various perspective, because then you have a diversity of potential views that, you know, one of the management team members may not have even considered. I think when you open it up, collectively, you open it up to possibly manage all the gaps that could potentially be there in the decision-making, instead of being guided by one person (P3)

Some respondents believed that increased social diversity protected the team against the worst effects of groupthink. According to Respondent P11, lack of diverse views in the top management team can result in group think and cognitive bias, as this Apple iPhone preferring top team discovered:

> “Because we really believe, and this was a gut belief that people would love it. Yeah. And the uptake has been very small. And that was that was kind of [team] intuitive. And I think, again, based on the biases in the room of people who are all Apple users and love Apple products, to say, Okay, this is going to be so exciting. And then for the client, it was kind of like, well, not such a big deal.” (P11)

The Apple product bias was also supported by another member of this team who said:

> “I've got a Samsung, I'm not I'm not an Apple person. But the primary drive is Apple, and, and I have been surprised with the volume of Apple compared to everything else. But it's not fully representative. So, it's like, you can't only have an offering towards that. Whereas if you look at exco, probably nine out of 10 people have Apple. So, there's a very skewed intuition” (P2)

5.14.2.2. Team Cohesion

Social Integration and the development of trust between team members was considered important in enhancing the effectiveness of collective intuition according to Respondent P 14:

> “And then this experiential sort of intuition that you pick up and develop as a team over time. Time together builds trust and relationships” (P14)

This view on trust was supported by Respondent P13 in the quote below:

> “And one of the things that, you know, eventually it's all linked to the team, that you put together, everything, you need to make sure that you can trust the people who are giving their view” (P13)

The impact of COVID and the move to online executive committee meetings was brought up by various respondents as a factor that had influenced the levels of social connection and trust in the team. It was considered as negatively impacting the effectiveness of team collective intuition during strategic decision- making processes. Respondents observed a reduced level of engagement during decision validation and a sense of disconnectedness from their colleagues. One firm had appointed a new CEO during the lockdown and respondents from this firm noted that they had not physically met the CEO.

5.15. Managerial Factors

The managerial factors that influence collective intuition in strategic decision-making, according to respondents, relate to knowledge, expertise, and team learning.

5.15.1. Team Expertise and Learning

It was reported by numerous respondents that team intuition is more effective when accompanied by expertise, experience, and a diversity of views in the top management team. According to Respondent P8 on expertise “But the ability of a team to get to a high order level of collective intuition is a function of the expertise of the individual team members present” (P8). This was supported by Respondent P13 on expert intuition when he noted “…but the fact that you base your decision on a bunch of experts, also brings confidence in the intuition”. Respondent P2 also added: “I think it works well. If you've got the right group of people. You've got the right collective intuitions together. (P2)

There was acknowledgement from respondents that top management teams rarely reflect on past collective decisions that had poor outcomes. A respondent observed that the collective intuition of the team could be improved over time by providing opportunities that encouraged experiential learning through a decision review process:

> “One needs to provide an environment where decisions can be reviewed against amended patterns to increase the effectiveness of team collective intuition.” (P13)

In FinTech firms, which are fuelled by innovation and experimentation, psychological safety, and fostering a learning culture were important in developing team expertise, which in turn improved the effectiveness of collective intuition, as Respondent P13 further noted:

> “In general, we need to provide an environment, which doesn't kill people if they make the wrong decision. It's about providing an environment which makes space for incorrect intuitions. We're not perfect.” (P13)

15.6. Key Findings from Research Question 3

According to the results from respondents, the following factors are thought to have an impact on the effectiveness of collective intuition:

CEO Influence:

- The CEO is believed to have significant influence the decision-making culture of the team and monitors / maintains the environment and level of engagement for effective decision-making.
- The CEO’s cognitive style, if autocratic, is thought to have a detrimental effect on the quality of decisions made by the team.

TMT as a Social Unit:

- Team Diversity, both in terms of social and cognitive diversity, is considered to have a positive influence on the effectiveness of collective intuition.
- Team Cohesion, through the development of trust and connectedness between team members is considered to have a positive influence on the effectiveness of collective intuition.

Managerial Factors:

- Team experience, expert-led intuition, and team learning are all thought to be important in enhancing the quality of decision-making from collective intuition.

5.17. Conclusion to Chapter 5

In this chapter, the results of the 3 research questions were presented.

The preliminary observations relating to Research Question 1 provided good support for the reliance on intuition and collective intuition amongst FinTech executives.
Research Question 2 findings also showed support for the validity of the collective intuition framework proposed by Samba et al. (2019), when comparing top management team social integration and social dynamics from firms in this study, to the expected forms of collective intuition predicted by the framework.
Research Question 3 findings provided insight into the factors that influence the use and effectiveness of collective intuition.

In Chapter 6, the findings presented in Chapter 5 are analysed and interpreted in conjunction with the literature developed in Chapter 2.

CHAPTER 6: DISCUSSION OF RESULTS

6.1. Introduction

Chapter 6 discusses the research findings that were presented in Chapter 5. This is done within the context of the collective intuition framework proposed by Samba et al. (2019), as was elucidate in the review of the relevant theory and literature conducted in Chapter 2. In Chapter 3, the research questions that were defined are founded on the literature review. The research questions that were defined in Chapter 3, and founded on the literature review in Chapter 2, have been addressed by this research study conducted in accordance with the study design and research methodology described in Chapter 4.

The objective of this integration between the theory and the research results is to establish whether there is qualitative support from the FinTech sector for the validity of the top management team collective intuitive framework proposed by Samba et al. (2019).

These findings are intended to advance both theory and practise, in so far as it seeks to assess the validity of the collective intuition framework and provide management insight into the mechanisms of collective decision-making in FinTechs.

6.2. Research Question 1 Discussion

The objective of Research Question 1 was to establish how FinTech executives experience the use of intuition in strategic decision- making and explore the concept of collective intuition during strategic decision-making processes. Interview questions 1 to 4 were designed to answer this research question. 3 Themes have been developed from the responses to these four questions and are discussed in relation to the relevant literature presented in Chapter 2.

6.3. Theme 1: Intuition in Decision-making

Intuition is an abstract concept. This question was posed to develop an understanding of what the managers in the research sample perceived intuition to be. Additionally, this question was designed to establish whether these managers

placed reliance on their intuitions during strategic decision-making and what qualifications and considerations to intuitive decision-making they considered pertinent. This question also forms a foundation for the next discussion on collect intuition in strategic decision-making, a concept they may not be familiar with as its emergence comparatively recently in the strategic decision-making literature. Results in this theme are discussed according to sub-categorisations of intuition as experience, use of intuition and limitations of intuition.

6.3.1. Intuition as experience

All respondents reported that they used their intuition during certain strategic decision-making processes. As they are part of the top management team in their firms, this supports the proposition made by Khatri and Ng (2000) that the use of intuition plays an important role in strategic decision-making.

Dane and Pratt (2007) provide one of the most widely accepted definitions of intuition in management literature. They define intuition as “affectively charged judgements that arise through rapid, non-conscious and holistic associations. All the respondents were able to describe their experience and understanding of intuition as a phenomenon within the Dane and Pratt’s (2007) definition, both in terms of personal and business decision-making. Their various descriptions correlated with intuition through its four levels of experience of intuition – from physical, to emotional, sensory to mental (Hodgkinson & Sadler-Smith, 2018). One respondent reported being ‘emotionally connected’ to a decision.

Respondents variously described the ‘gut feel’ sensation of intuition, its intangible quality of sensing the right decision to be made and knowing without knowing. There was an acknowledgment that some decisions needed to be made quickly, therefore calling up an intuitive decision was also based on its rapid nature when time is constrained. As described in the DPT view of cognition (section 2.4.1), intuition is associated with Type 1 processing, which is rapid and non-conscious (Hodgkinson & Sandler-Smith, 2018; Dane & Pratt, 2007; Hodgkinson et al., 2009).

Two respondents made an association between intuition and creativity. Creative thinking has been linked with intuition, due its associations with holistic associations

and pattern recognition. Dane and Pratt (2009) argue that creative thinking and intuition are related as both cognitive processes activate divergent thinking. Hodgkinson, Langan-Fox & Sadler-Smith (2008) identify creativity and improvisation as the outputs of intuition.

6.3.2. Use and Reliance on Intuition

Respondents agreed that Intuition was a useful decision strategy in decision circumstances when information was limited, or the decision context contained multiple variables and was poorly defined, due to intuitions effectiveness in developing holistic associations. Exposure to the same environment allows one to see patterns not otherwise consciously available, allowing the decision maker to see connections and patterns (Hodgkinson et al., 2009).

Respondents placed reliance on the use of intuition during strategic decision-making. They drew a distinction between intuition and expertise- based intuition, which arose with time, experience, and knowledge in a specific domain. Greater reliance was placed by respondents on expert-based intuitions when the decision criticality is high. Dane and Pratt (2007) and Salas et al., (2010) explained that expert intuition draws on deep domain expertise and is rooted in rich experience in a specific area, which often results in more effective decisions in highly complex and ambiguous environments. Salas et al., (2010) also observed that experts often used a mix of strategies, which increased the probability of high-quality decisions and positive outcomes. Respondents described this mixed approach as an “intuition-check”, a mixed strategy of calling on their intuitions first and then searching for data validation thereafter. This method supported the initial intuition with a quick search for information when available and within the constraints of the time available.

6.3.3. Limitations of Intuition

In response to limitations to the use of intuition, respondents cautioned that the use of intuition can be influenced negatively due to individual cognitive biases. This was described by one respondent as “making the wrong assumptions” (P13). According to the dual process view of information processing during cognition (Section 2.3.1.),

intuitions are associated with Type 1 processing, which is fast, non-conscious and affective (Epstein, 2010; Evans, 2006; Kahneman, 2003). Due to the effortless processing associated with intuitions, and consequent preservation of Type 2 analytic processing, one of the disadvantages of using intuition is that it can result in errors in reasoning and cognitive biases (Evans & Stanovich, 2013). The operations of Type 1 processing are known to contribute to confirmation bias, which has associated with heuristic processing or cognitive shortcuts (Kahneman, 2003).

Respondents also commented that emotions and mood may play a role in influencing intuition, which could be construed as a limitation. The idea present presented by one respondent was that emotional connection a decision situation could lead to the wrong intuition. Ashkanasy et al. (2017) found that affect, or moods and emotions, can impact intuition at different stages of the decision-making process. Positive and negative emotions experienced by the decision-maker, either before the decision is made or while the decision is being synthesised cognitively can influence the decision outcome (Ashkanasy et al., 2017; Dane & Pratt, 2007). It is therefore important that decision makers are conscious of the emotions they are experiencing when using intuition.

Use of immature or novice intuition was also thought to be a limitation. In the business context, junior executives were cautioned to use a mix of rational an intuitive process as they developed deeper levels of experience and expertise in their functional domains. Hodgkinson et al. (2009) also drew attention to the view that placing reliance on intuition is beneficial in complex settings, provided that the decision maker has an experiential basis for the intuition.

6.4. Theme 2: Collective Intuition in Strategic Decision-making

All the respondents in this study reported that their top management teams relied on a collective intuition when making certain strategic decisions. Respondents provided insight into the use of collective intuition as a strategic decision-making approach, and that the use of collective intuition was influenced by environmental, organisation, managerial and decision factors.

6.4.1. Understanding and Use of Collective Intuition:

This question was developed to assess whether top managers could, either via experience or deduction, offer a reasonable description of the concept of collective or team intuition. This question opened a conversation with the respondents about their views on what collective intuition could be, and whether it was a valid phenomenon.

None of the respondents were familiar with the term ‘collective intuition’ prior to this study but where able to provide a clear and reasonable account of it in their own words. Importantly though, all the respondents recognised the phenomenon of a team intuition that could develop through team member engagement and reported that they had experienced this phenomenon during strategic decision-making processes in their top management teams.

The common ideas offered by respondents related to collective intuition variously as: collective learning; shared experiences; group expert-based intuitions; influencing others and intuitions resulting from team cohesion. These accounts are in line with the commonly cited definitions in the literature. Eisenhardt (1999) held that collective intuition emerged as a result of intense team engagement in decision-making processes which focused on information sharing. Ali, Badir, Dost & Afsar (2016) viewed collective intuition as shared team expertise and explained that “When these individual experts from various functional areas come together in a group, they operate collectively as a team and share a team intuition.” Akinci and Sandler-Smith (2019) offer the most recent definition in the literature, through an organisational learning and expert-intuition lens when they defined collective intuition as “independently formed judgements based on domain-specific knowledge, experience, and cognitive ability that is shared and interpreted collectively.”

6.4.2. Environmental Factors:

All respondents concurred that the FinTech industry is one that can be characterised as environmentally uncertain. This uncertainty is driven by both environmental dynamism and complexity (Sia, Teo, Tan & Wei, 2004). Environmental dynamism refers to the rate of change in environmental factors. FinTech firm survivability is largely driven by technological innovation. Technological change is characterised by

its volatility, and FinTech firms' success is dependent on riding the current technological wave, whilst always planning for the next one to avoid redundancy. In addition, forward planning in the FinTech industry requires consideration of many alternative options with multiple variables, be it product, technology, regulations, or business model innovations. Dynamism favours an intuitive approach because of the time pressures and ambiguity and uncertainty inherent in this decision-making context (Eisenhardt, 1989).

The FinTech sector is also a highly data driven environment, being in essence a technology business with and evolving and business model. The volume and depth of data produced by FinTech firms is significant. Most of the respondents are highly skilled in mathematics and technology, which is a common requirement to work in this sector. This supports their ability to manage the complexity of data that feeds into the strategic decision-making process. Environmental complexity, such as seen in the FinTech sector, emerges when the number of different independent and dependant variables that must be considered in decision context increases (Dean & Sharfman, 1996). Strategic decision-making in these types of complex environments is highly cognitively demanding and is therefore suited to the use of collective intuition (Elbanna et al., 2013).

6.4.3. Organisational Factors

Most respondents agreed that the strategic focus of FinTech firms is more oriented towards exploration and experimentation activities, such as product innovation, creation of new markets and technology development. Miller and Ireland (2005) explain that when firms explore and experiment, they are searching for new technologies, strategies, and alternate future trajectories. This firm strategic focus is well suited to an intuitive decision-making approach.

Respondents characterised the FinTech sector as an environment of continual change, with executives having to make visionary type decisions in situations of flux. Firm critical decisions such as strategic shifts, entering new markets and partner relationships often have insufficient data to support holistic decision-making across multiple domains. This decision factor is related to motive, with FinTech firms oriented towards opportunity creation. Elbanna et al. (2013) contend that intuition is

more likely to be used in situations of opportunity exploitation, and this contention is supported by the respondents' perspectives.

Firm size and decision cost are additional considerations to whether intuition is favoured. Most of the firms represented in the sample are small to medium sized firms, with less than one hundred employees. Newer, smaller firms with a small executive committee and less organisational formality will favour adopting collective intuition for decision-making. Not only is decision-making faster, but it is also cheaper as well, relative to larger, more structured firms.

6.4.4. Decision Factors: Magnitude of Impact

Most respondents reported that collective intuition was more effective in circumstances of complex, strategic, and business critical decisions. Respondents believed that critical decisions that could impact firm survivability, or strategic direction are often forward looking, uncertain and require some educated guess work to navigate successfully. This view, of FinTech top management teams favouring collective intuition for high magnitude decisions, is contrary to the position in the academic literature. A CEO respondent P4) had pointedly observed that if critical decisions could be taken rationally or systematically then there would be no need for a top management team to exercise its judgement, and they could then be replaced with decision algorithms.

Dean and Sharfman (1993) thought that the more critical a decision was to the firm, the more likely it was that the top management team would favour a rational decision-making approach. They based this hypothesis on the rationale that in the case of high magnitude decisions, top managers would want to show, to their superiors, that they are applying rigour, structure, and analysis into this decision. It would be difficult to explain to the board that a critical decision was a gut feel or hunch, and that firm survivability was based on unexplainable feelings. Some respondents explained that in the FinTech sector, the top management team faces critical and complex decisions with a high degree of regularity, more so than most other environments. It may well be that the top managers in the FinTech industry have become so accustomed to these high magnitude decisions that they started to favour the use of collective intuition as an effective and efficient strategy.

6.4.5. Decision Factors: Decision Motive

A decision motive classifies a decision as being related to either an opportunity or threat. Elbanna et al. (2013) had found some empirical evidence that intuition is favoured by strategic decision makers engaging in the exploitation of opportunities. This position is supported by the evidence gathered in this study. The respondents explained that FinTech firms are more highly geared towards decision-making in support of opportunity exploration rather than having to make strategic manoeuvres to navigate threats. For most of the FinTech firms in the sample had very limited threats or competition as they had, in many ways, pioneered their markets and were future orientated towards opportunities.

6.5. Theme 3: Strategic Decision-Making Processes

The questions that generated this theme and these two categories sought to develop an understanding of the styles and common features of decision-making strategies relied on by FinTech top management teams participating in the study. It builds on from the previous questions by explicating the process of strategic decision-making, as it occurs practically in FinTech firms. In this section the decision-making culture and organisational factors that impact the strategic decision-making process are considered.

6.5.1. Decision-making Culture

The strategic decision-making culture of firms developed as a function of the level and intensity of engagement during strategic decision-making processes. SDM research suggests that top management teams make their strategic decisions during regular, formalised engagement between the members (Hambrick, 2007). The highest decision-making body, the top management team, engage in the strategic decision-making process at what is commonly known as the ‘executive committee’, or executive committee meeting (Shivakumar, 2014).

Respondents reported that executive committee meetings were scheduled with high regularity, at least once a week, and in one instance twice weekly. Respondents frequently engage in extended discussions on strategic decisions, with meeting

durations of between 90 minutes and 4 hours. This was to enable deep engagement and a multiplicity of views to be integrated into the strategic decision-making process.

All respondents reported a culture of team collaboration and placed an emphasis on joint decision-making, as this believed to enhance the effectiveness of decisions and hold the group accountable for decision outcomes. The characteristics of the decision-making culture described by respondents supports the emergence of collective intuition, as members 'cross-contaminate' their intuitions during these shared social exchanges, resulting in "shared mental structures'. (Akinci & Sadler-Smith, 2019). This is supported by the view from respondents that they had experienced the phenomenon of collective intuition and had placed reliance on it during strategic decisions making.

6.5.2. Organisational Factors

Decision-making processes are influenced by the size of the firm and its stage of maturity (Elbanna et al., 2013). The larger firms in this study reported larger top management teams have a greater formality in the decision-making process. They are also more hierarchical in structure. The larger teams also had more data and resources available to them to validate decisions, and this is born out in the literature (Miller, Burke & Glick, 1998). As top management teams increased in size, there was a reported increase in shared leadership, but maintaining engagement levels proved to be cumbersome during the long executive committee meetings.

The smallest firm, which had the smallest top management team met most frequently. Firms at early stage of maturity placed greatest reliance on intuitive decisions, with faster decision time and higher degrees of agility, and lower decision costs (Elbanna et al., 2013). Respondents also reported that in the start-up phases of their firms, the decision process and outcome is more greatly in influenced by the CEO, than the rest of the team.

Although Miller et al. (1998) contends that the larger firms, with formal hierarchical structures predispose towards more rational approaches to decision-making, this was not born out in the results from FinTech top management teams. Both large and

small firms in the sample placed a similar emphasis on intuitive decision-making during the overriding environmental factors facing them, irrespective of size.

6.6. Conclusion: Research Question 1

The objective of Research Question 1 was to determine if and whether FinTech executives experienced the use of intuition during decision-making and explore the role of collective intuition during strategic decision-making processes. Respondents were asked a series of probing questions that elicited a rich narrative of thoughts, ideas and experiences that formed the basis of this analysis.

All the respondents in this study concurred that they had placed reliance on the use of intuition as a decision-making strategy. All the respondents were able to articulate their experiences of intuition in terms that are supported and described in the decision-making literature. Intuition is recognised by the respondents as an experiential phenomenon, with most respondents being aware of both its benefits and limitations.

Most of the respondents in this study were able to articulate an understanding and experience of collective intuition in terms that are supported in the collective intuition literature. All the respondents in this study described an experience of collective intuition during strategic decision-making processes in terms that are supported in the literature.

The findings on Research Question 1 have established conclusively that FinTech executives of top management teams in South Africa use, and place reliance on, intuition and collective intuition during strategic decision-making processes.

6.7. Research Question 2 Discussion

Research Question 2 is associated with interview questions 5 and 6. It sought to develop an insight into decision-making processes at FinTech firms through the lens of team and social cognition. It sought to also a firm level profile of both the social integration and social dynamics of the top management teams, as well as the

respondents view on the form of collective intuition predominant during strategic decision-making, with reference to the collective intuition framework proposed by Samba et al. (2019).

6.8. Theme 4: FinTech TMTs as a Social Unit

This theme explores the characteristics of the top management teams for the five FinTech firms included in this study, through the lens of social cognition. Findings on the degree of social integration, social diversity and social dynamics are compared to the recent literature on collective intuition, specifically the collective intuition framework of Samba et al. (2019). Social integration considered the connectedness of the team members and social diversity was addressed in terms of social identity, education, race, language, and culture. Social dynamics explored the type and quality of social interactions that resulted in intuitive decisions:

6.8.1. Social Integration in FinTech TMTs

Respondents from FinTech V and FinTech Y reported the social integration of their top management teams as **socio-behaviourally integrated**, primarily due to quality and quantity of team engagement in joint decision-making, sharing of information and connectedness of the team members. The respondents noted that their teams were able to generate new intuitions because of this level of integration. These characteristics support the definition provided by Hambrick (1994), who posited that socio-behaviourally integrated teams communicate effectively, share information, overcome obstacles, and generate new knowledge not previously available to the individual members of the team.

Respondents from FinTech W described their top management team as a **socially interdependent** team. This was due to a focus on joint decision-making, collective accountability, and structure of their firm. The team comprised of functional unit experts, with a rewards structure that favoured overall firm performance over individual performance. This reported structural arrangement, team member interdependence and behavioural outcomes in this firm are fully aligned to the literature on structural interdependence (Hambrick et al., 2015). Respondent from FinTech Z also classified his team as socially interdependent, except that the

structure was less formal, as they were still at an early stage of firm development and team maturity.

Respondents from FinTech X held firmly that their top management team was a close, **socially integrated** top management team, due to their shared work experience, social identity, training, and academic backgrounds. This characterisation aligns with the literature on social identity and in-groups, which indicates that people have a preference to work with others that they view as being like them (Elsbach et al., 2005).

6.8.2. Social Diversity in FinTech TMTs:

Respondents from both FinTech V and Firm T reported the level of social diversity of their top management teams as high. Most of the respondents reported that they felt an increasing diversity of views, perspectives and backgrounds enhanced the quality of decision-making. An increase in social diversity in a team is, by extension, associated with an increase in cognitive diversity as well. This link between diversity and high-quality decision outcomes has been made Samba et al., (2018) in a metanalysis of the SDM literature. Of interest here, is the correlation of results for these two firms across the dimensions of social diversity and social integration. Respondents from both firms ranked both social integration as high and described their top management teams as socio-behaviourally integrated. These results will be considered again, in relation to the next theme exploring the form and locus of collective intuition amongst the firms.

Social diversity was ranked as low by respondents of FinTech X and Z. Respondents did report concerns that the lack of social diversity held the risk of lower quality decision outcomes due to the influence of group- think or confirmation bias, and this concern supports the corollary of the findings offered by Samba et al. (2018). FinTech W was reported as an average level of social diversity, which is unremarkable in the largest top management team in the sample.

6.8.3. Social Dynamics of SDM in FinTech TMTs:

The social dynamics question explored the quality and type of engagement, and how the team intuition arose, amongst the different top management teams. FinTech V

and FinTech Y respondents described an emergence of new intuitions resulting from meaningful team engagement. Samba et al. (2019), explained that this emergent decision phenomenon as “producing intuitions through interaction” and defined in their model as team-driven collective intuition.

Respondents from FinTech X reported a lesser meaningful engagement with perfunctory engagement centred on consensus seeking and conflict avoidance. The team ‘synced’ quickly on many strategic decisions due to their common outlooks. This common, but independently generated intuition that is described closely resembles the concept of “shared intuition” (Samba et al., 2019). Kozlowski and Klein (2000) explained this intuition as “the same at the individual-level as it is at the team-level”.

Respondents of FinTech W, and FinTech Z describe decision-making as meaningful team engagement centred on the validation of the intuition of one top manager, usually the functional expert in the subject matter. This validation and deliberation process is characteristic of actor-driven collective intuition as it is described by Samba et al. (2019). FinTech Y also expressed actor-driven intuition as an alternate form of decision strategy.

6.9. Theme 5: Forms of Collective Intuition in FinTech TMTs

Theme 5 brings together the findings and analysis of results discussed in Theme 4 that were presented in advancing Research Questions 2, with the collective intuition framework outlined in the literature review (Samba et al., 2019). Respondents have provided a rich firm level description of the strategic decision-making processes and social aspects of the team, and in this section, respondents select the form of team intuition that most closely represents team decision-making as experienced in their firm. This section assesses the level of congruence between both collective intuition as experience and in form and locus. Table 3 below is a consolidated view of firm categorisation across the various dimensions that have been discussed.

Table 7: Consolidated Results across FinTechs

	Consolidated Results across FinTech TMTs			
	Social Diversity	**Social Integration**	**Form of CI**	**CI Model Confirmation**
FinTech V	High	Socio-Behavioural	Team Driven	YES
FinTech W	Average	Interdependent	Actor-Driven	YES
FinTech X	Low	Social	Shared Intuition	YES
FinTech Y	High	Socio-Behavioural	*Team / Actor Driven	YES
FinTech Z	Low	Interdependent	**Actor-Driven / Dominant Actor	YES

***Both forms accessible to this TMT**

****TMT transition from Dominant to Actor-Driven**

Team Intuition:

In team intuitions the level of integration of intuition is the team. Team-driven intuition and shared intuition are team intuitions.

6.9.1.1. Team-Driven Collective Intuition:

Top management teams of Firms V and Y were classified as having high social diversity and a socio-behaviourally integrated team. Both teams experienced collective intuition as an emergent experience from intense group engagement and collaboration. Form of collective intuition self-rated as team-driven collective intuition. Samba et al. (2019) defined team-driven collective intuition as “a socio-cognitive phenomenon that involves the simultaneous relationships among different top managers and different ideas, opinions and perspectives”. Walsh (1995) based this phenomenon within social cognition and explained that as each person share their individual knowledge structures then it is likely that a collective knowledge structure arises. Both firms’ descriptions of team intuitions concord empirically with the definition of team-driven intuition in provided in the collective intuition framework. Samba et al. (2019) speculates that small new ventures working long hours together, frequently and intensely, would provide and enabling environment for team-driven collective intuition to be favoured. This speculation is supported in the case of FinTech V which, as a new venture, had the highest level of top manager engagement in this study. Interestingly, this top management team had not met physically before, having been launched during the lockdown.

6.9.1.2. Shared Intuition

The top management team of FinTech X was classified as low in social diversity and socially integrated, with a shared intuition arising between them. This co-incidental alignment of intuitions on strategic decisions, both at the individual and team level, is characteristic of shared intuition (Kozlowski & Klein, 2000; Samba et al., 2019). Elsbach, Barr and Hargadon (2005) explain that this phenomenon emerges because of the convergence of the similar knowledge structures of each member in the top management team. The results obtained on FinTech X provide strong support for the concept of shared intuition as it is described in the literature and defined by the collective intuition framework (Samba et al., 2019) and in the case of FinTech X, confirmed empirically.

Top Manager Intuition:

In Top Manager intuition, the locus of integration is one top manager. Actor – driven and Dominant Actor intuition are forms of top manager intuition.

6.9.1.3. Actor Driven Collective Intuition

Firms Z and W were characterised as having low to average levels of social diversity, with structurally interdependent teams. Their experience of the use of team intuition in decision-making is characterised as being led by one top manager with engagement and validation of the intuition by the rest of the team. The top manager who led the intuition changed according to functional area and expertise. This description is in line with the collective intuition literature, as team validation of top manager intuition is a defining aspect of actor-driven collective intuition (Akinci & Sandler-Smith, 2019). The findings from FinTech Z and W confirm empirically the propositions set out by both Akinci and Sandler-Smith (2019) and Samba et al. (2019).

6.9.1.4. Dominant Actor Collective Intuition:

The empirical support for dominant actor intuition arises in the case of AI start-up FinTech Z, in the first instance. The respondent reports a newly formed interdependent top management team with mixed traits concordant with a primary decision strategy of team led actor-driven intuition and secondary reliance on a CEO-led dominant actor intuition. In the case of this secondary decision strategy, the CEO's strategic tuitions are formed from his experience in launching start up FinTech firms in the Artificial Intelligence segment and accepted as the team's intuition. This team reliance on the top leader's expert-based intuition is supported by the literature, as Akinci and Sadler-Smith (2019) found in their paper, which explored the implications of collective intuition on decision-making and organisational learning. Samba et al. (2019) also posit that in innovation-driven firms with visionary CEO's, it is likely that the default strategy of dominant actor intuition is preferred at the start-up phase when firm survivability is dependent on the ability to launch products rapidly to market.

In addition to FinTech Z's transition from early-stage CEO-led dominant actor intuition to actor-driven intuition, respondents at Firms W and Z also reported a previous decision strategy of CEO-led dominant actor intuition at the early stages of their firm maturity. However, the accounts from these respondents on their previous CEO's is one that is characterised by power and autocracy.

6.10. Additional Observations on Collective Intuition in FinTech TMTs:

According to Samba et al. (2019) shared intuition and team-driven collective intuition are considered rare forms of collective intuition. It is notable that these rare forms of collective intuition are common in FinTech firms, represented in 3 of the 5 firms in the study. It has also been argued above that 3 of the 5 firms were characterised as having a dominant actor intuition during their start-up phase. It is posited that the characteristics of the FinTech sector itself play a role in the influencing the primary decision-making approached in top management teams. collective intuition.

The collective intuition model is fluid. Samba et al. (2019) also placed emphasis that the framework does not imply the use of form of collective intuition. A top

management team could call on different forms of collective intuition that may be available to them, depending on the decision context. Some situations may require fast decisions favouring shared and dominant actor intuition, whilst other more strategic contexts may require the full psychological content available from the team, favouring team-driven or actor-driven intuition. FinTech Y provides a clear empirical example of this in practise, with the CEO being able to call on the most appropriate decision approach between actor-driven and team-driven collective intuition, depending on the strategic issue.

A second reason for the fluidity is that top management teams evolve over time (Samba et al., 2019). As the maturity levels, experiences and psychological content of members change over time, this could also result in a change in the team's default decision-making strategy. Observations from Firms W, X and Z are in support of this proposition.

Third, the costs of developing each form of collective intuition differ and can influence the choice of decision-making strategy. It has already been noted that small firms rely on intuitive decision-making due to the cost of information search, so can evolve over time as more resources and data become available as the firm grows.

6.11. Conclusion: Research Question 2

This question was designed in order to test the validity of theoretical propositions advanced in the collective intuition framework, as proposed by Samba et al. (2019). The collective intuition framework predicts the likely forms of collective intuition that may emerge, as a function of both the strategic decision-making process, and the degree of social integration in the top management team.

The 5 FinTech firms represented in this study were classified by various dimensions, and the classifications were based on an analysis of the responses received from members of their top management teams. Table 7 in section 6.9 is instructive in this regard. It brings together the experiences, explanations and descriptions of the top management team members and finds significant congruence between their experiences of collective intuition and the collective intuition framework.

Research Question 2 enquires as to how the social integration and social dynamics of the top management team in FinTechs might determine the form of collective intuition. The findings presented here largely validate the expectations of the framework, in relation to the different forms of collective intuition that have been observed in this study. This finding provides compelling, early support from the FinTech sector for the theoretical basis of Samba's (2019) CI framework. In doing so, it has answered the call from Samba et al. (2019) for an in-depth and qualitative, hypothesis testing within the natural setting of the top management team.

6.12. Research Question 3: Discussion

The objective of this research question was to develop a deeper understanding of the dynamics of collective intuition in practise, by exploring contextual factors that may impact its effectiveness. This line of enquiry was designed to identify any potential theoretical constructs that may aid the development of the collective intuition framework.

6.13. Theme 6: Factors influencing the use and effectiveness of Collective Intuition

This theme explored the factors that were thought to influence and effectiveness of collective intuition in top management. A discussion of the results is integrated with the relevant supporting literature. Three Categories of factors are discussed, being CEO Influence, Team as a Social Unit and Managerial factors.

6.13.1. CEO Influence:

6.13.1.1. TMT Decision Culture

The theme of decision-making culture was discussed previously, when attending to Research Question 2. An analysis of the theme on strategic decision-making processes identified the category of decision-making culture. It was determined from the responses that decision-making culture, or cognitive style, was an important component of the strategic decision-making process. The discussion centred on decision-making culture as it related to collaboration, level, and intensity of

engagement, as well as an emphasis on joint decision-making. Respondents return to this theme of decision-making culture, but with an emphasis on how the top manager, the CEO, had a strong influence on the decision-making culture of the top management team.

Upper echelons research has traditionally viewed the top management team as a single unit, largely ignoring the formal and informal power, and related influence that the CEO has over the team (Hambrick & Mason, 1984; Hambrick, 2007). There has been a growing body of work that criticises this approach, arguing that CEO has influence on team functioning, performance and culture (Hambrick, 1994; Cannella & Holcomb, 2005). In the top management team literature, it has been argued that the CEO is the "leader and integrator" of the top management team (Carmeli, Schaubroeck & Tishler, 2011).

The CEO sets the regularity of executive committee meetings and is also responsible for setting and monitoring the tone, intensity, and values of the team during the decision-making process. The CEO, by virtue his responsibility of selecting the members of the top management team, also has implicit influence on the team decision-making culture as he or she influenced the cognitive and social diversity of his top management team. Hough and Ogilvie (2005) defined cognitive style as referring to the different ways in which individuals process information, think, learn, perceive, and make decisions. Cognitive style, in the literature on managerial and organisational cognition, was identified as an important individual variable in executive behaviour, risk assessment and decision-making (Nutt, 1993).

6.13.1.2. CEO Cognitive Style

Respondents from 3 firms reported experience with a dominant CEO at the early stages of firm maturity. It was noted by the respondents that an autocratic CEO reduced the effectiveness of the collective intuition. CEO's hold both formal and informal power over the top management team (Elbanna, 2006). A dominant CEO can influence the effectiveness in decision-making processes of his top team, by choosing how and when to exert either formal or informal power over the team. Cannella and Holcomb (2005) argue that this asymmetry of power implies that the

role of CEO has a significant influence on team strategic decision-making processes, and firm outcomes. Additionally, it has been argued that the cognitive style of the CEO, in relation to dominance, risk appetite or humility etc. affects both decisions making processes and firm performance (Khatri & Ng, 2000; Hodgkinson et al., 2009).

16.13.2. TMT as a Social Unit:

The importance of the top management team as a social unit, with regards to enhancing collective decision-making, has been raised by respondents in attending to questions under Research Question 2. In Research Question 3, Social diversity and Team Cohesion have emerged as important characteristics that respondents believed had an influence on the effectiveness of collective intuition.

6.13.2.1. Team Diversity

There was a consensus from respondents around the idea that a variety of perspectives improved the team's intuition. This variety was derived from having top management team members that were socially and cognitively diverse. In this study, it was shown in section 5.10.2. that two firms correlated on high social diversity, socio-behavioural integration, and team-driven collective intuition.

Diversity, in both its forms, allows the team to bring together a richness of ideas derived from the different psychological contents available from its members. These differing psychological contents stem from the various backgrounds, functional areas, training, expertise of a diverse team. The literature on team and cognitive diversity is also supportive of a relationship between diversity and improved organisational outcomes. Bengtsson et al. (2020) found empirical support for a positive relationship between team diversity and firm performance. Samba et al. (2018) and Olson (2007) advance metanalytic and empirical support respectively, to show a positive relationship between strategic decision quality, strategic goals, and team cognitive diversity.

Low diversity, as was shown, in relation to groupthink and cognitive biases, to result sometime in sub-optimal decision. In the case of the “Apple-bias” on one top management team, the fact that almost the entire team had Apple iPhones led them to make a key strategic intuition that failed, as their client base did not share their preference. This failure was directly related to group think behaviours such as mutual affirmation and self-seeking attitudes (Hambrick, 1994).

6.13.2.2. Team Cohesion

Respondents identified trust and connectedness between top management team members as an important factor in influencing the effectiveness of collective intuition. It was suggested by respondents that increasing levels of trust and ‘teamness’ between members would improve the quality of intuitive decision outcomes.

Trust and “Teamness” are dimensions that measure how the team feels, in that it is an affective criterion (Hambrick, 1994). It is a measure of how connected the team members feel with each other and is related to the concept of social integration (O’Reilly et al., 1989). There is general support in the literature for the proposition that team cohesion and team performance and effectiveness are correlated positively, as Mathieu, Kukenberger, D'innocenzo & Reilly (2015) showed in a meta-analysis of the literature.

As the collective intuition model proposes, increasing social integration allows for better integration of psychological contents across team members. This [psychological sharing happens through meaningful communication, processing, and assessment of decision specific information. (Eisenhardt, 1999). Socio-behaviourally integrated teams can call on the team’s collective intuition during decision-making and improve both decision quality and firm performance (Samba et al., 2019).

Most respondents commented on the negative impact of the COVID pandemic and work from home policies on team cohesion. It was suggested that the lack of physical proximity created a sense of disconnectedness over time, reducing cohesion and engagement during decision-making processes with a negative impact on decision quality.

6.14. Managerial Factors:

6.14.1. Team Expertise and Learning

Team expertise and team learning were key to higher quality collective intuition, according to respondents. This theme on expertise is a recurring one and had been made previously by respondents in relation to ‘reliance on intuition’, a sub-category discussed as part of Research Question 1.

Team expertise is related to level and mix of expertise available in the top management team. Respondents have reported a greater trust and reliance in the intuitions of individuals that they considered to be domain level experts. It was also reported that a core responsibility of the CEO is to ensure that the right mix of experience and expertise, in terms of breadth and depth, was available on the top management team. In the literature review, a distinction is drawn between intuition and expert-based intuition. The reliance placed by respondent on expert-based intuition is well supported by the decision-making literature. Expert-based intuitions have been shown to be more effective in highly complex and ambiguous environments (Salas et al., 2010), which are environmental characteristics common to the FinTech industry.

The question arose as to how one develops the required team expertise in a nascent sector that is driven by innovation, as skills and experience may be rare or non-existent. Respondents thought that a learning culture, in an environment of psychological safety, with executive management tolerance for experimentation and errors, or incorrect intuitions, would facilitate the development of team expertise. The importance of expert-led intuition in a top management team has foundations in the recent collective intuition literature. Akinci and Sandler-Smith (2019) offer a dual-process perspective on expert-intuitions and collective cognition. They held that expert-led intuitions in a top management team improved the shared mental models of the team, enhancing both shared cognition and decision outcomes (Akinci & Sandler-Smith, 2019). Sadler-Smith (2008) also recognised the positive impact that expert intuitions, with better and faster decision-making had on collective learning.

6.15. Conclusion: Discussion of Research Question 3

The findings from Research Question 3 highlight three contextual factors that have an impact on the use and effectiveness of collective intuition: The CEO, The Team as a Social Unit, and Team Learning and Expertise.

From these three factors, the CEO influence on the decision-making environment, both through her influence on decision-making culture and the impact of her cognitive style has been reported by respondents as the most important factor influencing collective intuition. These findings are well supported in the literature that explores the TMT-CEO interface. The researcher has been fortunate to have had opportunity for in depth discussions with multiple CEO's, a deputy CEO, other C-suite executives, and co-founders that have added to the richness of understanding CEO influence.

The remaining 2 factors, regarding team cohesion, team diversity and team expertise and learning have been emphasised previously by respondent in discussions related to the first two Research Questions. It is notable that these factors have surfaced again. There is ample support in the literature for the role that these factors play in collective intuition. It is the researcher's proposition that these additional factors are also indirectly related to the CEO as well, adding further weight to the importance of CEO and her management competencies.

The results obtained from Research Question 3 are of theoretical significance, in that the collective intuition framework proposed by Samba et al. (2019) is largely silent on the role of the CEO in influencing the two core dimensions of collective intuition: the level of integration and locus of the intuition. An Integrated Collective Intuition Framework is proposed in Chapter 7, which develops the collective intuition framework by integrating it with four CEO cognitive styles.

6.16. Conclusion to Chapter 6

Research Question 1 was aimed at establishing if and how executive managers in top management teams of FinTech firms experienced the use of intuition and collective intuition during strategic decision-making processes. Data that was collected, analysed, and interpreted in this research study provide evidence that executive managers do experience and rely on the use of intuition and collective intuition during strategic decision-making.

Research Question 2 sought to validate the collective intuition framework proposed by Samba et al. (2019). Firm level analysis of the 5 FinTech firms in this study was conducted via an analysis of decision-making processes, social dimensions, as well the locus and level of integration of team intuition. These findings were compared to the theoretical expectations of the collective intuition framework and confirmed the validity of framework.

Research question 3 explored the contextual elements which could impact on the use and effectiveness of collective intuition in FinTech top management teams and found that the CEO, team connectedness, team expertise and team learning had important roles to play in collective intuition.

An integrated collective intuition framework is presented in Chapter 7, along with management recommendations and a conclusion to this research study.

CHAPTER 7: CONCLUSION

7.1. Introduction

> "Outside the laboratory and the school, cognition is almost always collaborative… At work and in civic and personal life, each person's ability to function successfully depends upon coordinated cognitive interactions with other, and the cognitive "products" that emerge from these interactions cannot be attributed to single individuals." (Levine, Resnick & Higgins, 1993: 599-600) *On the social foundations of cognition*

Strategic decision-making is one of the core responsibilities of the top management team in any firm, as decisions made at this level impact firm survivability. The use of intuition by executive managers has been acknowledged in the literature as an important decision-making approach. Until recently though, little was known about team-level intuitions, and even less is known about the strategic decision-making processes in FinTech firms. This research sought to develop a deeper understanding of both team-level or collective intuitions and strategic decision-making in FinTechs. In achieving these objectives, this study hopes to contribute to the literature, by validating the theoretical foundations of Samba's collective intuition framework qualitatively.

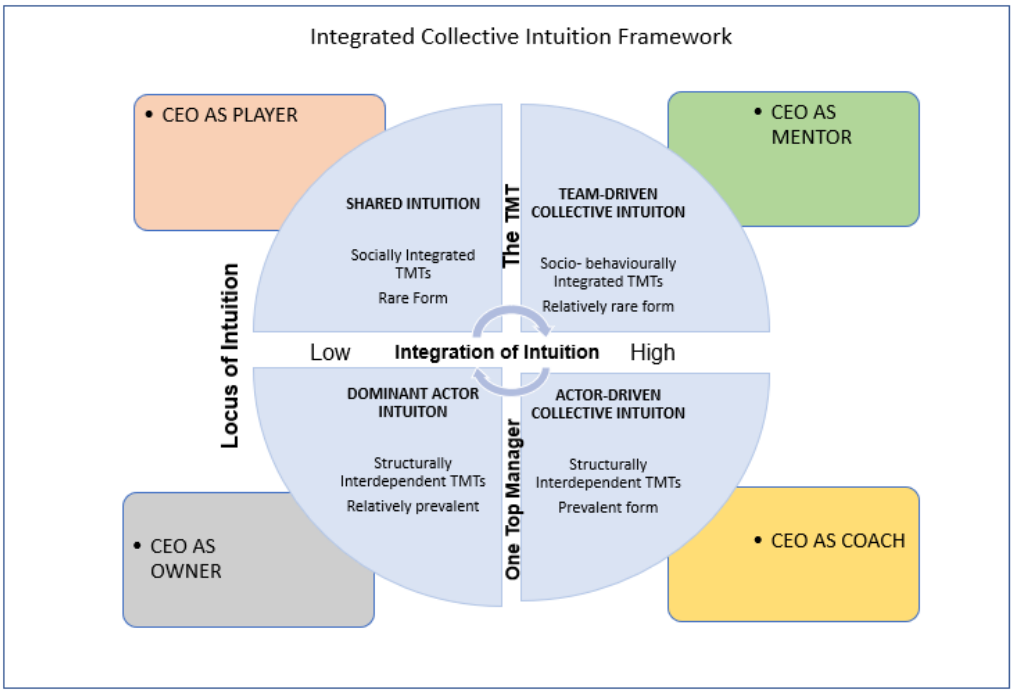
This chapter presents an integrated collective intuition framework, which is derived from the insights obtained from the findings and the analysis of findings discussed in Chapters 5 and 6. The implications of these findings are discussed, along with management recommendations and future research considerations.

7.2. A CEO- Integrated Collective Intuitive Framework

The CEO-integrated collective intuition framework has been developed through a synthesis of the findings outlined in Chapter 5; in conjunction with the analysis and discussion of the results in Chapter 6; and integrated with the supporting academic literature on collective intuition and strategic decision-making presented in Chapter 2. The foundation of the collective intuition framework is retained, as it has been

proposed by Samba et al. (2019). It has now been supported qualitatively, for the first time by this study. The framework has been extended by an additional dimension, the CEO cognitive style, which was shown in this study to be an influential determinant of the form of collective intuition. This dimension is expected to provide additional explanatory power to the original collective intuition framework proposed by Samba et al. (2019). This will aid in developing a deeper understanding how the various forms of collective intuition may emerge. The CEO-integrated collective intuition framework is presented in Figure 2.

Figure 3: CEO-Integrated Framework of Collective Intuition



The CEO-integrated collective intuition framework introduces CEO cognitive style by way of an analogy borrowed from the sports arena. In many ways, the top management team in organisations is analogous to a high-performance sports team on the field. Team performance in both realms is directly related to team member's individual technical abilities, team integration as a social unit, team playing styles, strategic objectives, and the team leadership.

The extension to the collective intuition framework adds explanatory power by recognising the significant influence that the CEO, as top manager of the team, has in determining overall team performance. The integrated framework proposes that the CEO can play various roles in the top management team and, depending on the

dominant role that he plays, will have an influence on the form of collective intuition that emerges from the rest of the team. This relationship is described below:

CEO as Owner

When the CEO acts as the team owner, he directs the strategic decision-making process by placing reliance on his own intuitions only. This role is associated with the autocratic or powerful CEO and negates the collective intuitions of the rest of the team, reducing the locus of intuition to one top manager, which is him. This CEO cognitive style predisposes the team to a CEO-led Dominant Actor intuition.

CEO as Coach

When the CEO takes on the role of coach, he selects, either implicitly or explicitly, the different positions that his team will take during strategic decision-making. He approves the captain for each decision play, by ensuring that the intuition is led by a functional expert relevant to the decision. This intuition forms the basis for team validations. This type of cognitive style is associated with actor-driven collective intuition.

CEO as Player

When the CEO cognitive style reflects the perspective of a player, he finds himself at the same cognitive level as the rest of team. This shared cognition and social integration into the team is reflective of shared intuition as a dominant form of collective intuition.

CEO as Mentor

In this cognitive style, the CEO places emphasis on team meta-cognition. By observing and nurturing the individual cognitive styles of his team, he monitors the quality, flow, and level of team engagement on intuitions; allowing space for each player to perform optimally such that the entire team is performing in unison during strategic decision-making. This CEO role is associated with team-driven collective intuition.

7.3. Management Recommendations

This study has thrown a spotlight on the strategic decision-making processes that occur in FinTech top management teams. It highlights the reliance that FinTech top managers place on their collective intuitions when engaged in complex, strategic or time-sensitive decision-making. The insights developed from this research inform the following management recommendations:

- Awareness: Bringing an awareness to the cognitive and social mechanics of strategic decision-making lifts the veil on a critical process which is core to the role of the top manager. An awareness brings some distance between cognition, the manager and team. This awareness will improve the quality of collective intuition generally. A formal induction in decision-making is recommended for top managers.
- Context Matters: The decision-making contexts such as decision factors, environmental factors and managerial factors influence the form and quality of collective intuitions. Assessing decision context in advance of decision-making processes ensures that there is a more holistic perspective on the decision.
- The Learning Team: One of the ways to embed team experiential learning is to reflect on the decisions that are made by the top management team. A formal decision review post decision outcome encourages team learning and develops team-expertise.
- Culture: The FinTech sector is characterised by its focus on experimentation and technological innovation. To encourage and deepen this focus, a management culture should develop which supports intuitions and collective intuitions by providing tolerance for errors, and safe spaces for experimentation.

7.4. Future Research Considerations

The body of work on collective intuition is in its infancy, is fragmented across disciplines and without firm theoretical foundations. Although this paper does provide the first empirical support for these foundations from a top management team's natural setting, there is still much to be investigated. The same argument holds equally to SDM research in FinTech TMTs, which show a high preference towards intuitive decision-making approaches, according to this study. As far as the researcher was able to establish, very little empirical work exists in the literature on FinTech top management teams as well. Both these streams of research are nascent and have many avenues of research ahead. Some potential areas of future study are:

- Collective intuition was studied in a narrow context of the FinTech sector. The collective intuition framework will need to be assessed in a wider variety of natural settings in order to firm its foundations for general applicability.
- In this study, early-stage start-ups and pioneer firms presented with some distinct characteristics that evolved over time and warrants further investigation. Firm stage of maturity could be an additional lens to investigate collective intuition.
- Empirical investigations into intuition historically, and collective intuition presently, are challenged by the lack of standardised measurement. Avenues to investigate the development of new scales of measurement would aid in advancing the field through quantitative analysis, making replicability and metanalysis possible.
- Due to the nature of collective intuition, mixed method studies are recommended in future in order to capture the full nature of this social phenomenon.
- Avenues for future FinTech TMT research that may prove profitable are investigations into the TMT-CEO interface. This will aid understanding of how FinTech CEO's influence the processes, performance, and culture of the top management team.

7.5. Conclusion

The strategic decision-making processes of the top management teams in firms is crucial to firm survivability and profitability. This importance is reflected in the large body of literature that has developed through multiple fields of study. Our scales of investigation have moved from sector to firm level and from the team level to the individual level. In the field of managerial and organisational cognition, decision-making research centred around understanding the rational and intuitive information processing in the top manager. However, in practise, strategic decision-making processes commonly involve a top management team, and decisions are made collectively. This acknowledgment of team decision-making has brought together the fields of social cognition and intuition research with the upper echelon's theory of top management teams to propose a framework for collective intuition in group decision-making.

The FinTech sector is a new and exciting business segment that emerged from the significant advances in mobile technology, digital connectivity, and widespread consumer adoption over the last decade. FinTechs are disruptor, in the true sense of the word. They disrupt by developing new technology, business models, products and services and remain at the crest of technological innovation through agility and experimentation. It is a young, rapidly evolving, and increasingly important sector with top management teams making strategic decisions in an environment of both complexity and a high uncertainty of outcomes. It occurred to the researcher that intuition was likely to play a major role in strategic decision-making in these conditions.

In the sciences, one approach to developing an empirical understanding of a phenomenon is to seek out examples of the extremes of said phenomenon, that occur in their natural settings. The logic here is that in being extreme, the phenomenon becomes easier to observe and measure, in relation to the median. This study was thus conceived, as an investigation into the use and form of collective intuition in FinTech top management teams. The objective of this investigation was to either support or refute the theoretical propositions of the first framework published on collective intuition. The contribution to the body of knowledge is four-fold:

- The first significant finding of this study is confirmation of the validity of collective intuition as a phenomenon that is experienced by top management teams.
- The second significant finding is that the collective intuition framework has been shown empirically to have both predictive and explanatory power, in relation to the forms of collective intuition that arise in FinTech top management teams.

- The third significant finding is the important role of the CEO in influencing the form and use of collective intuition in the top management team, which is reflected in the CEO-integrated collective intuition framework proposed in this study.
- The fourth significant finding is that FinTech top management teams have a high preference for, and place reliance on, intuition and collective intuition during strategic decision-making.

Finally, the insights of this study have led to management recommendations that seek to improve strategic decision-making processes of firms in practise and offered academic impetus for the exploration of additional research avenues in this new and exciting area of research.

REFERENCE LIST

Akinci, C., & Sadler-Smith, E. (2020). 'If something doesn't look right, go find out why': how intuitive decision making is accomplished in police first-response. *European Journal of Work and Organizational Psychology*, *29*(1), 78-92. doi:10.1080/1359432X.2019.1681402

Akinci, C., & Sadler-Smith, E. (2019). Collective intuition: Implications for improved decision making and organizational learning. British Journal of Management, 30(3), 558-577. doi:10.1111/1467-8551.12269

Ali, Z., Badir, Y. F., Dost, M., & Afsar, B. (2016). The dynamics of expert and team intuition in NPD projects: The role of environmental turbulence and expert power. The Journal of High Technology Management Research, 27(1), 10-20. doi:10.1016/j.hitech.2016.04.002

Appelt, K. C., Milch, K. F., Handgraaf, M. J., & Weber, E. U. (2011). The decision making individual differences inventory and guidelines for the study of individual differences in judgment and decision-making research. Judgment and Decision Making. 6(3), 252–262. doi:2011-09795-007

Armstrong, S. J., Cools, E., & Sadler-Smith, E. (2012). Role of cognitive styles in business and management: Reviewing 40 years of research. International Journal of Management Reviews, 14(3), 238-262. doi:10.1111/j.1468-2370.2011.00315.x

Ashkanasy, N.M, Humphrey, R.H., & Huy, Q.N. (2017). Integrating emotions and affect in theories of management. Academy of Management Review, 42(2), 175-189. doi: 10.5465/amr.2016.0474

Ashton-James, C. E., & Ashkanasy, N. M. (2008). Affective events theory: A strategic perspective. In Emotions, Ethics and Decision-Making. Emerald Group Publishing Limited. doi:10.1016/S1746-9791(08)04001-7

Bengtsson, M., Raza-Ullah, T., & Srivastava, M. K. (2020). Looking different vs thinking differently: Impact of TMT diversity on coopetition capability. Long Range Planning, 53(1), 101857. doi:10.1016/j.lrp.2018.11.001

Cabantous, L., & Gond, J. P. (2011). Rational decision making as performative praxis: Explaining rationality's Éternel Retour. Organization Science, 22(3), 573-586. doi:10.1287/orsc.1100.0534

Calabretta, G., Gemser, G., & Wijnberg, N. M. (2017). The interplay between intuition and rationality in strategic decision making: A paradox perspective. Organization Studies, 38(3-4), 365-401. doi:10.1177/0170840616655483

Cannella, A. A., & Holcomb, T. R. (2005). A multi-level analysis of the upper-echelons model. In Multi-level Issues in Strategy and Methods. Emerald Group Publishing Limited. doi:10.1016/S1475-9144(05)04009-9

Carmeli, A., Schaubroeck, J., & Tishler, A. (2011). How CEO empowering leadership shapes top management team processes: Implications for firm performance. The Leadership Quarterly, 22(2), 399-411. doi:10.1016/j.leaqua.2011.02.013

Creswell, J.W. (2012). Educational research: Planning, Conducting and Evaluating Quantitative and Qualitative Research. Educational Research (Fourth Edition, Vol.4). Boston: Pearson Education. doi:10.1017/CB09781107415324.004

Dane, E., & Pratt, M. G. (2009). Conceptualizing and measuring intuition: A review of recent trends. International Review of Industrial and Organizational Psychology, 24(1), 1-40.

Dane, E., & Pratt, M. G. (2007). Exploring intuition and its role in managerial decision making. Academy of Management Review, 32(1), 33-54. doi:10.5465/amr.2007.23463682

Dayan, M., & Elbanna, S. (2011). Antecedents of team intuition and its impact on the success of new product development projects. Journal of Product Innovation Management, 28(s1), 159-174. doi:10.1111/j.1540-5885.2011.00868.x

Dean Jr, J. W., Brandes, P., & Dharwadkar, R. (1998). Organizational cynicism. Academy of Management Review, 23(2), 341-352. https://doi.org/10.5465/amr.1998.533230

Dean Jr, J. W., & Sharfman, M. P. (1996). Does decision process matter? A study of strategic decision-making effectiveness. Academy of Management Journal, 39(2), 368-392. doi:10.5465/256784

Dean Jr, J. W., & Sharfman, M. P. (1993). Procedural rationality in the strategic decision-making process. Journal of Management Studies, 30(4), 587-610. doi:10.1111/j.1467-6486.1993.tb00317.x

Dörfler, V., & Ackermann, F. (2012). Understanding intuition: The case for two forms of intuition. Management Learning, 43(5), 545-564. doi:10.1177/1350507611434686

Eisenhardt, K. M. (1999). Strategy as strategic decision making. MIT Sloan Management Review, 40(3), 65. doi:10.1002/smj.4250130904

Eisenhardt, K. M., & Zbaracki, M. J. (1992). Strategic decision making. Strategic Management Journal, 13(S2), 17-37. doi:10.1002/smj.4250130904

Elbanna, S. (2015). Intuition in project management and missing links: Analyzing the predicating effects of environment and the mediating role of reflexivity. International Journal of Project Management, 33(6), 1236-1248. doi:10.1016/j.ijproman.2015.02.004

Elbanna, S. (2006). Strategic decision-making: Process perspectives. International Journal of Management Reviews, 8(1), 1-20. doi:10.1080/1047840X.2010.523875

Elbanna, S., Child, J., & Dayan, M. (2013). A model of antecedents and consequences of intuition in strategic decision-making: Evidence from Egypt. Long Range Planning, 46(1-2), 149-176. doi:10.1016/j.lrp.2012.09.007

Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K., & Kyngäs, H. (2014). Qualitative content analysis: A focus on trustworthiness. SAGE open, 4(1), 2158244014522633. doi: org/10.1177/2158244014522633

Elsbach, K. D., Barr, P. S., & Hargadon, A. B. (2005). Identifying situated cognition in organizations. Organization Science, 16(4), 422-433. doi:10.1287/orsc.1050.0138

Evans, J. S. B. (2010). Intuition and reasoning: A dual-process perspective. Psychological Inquiry, 21(4), 313-326. doi:10.1080/1047840X.2010.521057

Evans, J. S. B., & Stanovich, K. E. (2013). Dual-process theories of higher cognition: Advancing the debate. Perspectives on Psychological Science, 8(3), 223-241. doi:10.1177/1745691612460685

Franklin II, C. L. (2013). Developing expertise in management decision-making. Academy of Strategic Management Journal, 12(1), 21.

Gavetti, G., Levinthal, D., & Ocasio, W. (2007). Perspective—Neo-Carnegie: The Carnegie school's past, present, and reconstructing for the future. Organization Science, 18(3), 523-536. doi:10.1287/orsc.1070.0277

Glöckner, A., & Betsch, T. (2012). Decisions beyond boundaries: When more information is processed faster than less. Acta Psychologica, 139(3), 532-542. doi:10.1016/j.actpsy.2012.01.009

Glöckner, A., & Witteman, C. (2010). Beyond dual-process models: A categorisation of processes underlying intuitive judgement and decision making. Thinking & Reasoning, 16(1), 1-25. doi:10.1080/13546780903395748

Goll, I., & Rasheed, A. A. (2005). The relationships between top management demographic characteristics, rational decision making, environmental munificence, and firm performance. Organization Studies, 26(7), 999-1023. doi:10.1177/0170840605053538

Gomber, P., Koch, J. A., & Siering, M. (2017). Digital Finance and FinTech: current research and future research directions. Journal of Business Economics, 87(5), 537-580.

Grossman, R., Spencer, J. M., & Salas, E. (2013). Enhancing naturalistic decision making and accelerating expertise in the workplace: training strategies that work. In Judgment and decision making at work (pp. 297-345). Routledge.

Hambrick, D. C. (2007). Upper echelons theory: An update. doi:10.5465/amr.2007.24345254

Hambrick, D. C., & Chen, M. J. (1994, August). EFFECTS OF TOP MANAGEMENT TEAM CHARACTERISTICS ON COMPETITIVE BEHAVIORS OF FIRMS. In Academy of Management Proceedings (Vol. 1994, No. 1, pp. 12-16). Briarcliff Manor, NY 10510: Academy of Management. doi:10.5465/ambpp.1994.10341616

Hambrick, D. C., Humphrey, S. E., & Gupta, A. (2015). Structural interdependence within top management teams: A key moderator of upper echelons predictions. Strategic Management Journal, 36(3), 449-461. doi:10.1007/s11573-017-0852-x

Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. Academy of Management Review, 9(2), 193-206. doi:10.5465/AMR.1984.4277628

Healey, M. P., & Hodgkinson, G. P. (2017). Making strategy hot. California Management Review, 59(3), 109-134. doi:10.1177/0008125617712258

Healey, M. P., Vuori, T., & Hodgkinson, G. P. (2015). When teams agree while disagreeing: Reflexion and reflection in shared cognition. Academy of Management Review, 40(3), 399-422. doi:10.5465/amr.2013.0154

Hodgkinson, G. P., & Healey, M. P. (2011). Psychological foundations of dynamic capabilities: Reflexion and reflection in strategic management. Strategic Management Journal, 32(13), 1500-1516. doi:10.1002/smj.964

Hodgkinson, G. P., Langan-Fox, J., & Sadler-Smith, E. (2008). Intuition: A fundamental bridging construct in the behavioural sciences. British Journal of Psychology, 99(1), 1-27. doi:10.1348/000712607X216666

Hodgkinson, G. P., & Sadler-Smith, E. (2018). The dynamics of intuition and analysis in managerial and organizational decision making. Academy of Management Perspectives, 32(4), 473-492. doi:10.5465/amp.2016.0140

Hodgkinson, G. P., Sadler-Smith, E., Burke, L. A., Claxton, G., & Sparrow, P. R. (2009). Intuition in organizations: Implications for strategic management. Long Range Planning, 42(3), 277-297. doi:10.1016/j.lrp.2009.05.003

Hough, J. R., & Ogilvie, D. T. (2005). An empirical test of cognitive style and strategic decision outcomes. Journal of Management Studies, 42(2), 417-448. doi: 10.1111/j.1467-6486.2005.00502.x

Ireland, R. D., & Miller, C. C. (2004). Decision-making and firm success. Academy of Management Perspectives, 18(4), 8-12. doi:10.5465/ame.2004.15268665

Kahneman, D. (2003). A perspective on judgment and choice: mapping bounded rationality. American Psychologist, 58(9), 697. doi:10.1037/0003-066X.58.9.697

Kahneman, D., & Fredrick, S. (2002). The Psychology of Intuitive Judgment, Thomas Gilovich, Dale Griffin, Daniel Kahneman, Heuristics and Biases.

Kahneman, D., & Tversky, A. (1979). On the interpretation of intuitive probability: A reply to Jonathan Cohen. Cognition, 7(4), 409–411. doi:10.1016/0010-0277(79)90024-6

Khatri, N. (1994). Strategic Decision Processes and Organizational Performance (Doctoral dissertation, State University of New York at Buffalo).

Khatri, N., & Ng, H. A. (2000). The role of intuition in strategic decision making. Human Relations, 53(1), 57-86. doi:10.1177/0018726700531004

Langley, A. (1989). In search of rationality: The purposes behind the use of formal analysis in organizations. Administrative Science Quarterly, 598-631. doi:10.2307/2393569

Lawrence, B. S. (1997). Perspective—The black box of organizational demography. Organization Science, 8(1), 1-22. doi:10.1287/orsc.8.1.1

Lee, P. (2015). The FinTech entrepreneurs aiming to reinvent finance. Euromoney (UK), 46(552), 42-48.

Lou, B. (2021). Thinking about Strategic Thinking: Putting Top Management Teams' Strategic Decision-Making Processes into a Double-Layered Contextual Model (Doctoral dissertation, Lancaster University). doi: 10.17635/lancaster/thesis/1398

Mathieu, J. E., Kukenberger, M. R., D'innocenzo, L., & Reilly, G. (2015). Modeling reciprocal team cohesion–performance relationships, as impacted by shared leadership and members' competence. Journal of Applied Psychology, 100(3), 713.

Miller, C. C., Burke, L. M., & Glick, W. H. (1998). Cognitive diversity among upper-echelon executives: implications for strategic decision processes. Strategic Management Journal, 19(1),39-58. doi:10.1002/(SICI)1097-0266(199801)19:1<39::AID-SMJ932>3.0.CO;2-A

Miller, C. C., & Ireland, R. D. (2005). Intuition in strategic decision making: friend or foe in the fast-paced 21st century? Academy of Management Perspectives, 19(1), 19-30. doi:10.5465/ame.2005.15841948

Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. International Journal of Qualitative Methods, 16(1) doi:10.1177/1609406917733847

Nutt, P. C. (1993). The formulation processes and tactics used in organizational decision making. Organization Science, 4(2), 226-251. doi: org/10.1287/orsc.4.2.226

Olson, B. J., Parayitam, S., & Bao, Y. (2007). Strategic decision making: The effects of cognitive diversity, conflict, and trust on decision outcomes. Journal of Management, 33(2), 196-222. doi:10.1177/0149206306298657

O'Reilly III, C. A., Caldwell, D. F., & Barnett, W. P. (1989). Work group demography, social integration, and turnover. Administrative Science Quarterly, 21-37. doi:10.2307/2392984

Papadakis, V. M., & Barwise, P. (2002). How much do CEOs and top managers matter in strategic decision making?. British Journal of Management, 13(1), 83-95. doi:10.1111/1467-8551.00224

Papadakis, V. M., Lioukas, S., & Chambers, D. (1998). Strategic decision-making processes: the role of management and context. Strategic Management Journal, 19(2), 115-147. doi:10.1002/(SICI)1097-0266(199802)19:2<115::AID-SMJ941>3.0.CO;2-5

Plous, S. (1993). The psychology of judgment and decision making. Mcgraw-Hill Book Company. https://psycnet.apa.org/record/1993-97429-000

Ritchie, J., & Lewis, J. (2014). Qualitative Research Practise: A Guide for Social Science Students and Researchers. London: Sage Publications

Robert Mitchell, J., Shepherd, D. A., & Sharfman, M. P. (2011). Erratic strategic decisions: when and why managers are inconsistent in strategic decision making. Strategic Management Journal, 32(7), 683-704. doi:10.1002/smj.905

Sadler-Smith, E. (2008). The role of intuition in collective learning and the development of shared meaning. Advances in Developing Human Resources, 10(4), 494-508. doi:10.1177/1523422308320065

Salas, E., Rosen, M. A., & DiazGranados, D. (2010). Expertise-based intuition and decision making in organizations. Journal of Management, 36(4), 941-973. doi:10.1177/0149206309350084

Samba, C. (2016). Collective Intuition in Strategic Decision Making: A Research Program, Development and Validation of New Measures, and an Exploratory Study (Doctoral dissertation). http://hdl.handle.net/10657/3547

Samba, C., Van Knippenberg, D., & Miller, C. C. (2018). The impact of strategic dissent on organizational outcomes: A meta-analytic integration. Strategic Management Journal, 39(2), 379-402. doi:10.1002/smj.2710

Samba, C., Williams, D. W., & Fuller, R. M. (2019). The forms and use of intuition in top management teams. The Leadership Quarterly, 101349. doi:10.1016/j.leaqua.2019.101349

Saunders, M., & Lewis, P. (2018). Doing research in business and management. Second Edition Essex: Pearson Education Limited.

Shepherd, N. G., & Rudd, J. M. (2014). The influence of context on the strategic decision-making process: A review of the literature. International Journal of Management Reviews, 16(3), 340-364. doi:10.1111/ijmr.12023

Shin, S. J., Kim, T. Y., Lee, J. Y., & Bian, L. (2012). Cognitive team diversity and individual team member creativity: A cross-level interaction. Academy of Management Journal, 55(1), 197-212. doi:10.5465/amj.2010.0270

Shivakumar, R. (2014). How to tell which decisions are strategic. California Management Review, 56(3), 78-97. doi:10.1525/cmr.2014.56.3.78

Sia, C. L., Teo, H. H., Tan, B. C., & Wei, K. K. (2004). Effects of environmental uncertainty on organizational intention to adopt distributed work arrangements. IEEE Transactions on Engineering Management, 51(3), 253-267. doi: 10.1109/TEM.2004.830859

Simon, H.A. (1956). Rational choice and the structure of the environment. Psychological Review, 63 (3), 129-138. doi:10.1037/h0042769

Simon, H. A. (1987). Making management decisions: The role of intuition and emotion. Academy of Management Perspectives, 1(1), 57-64. doi:10.5465/ame.1987.4275905

Simons, T., Pelled, L. H., & Smith, K. A. (1999). Making use of difference: Diversity, debate, and decision comprehensiveness in top management teams. Academy of Management Journal, 42(6), 662-673. doi:10.5465/256987

Smith, G. F. (2008). Teaching decision making. In The Oxford Handbook of Organizational Decision Making. doi:10.1093/oxfordhb/9780199290468.003.0024

Smith, W. K. (2014). Dynamic decision making: A model of senior leaders managing strategic paradoxes. Academy of Management Journal, 57(6), 1592-1623. doi:10.5465/amj.2011.0932

Simons, T., Pelled, L. H., & Smith, K. A. (1999). Making use of difference: Diversity, debate, and decision comprehensiveness in top management teams. Academy of Management Journal, 42(6), 662-673. doi:10.5465/256987

Sinclair, M., & Ashkanasy, N. M. (2005). Intuition: Myth or a decision-making tool? Management Learning, 36(3), 353-370. doi:10.1177/1350507605055351

Van Knippenberg, D., & Schippers, M. C. (2007). Work group diversity. Annu. Rev. Psychol., 58, 515-541. doi:10.1146/annurev.psych.58.110405.085546

Wally, S., & Baum, J. R. (1994). Personal and structural determinants of the pace of strategic decision making. Academy of Management Journal, 37(4), 932-956. doi:10.5465/256605

Walsh, J. P. (1995). Managerial and organizational cognition: Notes from a trip down memory lane. Organization Science, 6(3), 280-321. doi: org/10.1287/orsc.6.3.280

Williams, K. Y., & O'Reilly III, C. A. (1998). Demography and. Research in Organizational Behavior, 20, 77-140.

Zikmund, W. G., Carr, J. C., & Griffin, M. (2013). Business Research Methods. Cengage Learning.

APPENDICES

Appendix I – Invitation to Participate in Research Study

Dear _____

Further to our telephonic discussion earlier, I am in the process of completing an MBA at the Gordon Institute of Business Science and am currently undertaking the compulsory research component of the degree. The title of my research project is the “Collective Intuition in strategic decision-making amongst top management teams in the FinTech sector”.

I believe that you have the necessary experience and insight that will make an invaluable contribution to my research topic. I would appreciate your participation in this study by agreeing to be interviewed on the subject matter. The interview will be an online, semi-structured, in-depth interview which should last approximately an hour. I plan to conduct interviews during August and September 2021. I have attached a copy of the consent form which will be required to be completed prior to the commencement of the interview.

The data gathered during the interview will be solely for the purposes of my research and all information will remain confidential and anonymous.

The research questions I aim to answer through this process are as follows:

Research Question 1: How do senior managers in the FinTech industry experience the phenomenon of collective intuition in strategic decision-making within a top management team?

Research Question 2: How does the level of integration within the top management team shape the form of collective intuition that emerges during strategic decision-making?

Research Question 3: What are the social, political, and environmental factors that influence the effectiveness of collective intuition in strategic decision-making?

Please confirm your agreement to participate in this process and please indicate a convenient date during August and September 2021 to conduct the interview.

Yours sincerely

Zachariah Badat
Email: 96056691@mygibs.co.za
Cell: 084 478 6647

Appendix II – Participant Consent Form

Dear Sir/Madam

INTERVIEW: PARTICIPANT INFORMED CONSENT FORM

COLLECTIVE INTUITION IN TOP MANAGEMENET TEAMS IN THE FINTECH SECTOR

Researcher: Zachariah Badat, MBA Student at the Gordon Institute of Business Science (GIBS), University of Pretoria.

I am conducting research on the phenomenon of collective intuition, as it is experienced by strategic decision-makers in top management teams operating in the fin-tech sector in South Africa. I would like to understand if different forms of collective intuition arise amongst decision makers in either interdependent, socially integrated, or socio-behaviourally integrated top management teams. I would also like to understand what factors may influence the effectiveness of collective intuition in strategic decision-making under conditions of uncertainty.

Your participation in this research is entirely voluntary and you can withdraw at any time without penalty. The semi-structured interview will last approximately 30-45 minutes and may be voice recorded, with your permission. This is to ensure that all key points are captured for the benefit of my research. You may choose to not be recorded. All results and data obtained will be kept confidential and aggregated data will be reported anonymously.

If you have any questions or concerns, please contact either myself or my supervisor using the details provided below. We sincerely appreciate your participation in this research.

Researcher: Zachariah Badat
Email: 96056691@mygibs.co.za
Cell: 084 478 6647

Supervisor: Prof Charlene Lew
Email: lewc@gibs.co.za
Cell: 082 532 3226

Date: _____

Signature of Participant: _____

Signature of Researcher: _____

Appendix III – Interview Guide

No.	Question
1	How would you describe your understanding of intuition in individual decision-making?
2	How would you describe your understanding of collective intuition in group decision-making in top management teams?
3	Do you believe that the Top Management Team in your organisation uses its collective intuition when making time sensitive or critical strategic decisions?
4	Can you describe your experience of strategic decision-making as part of the Top Management Team?
5	How would you describe the social integration of the Top Management Team in your organisation?
6	What are the social dynamics that you observe between the different actors in the Top Management Team when making intuitive decisions?
7	Are you able to recall and describe a situation when the Top Management Team's collective intuition led to a successful outcome?
8	Are you able to recall and describe a situation when the Top Management Team's collective intuition led to a negative outcome?
9	Do you think that harnessing the collective intuition of the Top Management Team enhances the quality of decision-making, and if so how? If not, please explain further.
10	What, in your view, are the factors that influence the effectiveness of collective intuition within Top management teams during strategic decision-making?

Appendix IV – Ethical Clearance

11 August 2021

Zachariah Badat

Dear Zachariah Badat,

Please be advised that your application for Ethical Clearance has been approved.

You are therefore allowed to continue collecting your data.

We wish you everything of the best for the rest of the project.

Kind Regards

GIBS MBA Research Ethical Clearance Committee

Appendix V – Turn It in Report

Turnitin Originality Report

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