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Thinking about Strategic Thinking: Putting Top Management Teams' Strategic Decision-Making Processes into a Double-Layered Contextual Model

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2021

Lancaster University

Abstract:

In the past three decades, upper echelon studies have generated inconclusive findings regarding the direct link between top management team (TMT) characteristics and various organisational outcomes. The heterogeneous results have hinted at a missing link between the "who", describing the characteristics of decision-makers, and organisational outcomes, labelled as a "black box" problem. It is the missing theoretical constructs to explain "relationships between demographic variables and organisational outcomes" (Lawrence, 1997: 1). The process by which a strategic decision is made by a TMT, the strategic decision-making process (SDMP), could be a critical explanation for the "black box" problem. So far, SDMP studies primarily see strategic decisions as the outcome of rational processes but overlook intuitive elements. Therefore, the current research draws upon the dual-process theory to investigate a TMT's SDMP from a cognitive perspective. However, TMT's SDMP is not free of constraints, highlighting the relevance of contingency theory. By combining dual-process theory and contingency theory, this study develops a double-layered contextual model of SDMP to understand the upstream development and downstream application of TMT's SDMP, which contributes to a richer understanding of the effects of upper echelons on organisational performance.

Mergers and Acquisitions (M&A), as rare and complex strategic decisions, have been selected as the research context. The conceptual model was examined empirically across a sample of 109 M&A transactions. The data was collected via cross-sectional primary data research from British firms that made acquisition decisions between 2014 to 2018 and analysed with partial least square (PLS) structural equation modelling (SEM). The findings indicate the duality of TMT's SDMPs (i.e. procedural rationality and collective intuition). This research also finds that most of TMT social-psychological characteristics (i.e. cohesion, behavioural integration and transactive memory system) affect the development of SDMP only if considering the organisational contexts (i.e. organisational structure and board strategic involvement). Similarly, the effect of SDMP on M&A performance is largely contextual and depends on decision-making contexts (i.e. environmental dynamism and the importance of strategic decision). In light of those findings, this research identifies important implications for SDMP and M&A research and practices.

Keywords: Upper Echelon Theory, Top Management Team, Strategic Decision-making Process, Dual-Process Theory, Contingency Theory, Mergers and Acquisitions (M&A)

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Chapter 1: Introduction

Upper echelon theory proposes that an organisation's strategic choices and performance are influenced by its dominant coalition's perception of, and reflection upon, the external environment through filtering and processing information (Hambrick and Mason, 1984).
The dominant coalition in the organisation consists of senior managers, the top management team (TMT), who is collectively in charge of directing the organisation rather than the CEO as an individual per se (Hambrick, 2007). As such, strategic choices depend on TMT's observable and psychological characteristics that determine how they perceive the external environment (Hambrick and Mason, 1984). Traditionally, the research investigates a direct outcome link between TMT demographic characteristics and various organisational outcomes, such as team tenure and organisational performance (e.g. Smith et al., 1994; Haleblian and Finkelstein, 1993), team educational level and organisational innovation (Bantel and Jackson, 1989), team size and firm performance (Haleblian and Finkelstein, 1993) and TMT demographic faultline and strategic change (Richard et al., 2019).

However, combined, studies on the direct outcome link, independent of whether it is, for example, firm performance or innovation, provide mixed results ranging from positive (e.g. Smith et al., 1994; Certo et al., 2006) to negative (e.g. Murray, 1989). These heterogeneous results have traditionally been attributed either to different measurements or conceptualisation approaches (Harrison and Klein, 2007) or different theoretical lenses, such as the similarity-attraction (Byrne, 1971) or information-processing paradigm (Daft and Lengel, 1986). However, a more fundamental reason for those inconsistencies can be found in the missing link between TMT characteristics and organisational outcomes (Hambrick, 2007). While previous studies investigated the "who", describing the characteristics of decision-makers (e.g. Haleblian and Finkelstein, 1993; Richard et al., 2019), the "how", describing how decisions have been met, has been ignored for a long time. The missing link from "who" to organisational outcomes has been labelled as the "black box" problem (Lawrence, 1997).

In the past two decades, the "black box" problem has been tackled from a group process perspective (Shaw, 1981). As such, scholars investigated, for example, group conflicts (e.g. Knight et al., 1999; Qian et al., 2013) or team learning (Tekleab et al., 2016) as intermediaries for the direct effect of TMT characteristics on organisational outcomes. Again, the results are

mixed, and the mediating effects range from partial (e.g. Knight et al., 1999) to full (e.g. Tekleab et al., 2016) or insignificant (e.g. Qian et al., 2013). Those mixed results suggest that the group process perspective may not provide a comprehensive solution to the "black box" problem, and other mechanisms might be at play.

To explain previous heterogeneous research results, scholars might need to look at a vital responsibility of TMT, which is making strategic decisions (Elbanna, 2006). Hence, the process by which a strategic decision is made by the TMT, the strategic decision-making process (SDMP) (Elbanna, 2006), could be an alternative explanation for the “black box” problem. In line with strategic decision-making researchers, I argue that information processing and decision making are closely linked to each other in light of the information process theory (Daft and Lengel, 1986), and decisions affect outcomes despite severe causal ambiguities (King and Zeithaml, 2001). Interestingly, there is an absence of empirical research investigating this intermediary that could contribute to our understanding of the "black box". Apart from a handful of studies (e.g. Miller et al., 1998; Goll and Rasheed, 2005; Elbanna and Child, 2007; Souitaris and Maestro, 2010; Shepherd and Rudd, 2014; Samba et al., 2018), the SDMP has been broadly ignored by upper echelon scholars. A typical pattern of these studies is that strategic decisions are treated as the outcome of rational processes, such as procedural rationality (e.g. Dean and Sharfman, 1993), comprehensiveness (Fredrickson and Mitchell, 1984) or formal analysis (Langley, 1989). However, individual decisions are rarely rational and affected by cognitive biases (Cyert and March, 1963). As such, team-level decisions might not just be the outcome of a rational decision-making process but involve intuitive elements. As a result, the current research aims to address this missing link by investigating TMT's SDMP by taking a cognitive perspective. This endeavour will allow us to consider both rational and intuitive patterns in the SDMP.

A prominent theory that focuses on individuals' cognitive information-processing systems is the dual-process theory (Evans, 2003). It advocates the parallelism of rational and intuitive decision-making patterns (Evans, 2008). This theoretical perspective might also apply to the team-level decision-making process (Healey et al., 2015), such as the SDMP of TMT. During the past decades, more and more research started to apply different individual decision-making perspectives to investigate team-level cognition or organisational level decision making (Salas et al., 2010; Bingham and Eisenhardt, 2011; Bingham et al., 2019). For example, building on individual heuristics research (Goldstein and Gigerenzer, 2002), Bingham and Eisenhardt

(2011) investigate organisational heuristics, cognitive shortcuts that offer a new problem-solving structure. Eisenhardt (1998: 66) introduces the concept of collective intuition that "enhances the ability of TMT to see threats and opportunities sooner and more accurately". In particular, Healey et al. (2015) propose the applicability and possibility of applying the individual-level dual-process theory to the team level. Hence, this study argues that a dual-process perspective will be imperative to understand the development and application of the SDMP of TMT. As such, this research aims to take this perspective to unravel the missing links of the "black box" between TMT characteristics and organisational outcomes.

However, past research has shown that TMT's SDMP is not free of constraints (Shepherd and Rudd, 2014; Elbanna et al., 2020). Information processing and decision making are contingent on different contexts, such as the organisational structure (Joseph and Gaba, 2020). The organisational structure "guides the selection, alteration, and retention of particular frames, categories and vocabularies" (Joseph and Gaba, 2020: 288). Hence, it could influence TMT's information-processing and collective decision-making processes. This potential role of contexts highlights the relevance of contingency theory (Donaldson, 2001), as organisational performance or goal achievement is dependent on the congruence between organisational characteristics and other contingencies (Morton and Hu, 2008).

A contingency perspective is quite common in SDMP literature to test the boundaries of specific and taken-for-granted relationships. There are four groups of contextual factors that have been taken into account in the SDMP literature: environmental contexts, organisational contexts, strategic decision characteristics and top management characteristics (Shepherd and Rudd, 2014; Elbanna et al., 2020). Interestingly, research so far has dominantly focused on the downstream contexts in which the SDMPs unfold their impact on various outcomes (Shepherd and Rudd, 2014). For example, how does environmental uncertainty moderate the direct relationship between rational SDMP and multiple outcomes (e.g. organisational performance)? (e.g. Bourgeois and Eisenhardt, 1988; Fredrickson, 1984; Fredrickson and Mitchell, 1984; Miller, 2008; Elbanna and Child, 2007).

However, the SDMP literature has overlooked the contexts in which a TMT develops its SDMP. Joseph and Gaba (2020) state that how an organisation makes decisions is contingent upon multiple categories of contexts. In particular, selected evidence suggests that the development of rational and intuitive decision-making process is also embedded in different contexts. For

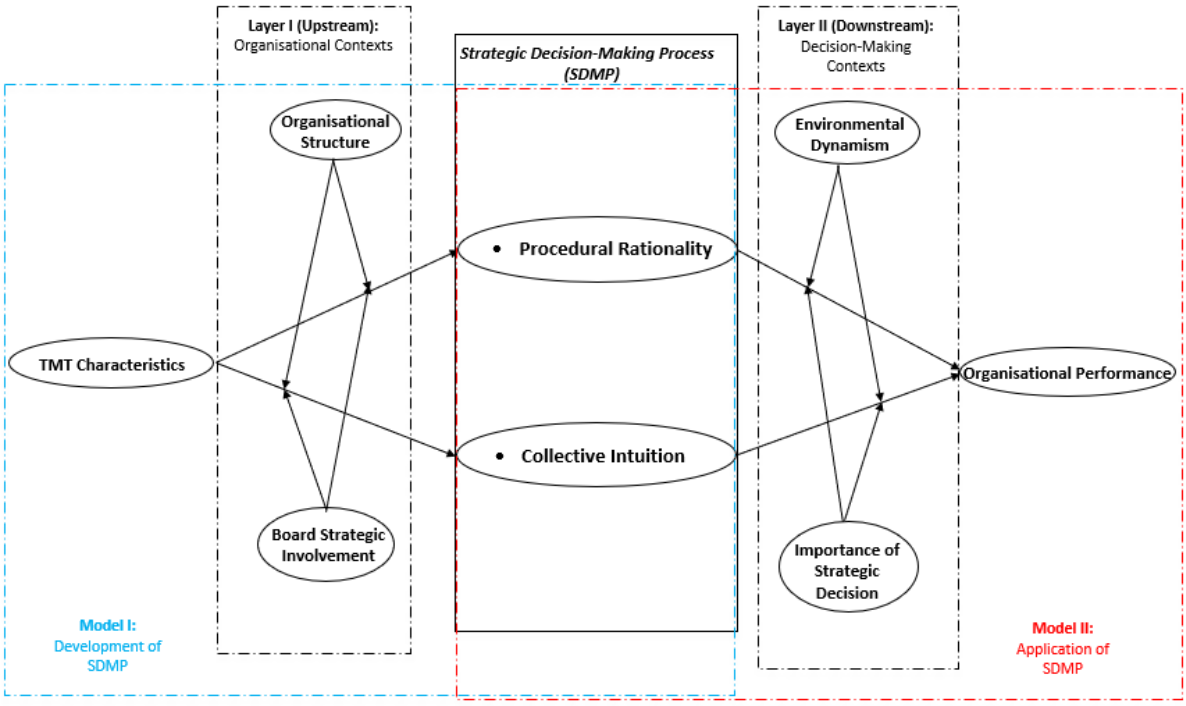
example, Langley (1989) proposes the potential impact of organisational structure on the extent to which an organisation is making a formal analysis. Dayan and Elbanna (2010) find that a new product development team is more likely to use team intuition during the collective decision-making process when the external environment is uncertain. Hence, SDMP scholars should try to understand the contexts for both the development and application of the rational and intuitive aspects of SDMP. This endeavour highlights the inextricable link between dual-process theory and contingency theory.

Combined, taking an integrative perspective, the present research aims to develop a "double-layered contextual model of SDMP" by combining upper echelon theory, dual-process theory and contingency theory. In particular, Mergers and Acquisitions (M&A) has been seen as a rare and complex strategic decision made by an organisation (Zollo, 2009). Additionally, M&A decisions have a high level of intensity of conflicts (Weber et al., 2012), distinguishing them from other similar strategic decision (e.g. joint venture and strategic alliance). As such, the current research will develop this conceptual model in the M&A context. This endeavour aligns with a crucial SDMP literature call (e.g. Shepherd and Rudd, 2014) that more investigation of the specific strategic decision would be needed to understand further the underlying rationale behind the inconsistent findings of the literature.

The double-layered contextual model of SDMP intends to make three primary contributions. Firstly, the dual-process theory's underlying assumptions will be transferred from the individual to the team level, particularly to the TMT level. This transfer is in line with the research that aims to understand team decision-making (Healey et al., 2015) and organisational decision-making behaviours (Bingham and Eisenhardt, 2011). Secondly, drawing upon contingency theory, the current study investigates the contexts of both development and application of the SDMP, which will provide a more comprehensive understanding of the TMT characteristics-SDMP-outcomes relationships. By exploring the contexts of SDMP, this research aims to enrich our knowledge of the upper echelon theory. Thirdly, by integrating upper echelon, dual-process and contingency elements in the "double-layered contextual model of SDMP", this study will provide richer insights into the "Puzzle of M&A Performance" (Bauer et al., 2019: 2). It is the fact that even though tremendous amounts of time and resources would need to be involved in the acquisition-related events, some acquisitions have not achieved the intended value or even damaged the acquiring firm’s initial firm value (King et al., 2004; Christensen et al., 2011).

The general overview of the double-layered contextual model of SDMP is described in the following *Figure 1*. Chapter 2, Chapter 3 and Chapter 4 will first review the literature of three theoretical foundations of the current research: upper echelon theory, dual-process theory, and contingency theory.

Figure 1: General Overview of Double-Layered Contextual Model of SDMP

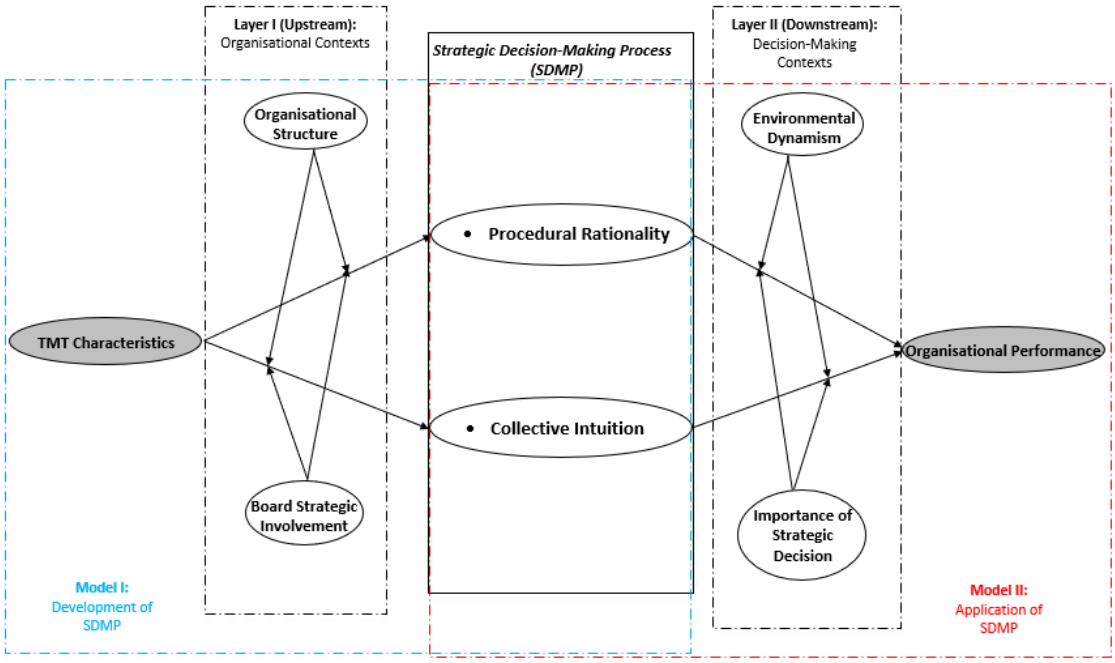


Chapter 2: Theoretical Background: Upper Echelon Theory

Hambrick (2007) states that the upper echelon theory's central premise is that executives' experiences, values, and personalities develop their interpretation of the focal situation they face, whereby they can then make strategic choices accordingly. Hence, this upper echelon perspective is built on the strategic choice perspective (Child, 1972), arguing that its TMT's strategic choices determine an organisation's direction and success. In light of the upper echelon perspective, the first research stream investigates the relationships between the upper echelon's characteristics (e.g. CEO and TMT) and various organisational outcomes (see Joshi et al., 2011 for a review). The second research stream focuses on the effect of TMT diversity/composition/heterogeneity (ibid).

In light of the shaded areas in the following *Figure 2*, this chapter will review the literature regarding the relationships between CEO/TMT characteristics and TMT diversity and various organisational outcomes.

Figure 2: Focus of Chapter 2



2.1 CEO/TMT characteristics

CEO has been regarded as the most dominant and influential person in a top management team (Hambrick, 2007), so this section will first review the studies regarding the CEO's characteristics. Hambrick and Mason (1984) propose that using observable characteristics (e.g. demographic characteristics) as proxies for the upper echelons' psychological and cognitive feature is beneficial and applicable. Some crucial reasons include: psychological characteristics are not convenient to measure; some demographic characteristics do not have close equivalents; the application of upper echelon in managerial practices requires the executives' demographic information. However, many studies (e.g. Papadakis et al., 2010; Kilduff et al., 2000; Samba et al., 2018) have expressed their criticisms about using demographic characteristics proxies as surrogate measures of executives' actual cognitive or behavioural traits. Hence, studies have started to directly look at the CEO' and TMT's psychological characteristics and investigate their various impacts. The following sections will review the results of the widely-used demographic and psychological characteristics in the literature.

2.1.1 Demographic Characteristics

2.1.1.1 Age

The age of executives or the average age of the TMT has been seen as an essential demographic characteristic that affects the behaviour, perception and decision-making process (Hambrick and Mason, 1984; Greening and Johnson, 1996; Finkelstein et al., 2009). Hitt and Tyler (1991) find the significant moderating role of executives' age in the relationship between using objective criteria during the SDMP and the strategic evaluation of acquisition candidates. Younger executives are more likely to use different objective criteria to evaluate the acquisition candidate (ibid). Brouther et al. (2000) show that younger executives tend to have more entrepreneurial styles (e.g. risk-averse and innovative) when making strategic decision compared to the older ones. Forbes (2005) finds that older entrepreneurs are more likely to make faster strategic decisions than younger entrepreneurs in new ventures. Wiersema and Bantel (1992) find that TMTs with low average age tend to make more corporate strategic change. Some studies also find interesting findings on the impact of CEOs' or TMT's average age in SDMP. For example, Francioni et al. (2015) find a positive relationship between executives' and entrepreneurs' age and political behaviours, but no significant relationship is

found for the rational decision-making process. Similarly, Goll and Rasheed (2005) also do not find any significant effect of TMT age on rationality during the SDMP (e.g. extensive analysis). Bantel (1993) argues that TMT may not be as important as other team characteristics (e.g. tenure) in influencing planning formality.

2.1.1.2 Tenure

Top executives' tenure has been seen as another crucial demographic characteristic (Papadakis and Barwise, 2002; Wiersema and Bantel, 1992). It is potentially associated with various organisational outcomes, such as financial performance (e.g. Smith et al., 1994; Henderson et al., 2006). Bantel (1993) finds the negative link between TMT tenure and the team's planning formality. This finding contradicts the evidence found in Goll and Rasheed (2005), who support the positive relationship between TMT tenure and the rationality during TMT's SDMP. However, Papadakis and Barwise (2002) and Papakadis et al. (1998) investigate the CEO, the most influential member in a TMT (Hambrick and Mason, 1984). They find no significant association between CEO's tenure and rationality in the SDMP, but a positive relationship between CEO's tenure and hierarchical decentralisation during the SDMP.

In addition, Henderson et al. (2006) find that firm performance improves with the CEO's tenure in stable industries (e.g. food industry) but a decline in dynamic industries (e.g. computer). Simsek et al. (2005) reveal the different impact of CEO's and TMT's tenure when trying to unpack the determinants of TMT's behavioural integration. The evidence shows that CEO's tenure is positively associated with TMT's behavioural integration, but TMT's tenure does not have any significant effect. In light of the most recent review study from Elbanna et al. (2020: 12), they claim that TMT tenure has been measured in various types, such as "tenure in position", "organisational tenure", and "tenure in the TMT", but the tenure in the industry is still under research.

2.1.1.3 Educational Level

Hambrick and Mason (1984) claim that education level could be an appropriate proxy to surrogate the CEO or TMT's cognitive knowledge and skills. Hence, it can potentially influence various organisational outcomes, such as corporate strategic change (Wiersema and Bantel, 1992). TMTs with higher educational level are also expected to be more able to avoid crisis

(Green and Johnson, 1996). Notably, the CEO' or TMT's educational level has been found to have a potential influence on SDMP. For example, Francioni et al. (2015) find a positive relationship between entrepreneurs' or senior managers' educational level and rationality during the SDMP in SMEs but not with political behaviour. This finding is in line with Goll and Rasheed (2005), who provide empirical evidence of the positive relationship between TMT educational level and rationality during SDMP. Papadakis and Barwise (2002) find a positive relationship between TMT's educational level and rationality/comprehensiveness but unable to find any connection to the CEO's education level. Hitt and Tyler (1991) also do not find the hypothesised moderating effect of executives' educational level on the relationship between using objective criteria during the SDMP and the evaluation of the acquisition candidates. Similarly, Brouther et al. (1998) do not find any moderating effect of top-level managers' educational level on the relationship between environmental factors (e.g. environmental turbulence) and strategic aggressiveness.

2.1.1.4 Experience

Upper echelon scholars have investigated the type and the amount of experience of executives or TMT, as the experience will influence how executives use their cognitive ability to solve problems in the environment (Bantel and Jackson, 1989). The executive experience can directly influence decision-making outcomes (e.g. decision-making speed) or indirectly affect those outcomes through SDMP. For example, Forbes (2005) finds that entrepreneurs with previous entrepreneurial experience are more likely to make faster strategic decisions. The empirical evidence in Hitt and Tyler (1991) support their initial assumption that years of executives' work experience moderate the relationship between using objective criteria and their evaluation of acquisition candidates. However, Francioni et al. (2015) do not find any significant relationship between top managers' prior international experiences and rationality and political behaviours when making international strategic decisions. Judge and Miller (1991) advocate that the significant relationship between the board's experience (e.g. average years of working experience in the focal industry) and decision speed is contingent upon the contexts, namely, a positive relationship in textiles and biotechnology industries but a negative relationship in the non-profit hospitals.

2.1.2 Psychological Characteristics

Despite the advantages of using demographic characteristics as proxies to measure the CEO' or TMT's actual psychological traits, this approach is not without criticism (Papadakis et al., 2010). Kilduff et al. (2000) do not find any significant relationship between demographic diversity and cognitive diversity, indicating that demographic characteristics may not be the appropriate proxies to substitute corresponding psychological characteristics. Hence, some upper echelon scholars have started to directly test the psychological characteristics, such as the decision-making style (Nutt, 1990). The following section will review the main existing psychological characteristics used in the literature.

2.1.2.1 Cognitive Style/Decision-Making Style

Cognitive style is the individual differences in how people think and process information, perceive the environment, learn and deal with the problem and relate to each other (Witkin et al., 1977; Hough and Ogilive, 2005). In a simulation experiment from Nutt (1990), top executives and middle managers were required to make strategic decisions. They find that cognitive style (i.e. decision-making style) is relevant to top managers' decision-making intention and the perceived risks associated with the strategic decision. This finding has resonated with the argument made by Henderson and Nutt (1980) that the cognitive style of executives is an essential determinant of their behaviour and affects how they make strategic decisions and assess the risk. Nutt (1993) find that top executives with a flexible style tend to be aggressive decision-makers, and they are more tolerant of ambiguity and uncertainty during the decision-making process. Hough and Ogilvie (2005) undertake a strategic decision-making simulation with executives where they find the differences between iNtuiting/Thinking executives and Sensing/Feeling executives in terms of the numbers of decisions they made and perceived effectiveness of the decision.

In addition, there is a research stream that draws upon the theory/assumption from psychology or behavioural science, such as the dual-process perspective (Evan, 2003). Those studies try to understand how individuals with intuitive/analytical styles make strategic decisions (see Armstrong et al., 2012, for a review). Organisational behavioural scholars and decision-making scholars have used the cognitive Styles Index (Allison and Hayes, 1996) and Rational-Experiential Inventory (Epstein, 1996). For example, Kickul et al. (2009) find the difference

between the individuals' cognitive preference for rationality or intuition regarding the perception and assessment of their entrepreneurial self-efficacy when they decide to start a new venture. People with intuitive cognitive style have more confidence in their ability to identify opportunities (ibid). In contrast, people with an analytical cognitive style are more confident in assessing, evaluating, and arranging resources. Khatri and Ng (2000) also find that decisions made by executives with intuitive cognitive styles would lead to positive financial performance in unstable industries, such as the computer industry.

2.1.2.2 Risk Propensity

Risk propensity is an individual's attitude towards risk, and it is the extent to which the individuals' willingness to take or avoid the risk (Papadakis et al., 1998). Studies have found a significant relationship between CEO's risk propensity and SDMP. For example, Papakadis et al. (1998) find that the CEO's risk propensity negatively affects formalisation during the SDMP. Francioni et al. (2015) also find similar results in Italian SMEs that entrepreneurs' or senior managers' risk attitude positively affects rationality and political behaviours during the SDMP. However, some studies do not find any significant effect of CEOs' or top managers' risk propensity. For example, Papadakis and Barwise (2002) cannot provide empirical evidence to support their initial hypotheses of a potential relationship between the CEO's risk propensity and SDMP. Brouthers et al. (2000) also do not find any significant moderating effect of top-level managers on the relationship between environmental factors and strategic aggressiveness. Hitt and Tyler (1991) do not see the significant effect of top executives' risk propensity on the relationship between objective criteria and strategic evaluation of acquisition candidates. Jansen et al. (2011) investigate the SDMP of SMEs' business owners. They do not find any significant relationship between their risk acceptance and strategic decision effectiveness. Besides, Wally and Baum (1994) find that the CEO's tolerance for risk is positively associated with the strategic decision-making speed.

2.1.2.3 Need for Achievement

Need for achievement "gauges a person's need to meet standards of excellence, to accomplish difficult tasks, and to attain success" (Miller et al., 1988: 546). In the upper echelon literature, the CEO's desire for achievement has been seen as one of the most predictive personality that affects the SDMP and the decision outcomes (e.g. Miller et al., 1988; Papadakis and Barwise,

2002). The previous literature has provided inconsistent result pertaining to the impact of a CEO's need for achievement in strategic decision making. Miller et al. (1988) find that CEO's need for achievement indirectly affects the structure (formalisation and integration) through its positive influence on the rational SDMP. However, Papadakis and Barwise (2002) and Papadakis et al. (1998) are unable to any significant relationships between CEO need for achievement and various SDMPs (e.g. rationality and politics).

2.1.3 Other Characteristics

Clark and Maggitti (2012) investigate the effect of TMT potency on strategic decision-making speed. They define potency in the context of TMT as the extent to which the TMT is confident about its ability to be effective generally. They find that potent TMTs would be able to make a fast strategic decision. After their post-hoc analysis, they also find that potent TMTs could lead to high performance or low performance, depending on the external environment. Souitaris and Maestro (2010: 653) look at a cultural dimension of TMT characteristics, polychronicity. It is the extent to which "TMT members mutually prefer and tend to engage in multiple tasks simultaneously or intermittently instead of one at a time and believe that this is the best way of doing things" (ibid). They find that TMT polychronicity positively affects strategic decision-making speed, negatively impacts strategic decision-making comprehensiveness, and positively impacts organisational financial performance under a dynamic environment. Papadakis et al. (1998) and Papadakis and Barwise (2002) find that TMT competitive aggressiveness is the most salient TMT characteristics. It determines the characteristics of SDMP, such as rationality, decentralisation and lateral communication. Mitchell et al. (2011) investigate the relationship between the CEO's metacognitive experience (conscious experience) and erratic strategic decision-making (inconsistent judgments that shape the direction of the firm). They find that CEOs with a high level of metacognitive experience are less likely to make erratic strategic decisions. Haleblian and Finkelstein (1993) find that firms with a bigger TMT size and with a less dominant CEO are more likely to be profitable in a turbulent environment (e.g. computer industry) than a stable one (e.g. natural gas distribution).

2.2 TMT Composition

The above section 2.1 has reviewed the literature in the first upper echelon research stream regarding the CEO's/TMT's different characteristics. Another upper echelon research stream tries to investigate the TMT composition's influence (Joshi et al., 2011). This specific research is in line with the general group diversity research (see Van Knippenberg et al., 2004 and Mello and Rentsch, 2015 for a review). Different terms, team composition, team diversity and team heterogeneity have been used interchangeably by general group scholars (Barkema and Shvykov, 2007) and upper echelon scholars (e.g. Knight et al., 1999; Kilduff et al., 2000; Wang et al., 2016).

Diversity or heterogeneity has been referred to as the differences between individuals in a team and specific attributes that may result in a perception that individuals themselves are different from others (Williams and O'Reilly, 1998). Like the first upper echelon research stream, the observable team diversity (e.g. demographic team diversity) has dominated this TMT composition research stream in the upper echelon literature (e.g. Simon et al., 1999; Yang and Wang, 2014; Bengtsson et al., 2020). However, there has been a surge of interests that focus on the psychological diversity in the TMT. Given the inherent downsides of using demographic traits as the proxies for psychological traits of the team (Papadakis et al., 2010; Samba et al., 2018), some upper echelon scholars have tried to directly investigate the impact of team psychological diversity on firm performance, team process, such as cognitive diversity (e.g. Miller et al., 1998; Olson et al., 2007a; 2007b).

The following sections will firstly review two theoretical lenses/paradigms that theorise the team composition research stream. After that, relevant studies regarding the TMT demographic diversity and TMT psychological diversity will be reviewed. In addition, the next sections will also review the most relevant team composition studies from the general team group research realm as a complement.

2.2.1 Information Processing Versus Social Categorisation Perspective

In light of an early comprehensive review study from Williams and O'Reilly (1998), team diversity researchers take two different theoretical perspectives to peer into the phenomenon of team diversity by which they hold opposing predictions. Firstly, according to Daft and

Lengel (1986), organisations, as the social systems, need to process information where the amount and the nature of the information processing determine how the organisation can reduce equivocality and uncertainty. Similarly, the positive decision-making outcomes are attributed to how the information is exchanged and processed in the team (Brockmann and Anthony, 2002; Homberg and Bui, 2013). On this basis, scholars propose that diverse teams would be able to have a bigger pool of resources coming from different individuals' divergent knowledge, skills and abilities. Hence, the diversity enables the team to have better team performance (e.g. Martin et al., 2013) and innovation (e.g. Bantel and Jackson, 1989; Qian et al., 2013; Shin et al., 2012; Barkema and Shvyrkov, 2007).

Another theoretical perspective is social categorisation (Turner et al., 1987), arguing that individuals tend to categorise themselves into groups based on specific traits. People favour their so-called in-group members rather than the out-group members (ibid). In a similar vein, the similarity-attraction paradigm (Williams and O'Reilly, 1998; van Knippenberg and Schippers, 2007) proposes that team members tend to be favourable toward the people who are similar rather than dissimilar to themselves in the team. Guided by the two aforementioned distinguishing theoretical perspectives, group scholars and upper echelon scholars have made contradictive assumptions and received inclusive research results. The following two sections will review the inconsistent studies that focus on demographic or psychological diversity.

2.2.2 Demographic Team Diversity

To review this scattered literature in a holistic manner, the following review will adopt and modify two TMT demographic categories based on Simons et al. (1999): less job-related diversity (e.g. age, gender, nationality) and job-related team diversity (e.g. tenure, educational level, functional background, experience).

Regarding the first category, Maccurtain et al. (2010) find that TMT age diversity is significantly linked to positive knowledge sharing in the team, contributing to organisational innovation. Yang and Wang (2014) investigate the relationships between TMT's diversity of age and gender and the firm's entrepreneurial strategic orientation in which they find a significant positive relationship. Nielsen and Nielsen (2013) find empirical support for the positive relationship between TMT nationality diversity and firm performance. The

relationship will become most positive when the TMT has longer team tenure, the firm is highly institutionalised, or the environment is munificent.

However, some studies also provide empirical evidence for the negative effect of less job-related team diversity. For example, in a general team setting, Pelled et al. (1999) reveal that team's age diversity will result in a high level of emotional conflicts within the team, which leads to negative team performance. Bengtsson et al. (2020) also find a negative relationship between TMT age diversity, nationality diversity and the firm's coopetition capability. Still, they are unable to find any significant effect associated with TMT gender diversity. Meanwhile, a handful of studies could not find any significant impact of the less job-related team diversity. For instance, Green and Johnson (1996) find that TMT age heterogeneity has no significant impact on a firm's ability to avoid the crisis. Simons et al. (1999) do not find any significant direct effect of TMT age diversity on firm financial performance or the indirect impact through decision-making comprehensiveness. Knight et al. (1999) also cannot find any significant relationship between TMT age diversity and TMT's strategic consensus. In the context of the new product development team, Dayan et al. (2012) do not find the significant effect of team age diversity and gender diversity on speed to market through political behaviour.

For the other category of TMT diversity (i.e. job-related team diversity), like the first one, the research results regarding its direct and indirect effect on the performance are also inconclusive. Regarding the effect of TMT tenure diversity, Green and Johnson (1996) find that TMT's functional background and tenure heterogeneity are positively linked to the firm's ability to avoid the crisis. In the general group research, Pelled et al. (1999) also find the team functional background diversity will positively impact team performance through the mediating effect of team task conflict. Martin et al. (2013) find the team expertise diversity (i.e. the difference in the types of knowledge, skills and capability team members have) negatively affects team performance. However, team expertness diversity (i.e. level of expertise of team members) has a more positive effect and the team psychological safety moderates the relationships.

Simons et al. (1999) state that TMT tenure diversity interacts with TMT debate to influence the firm's financial performance. The positive effect of tenure diversity on financial performance is also partially mediated by comprehensiveness during the SDMP (ibid). Smith et al. (1994) also find a direct and indirect effect of TMT heterogeneity on firm performance (i.e. sale growth). They find the direct positive relationship between TMT heterogeneity of year

of education on firm sale growth and the indirect positive relationship between TMT heterogeneity of experience on firm sale growth through team formal communication system.

Regarding the positive effect of the job-related TMT diversity, there is plenty of other evidence in the literature. For example, some studies find the positive role of TMT functional background diversity in decision effectiveness (Bjørnåli et al., 2011), financial performance (Boone and Hendricks, 2009) and coopetition capability (Bengtsson et al., 2020). Some studies find the positive effect of TMT education diversity on long-term adaptability (Murray, 1989), coopetition capability (Bengtsson et al., 2020) and TMT behavioural integration (Simsek et al., 2005). Some studies find the positive effect of TMT functional experience on firm entrepreneurial strategic orientation (Yang and Wang, 2014) and innovation (Bentel and Jackson, 1989). Other studies find the positive effect of TMT tenure diversity on strategic consensus (Knight et al., 1999) and the novelty of investment's geographic location (Barkema and Shvyrkov, 2007).

However, some studies also find negative or non-significant relationships between TMT job-related diversity and performance or team process. For example, TMT with a high educational diversity level is less likely to develop strategic consensus (Knight et al., 1999). Based on the meta-analysis undertaken by Certo et al. (2006), the demographic heterogeneity (e.g. TMT functional background and educational level) do not have any significant effect on firm financial performance. This result is in line with a recent study that uses the meta-regression analysis to systematically review the TMT diversity-performance relationship where they do not find any significant relationship (Homberg and Bui, 2013). Meanwhile, Simsek et al. (2005) do not find any significant association between TMT functional diversity, TMT tenure diversity and TMT behavioural integration. This non-significant relationship resonates with Simons et al. (1999), who find TMT tenure diversity and TMT functional background diversity are not significantly linked to strategic decision comprehensiveness.

In summary, after reviewing the relevant studies as to the two categories of TMT demographic diversity, the empirical results indicate that the less job-related diversity of a TMT results in more adverse team/firm outcomes. In contrast, TMT job-related diversity is expected to bring positive results. This postulation is in line with the most recent TMT diversity study. Bengtsson et al. (2020) investigate the influence of surface-level TMT diversity (i.e. age, gender and nationality) and deep-level TMT diversity (i.e. education and work experience) on coopetition

capability. They find that the former generally have a negative effect, while the latter exerts a positive impact (ibid).

2.2.3 Psychological Team Diversity

There have been potential pitfalls and criticisms associated with investigating the demographic characteristic as the proxies to substitute the cognitive knowledge and behaviours of the TMT (Papadakis and Barwise, 2002; Samba et al., 2018). Hence, increasing proliferation of studies try to peek into the psychological team diversity directly (e.g. Miller et al., 1998; Olson et al., 2007a; 2007b).

2.2.3.1 Cognitive Diversity

Upper echelon and group scholars have paid attention to a most salient psychological construct, namely, cognitive diversity (e.g. Miller et al., 1998; Olson et al., 2007a). It has been defined as the differences in beliefs and preferences among team members (e.g. TMT members) as to the goals (e.g. strategic goals) for the organisation or the team (Miller et al., 1998).

Despite the relevant small numbers of studies in the literature, the findings pertaining to the effect of team cognitive diversity also appear to be inconclusive, ranging from positive to negative and non-significant. For example, Miller et al. (1998) find the significant negative impact of TMT cognitive diversity on the characteristics of SDMP (i.e. comprehensiveness and extensiveness). They claim that TMT cognitive diversity will indirectly affect firm performance through the SDMP (ibid). In a similar vein, Olson et al. (2007a) identify the positive relationship between TMT cognitive diversity and the team task conflict (i.e. disagreements about achieving the team task). In particular, the TMT competency-based trust reinforces the positive relationship (ibid). They also find the full mediating effect of the TMT task conflict for the relationship between TMT cognitive diversity and decision outcomes (e.g. decision quality and commitment).

In their following study (Olson et al., 2007b), they find that TMT cognitive diversity directly affects strategic decision quality and commitment, and the affect-based and cognition-based trust will mitigate the negative effect. Most recently, Samba et al. (2018) use strategic dissent to capture the divergence in TMT members' beliefs, options and preferences toward the

strategic issues, such as strategic goals and SDMP. Based on a meta-analysis, they find that TMT strategic dissent will negatively affect firm performance. This negative effect is through two important team processes: information-processing (i.e. information elaboration) and social categorisation (i.e. interpersonal relationship).

However, a handful of studies from the general group research literature have provided different team cognitive diversity insights. For example, Shin et al. (2012) find that team cognitive diversity enables the individual members to generate a high level of creativity in team members' high creative self-efficacy. Wang et al. (2016) also identify the positive relationship between team cognitive diversity and team innovation through team intrinsic motivation's full mediating effect. Team transformational leadership positively moderate the relationship between team cognitive diversity and team intrinsic motivation (ibid). Men et al. (2017) study how knowledge sharing within the knowledge worker teams benefits team creativity. They find the positive role that team cognitive diversity plays in helping the team members share expertise and knowledge. Similarly, Van de Vegt and Janssen (2003) also research 41 work teams in the financial sector where they find that task interdependence (i.e. relying on others to carry out their job) is positively related to individuals' innovative behaviours in cognitively diverse teams.

2.2.3.2 Other Team Psychological Diversity

Elron (1997) investigates the effect of TMT cultural heterogeneity. The study finds that it is positively related to the team's issue-based conflict and TMT performance, but no significant relationship with TMT cohesion. Boone and Hendriks (2009) look at the effect of TMT locus of control diversity (i.e. individuals' differences in their beliefs in internal or external control of reinforcement in the TMT). They find its negative effect on firm financial performance, and the negativity will be reinforced when team decision making is decentralised strategic decision-making. Mello and Delise (2015) combine the team conflict management and team cognitive style diversity (i.e. intuitive and rational style). They do not find its indirect relationship with team performance through team cohesion. The positive effect of team cognitive style diversity on team cohesion has been found, and team conflict management positively moderates the relationship (ibid). Barsade et al. (2000) also find the negative relationship between TMT trait (positive affective diversity) and organisational performance (annual market-adjusted return).

2.3 Synthesis of the Two Streams of Upper Echelon Research

This chapter has provided a comprehensive review of the two streams of upper echelon research in the past literature: research regarding the CEO/TMT's characteristics and TMT composition. The first stream focuses on how CEOs' or TMTs' characteristics would affect various types of firm performance, team performance and team processes. Differently, the second stream has been trying to investigate the potential effect of the divergence of individuals' particular characteristics in various team settings.

Both of the research streams share many common limitations. For instance, a large proportion of both research streams have used observable proxies (e.g. CEO age and TMT age diversity) to measure individuals' psychological behaviours or the team's collective cognition (e.g. Simons et al., 1999; Goll and Rasheed, 2005). This endeavour has raised lots of criticism by many upper echelon scholars. They state that the observable characteristics cannot fully capture and predict individuals and teams' actual cognitive process (e.g. Samba., 2018). Secondly, both of the research streams have provided inconsistent findings as to how the CEO's/TMT's characteristics and TMT composition could affect various organisational outcomes, such as organisational performance and innovation (Joshi et al., 2011).

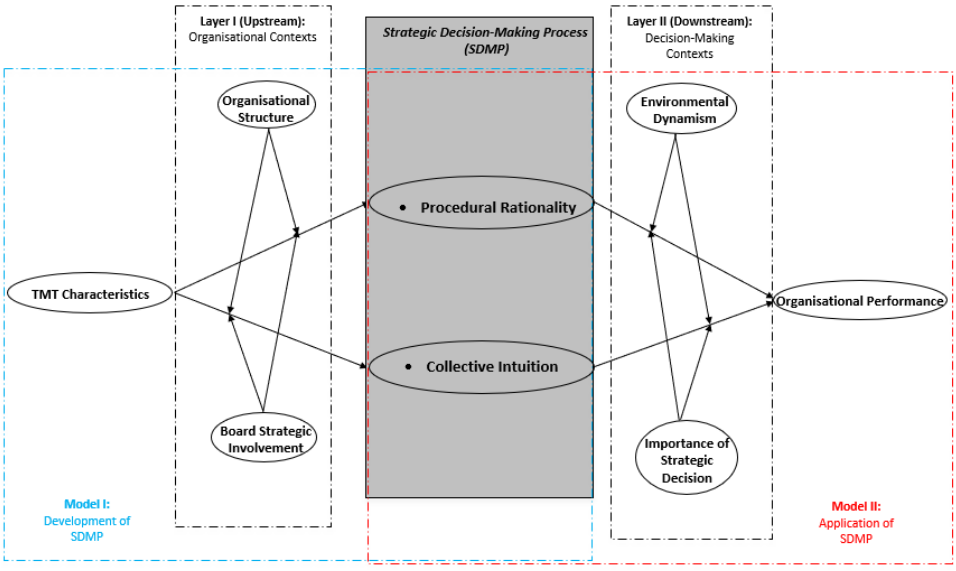
Due to both upper echelon research streams' common limitations, there has been a strong call for fully understanding the underlying reasons for those inconsistent research findings (e.g. Shepherd and Rudd, 2014). Some possible explanations have been proposed in the literature, such as different measurements or conceptualisation approaches (Harrison and Klein, 2007) or different theoretical lenses such as the similarity-attraction (Byrne, 1971) or information-processing paradigm (Daft and Lengel, 1986). However, this issue has still not been fully understood to the author's best knowledge so far. This has highlighted the vital need for future studies to find more promising explanations for the upper echelon literature's inconclusive findings.

Having reviewed the critical literature of the first theoretical background in the present research (i.e.the upper echelon theory), the next chapter, chapter 3, will introduce the "black box" problem (Lawrence, 1997) and the dual-process theory (Evan, 2003). This endeavour will provide a meaningful answer to explain both upper echelon research streams' common shortcomings identified in this chapter.

Chapter 3: Theoretical Background: Dual-Process Theory

The previous chapter 2 has provided a comprehensive review of the key literature for the present research's first theoretical background, the upper echelon theory. The review of both upper echelon research streams has indicated heterogeneous findings for the direct relationships between CEO/TMT characteristics and TMT composition and various organisational outcomes. This has sparked many upper echelon scholars' greatest interest in revealing the main underlying reasons. The past literature has found some possible explanations, such as the over-reliance on the use of demographics as the proxies to measure psychological characteristics (e.g. Papadakis and Barwise, 2002) and disparities in conceptualising and measuring the same construct (e.g. Harrison and Klein, 2007). However, a more fundamental reason for those inconsistencies can be found in the missing link between TMT characteristics and organisational outcomes (Hambrick, 2007). This missing link could be seen as the "how", describing the important connection between the "who", the characteristics of CEO/TMT (e.g. Haleblian and Finkelstein, 1993; Richard et al., 2019) and the organisational outcomes. It has been labelled as the "black box" problem (Lawrence, 1997). In light of the shaded area in the following *Figure 3*, this chapter will peer into this "black box" by introducing the second theoretical background of the present research, the dual-process theory. To be specific, the "black box" problem will be identified first, followed by the comprehensive review of the key literature of the dual-process theory.

Figure 3: Focus of Chapter 3



3.1 “Black Box” Problem

To begin with, boundary conditions that shape the consequences of TMT characteristics in the organisation could be an essential factor that accounts for the inconsistencies (Joshi et al., 2011). For example, Carpenter (2002) argues that TMT's strategic and social contexts are the two crucial considerations that upper echelon researchers need to consider when investigating how TMT characteristics are reflected in the organisational outcomes. In the same vein, Joshi and Roh (2009) state that some contexts dramatically influence how TMT characteristics unfold their impact.

Another imperative reason that contributes to the inconsistencies is inextricably linked to one of the crucial shortcomings of the upper echelon theory per se, the missing psychological and social processes that drive TMT characteristics/composition to the organisational outcomes (Hambrick, 2007). This still missing link has been referred to as the "black box" problem, the missing theoretical constructs to explain "relationships between demographic variables and organisational outcomes" (Lawrence, 1997: 1), which is urgently needed to be fully revealed (Pelled et al., 1999; Kilduff et al., 2000; Carpenter, 2004: Souitaris and Maestro, 2010; Tekleab et al., 2016). The following chapter will elaborate on this still missing "black box" and uncover a new approach to solve the “black box” problem.

In the past two decades, Lawrence (1997) identifies the "black box" problem, and it has been explicitly raised in the upper echelon context (Hambrick, 2007). Hence, there are a bulk of upper echelon studies that try to unpack the "black box" between TMT characteristics/composition and organisational outcomes (e.g. Smith et al., 1994; Knight et al., 1999; MacCurtain et al., 2010; Tekleab et al., 2016). However, the "black box" problem is mainly treated with the group process perspective (Shaw, 1981). The central tenet of the perspective is that the groups' interpersonal processes influence group outcomes and, in turn, the organisational outcomes (Shaw, 1981). For example, Knight et al. (1999) find that TMT heterogeneities affect an organisation's strategic consensus through interpersonal conflict and agreement seeking processes. Keller (2001) reveals team communication's mediating role in the relationship between functional diversity and team performance in new product development teams. Pelled et al. (1999) and Qian et al. (2013) also find that TMT diversity shapes organisational performance through team conflict. MacCurtain et al. (2010) argue that TMT reflexivity and knowledge sharing behaviours are the critical "black box" between TMT

diversity and new product performance. Tekeab et al. (2016) support the mediating effect of team cohesion and team learning between team functional diversity and team performance. Interestingly, some recent studies try to disentangle the mediating role of the board. For instance, Bjornali et al. (2011) and Bjornali et al. (2016) find that TMT characteristics (i.e. TMT diversity and TMT cohesion) impose the effect on TMT effectiveness through the impact of board involvement.

Going beyond how the "black box" problem is mainly tackled in the past literature so far, another fundamentally important "black box", the SDMP of TMT, is still mainly under-researched. A bulk of studies investigates observable characteristics. For example, Goll and Rasheed (2005) examine the TMT characteristics (i.e. age, tenure and educational level)-firm performance relationship through TMTs' rational SDMP. Some studies also focus on psychological characteristics. For example, Miller et al. (1998) investigate the direct relationship between TMT cognitive diversity and firm profitability through SDMP (i.e. comprehensiveness and extensiveness). Souitaris and Maestro (2010) refer to the SDMP (i.e. speed and comprehensiveness) as the "black box" between TMT polychronicity and new venture financial performance. Samba et al. (2018) unravel the "black box" (i.e. interpersonal relationship and information elaboration) between TMTs' strategic dissent and firm performance.

However, those above studies are largely restricted at the rational aspect of SDMP (e.g. Miller et al., 1998; Goll and Rasheed, 2005) and overlook the irrational element. At the individual level, due to bounded rationality, individual decision-makers are rarely rational and always affected by cognitive biases (Cyert and March 1963). This assumption could also be applied to the team level when a TMT is collectively making strategic decisions through heuristic (Bingham and Eisenhardt, 2011). Dual-process theory delineates individual decision-makers' information processing systems from the cognitive perspective (Evan, 2003; Evans and Stanovich, 2013). Hence, it will be the most appropriate theoretical lens when treating TMT's SDMP as the "black box" between TMT characteristics/composition and organisational outcomes. The next section, 3.2, will elaborate on the dual-process theory in great detail.

3.2 The Dual-process Theory

To the author's best knowledge, limited numbers of team-level studies drawing upon the TMT's SDMP as the "black box" are from a cognitive perspective. Alternatively, SDMP has been investigated from either a synoptic perspective, such as strategic decision-making comprehensiveness (e.g. Miller et al., 1998), or an incremental perspective, such as political behaviours during the SDMP (e.g. Elbanna, 2018).

This cognitive perspective originates from people's inherent cognitive constraints (Simon 1956), in which overloaded information and uncertainty cause bounded rationality (Cyert and March, 1963). Langley (1995: 1) argues that people will need to "tread a fine line between arbitrary decision ("extinction by instinct") and an unhealthy obsession with numbers, analysis and reports ("paralysis by analysis")". This has hinted at the importance of two information processing, deliberate analysis and instinct, with minimal cognitive efforts. Dual-process theorists have captured this duality to explain how the duality is achieved (Stanovich and West, 2000; Kahneman and Frederick, 2002; Evans, 2003; Evans, 2008).

The dual-process theory (e.g. Evans, 2003; Evans, 2008) can shed substantial light on unravelling the "black box" from a cognitive perspective. This theory is developed initially to discover how an individual's mind operates when thinking or processing the information inputs, and it has been metaphorically depicted as the "two minds in one brain" (Evan, 2003: 454). Stannovich (1999) uses the term "system" to capture the features of different types of information processing. In line with the term, the dual-process theorists advocate that there are two systems that dominate people's thinking/reasoning processes: System 1 processes are rapid, automatic, mostly unconscious, implicit and intuitive; System 2 processes are slow, consequential, analytical, rule-based and permitting abstract hypothetical thinking (Evans, 2003; Stanovich and West, 2000). This distinction between the two terms has been captured in different terminologies, such as automatic and controlled (Shiffrin and Schneider 1984); experiential and rational (Epstain et al., 1996); reflexive and reflective (Lieberman, 2007); intuitive and analytical (Allinson and Hayes, 1996).

There has been an important debate in the literature about how the two information-processing systems interplay. Some scholars argue that those two systems are the opposing poles of the same information-processing continuum (e.g. Allison and Hayes, 1996; Dunwoody et al.,

2000). Others advocate parallelism between the two systems (e.g. Evan, 2003; 2008; Wang et al., 2017). This debate has indicated the existence of two different perspectives when trying to look at the decision-maker's information processing systems from a cognitive aspect. It would be imperative for the present research to first demonstrate a clear position prior to taking a deep dive into the two systems.

3.3 Unitary Perspective versus Dual Perspective

3.3.1 Unitary Perspective

Evans and Stanovich (2013) call on researchers to adopt more general terms (i.e. Type 1 and Type 2) rather than the original terminologies of dual systems (i.e. System 1 and System 2) due to the confusion and redundancy of original terms. Hodgkinson and Sadler-Smith (2018) adopt these more appropriate terminologies of Type 1 and Type 2 processing when investigating the relationship between intuition and analysis in organisational decision making. The present research will also take the terminology of "Type 1" and "Type 2".

In the past literature, two psychometric perspectives have been used to peek into the relationship between those two types of information processing, the "unitary" and "dual" perspective. Those two perspectives are fundamentally incompatible (Hodgkinson and Sadler-Smith, 2003). They provide contradictive insights into whether intuition and analysis are bipolar opposite or orthogonally independent in people's cognitive styles (Armstrong et al., 2012). Those two conflicting perspectives are associated with an important question raised by Wang et al. (2016): is people's information processing intuitive or analytical, or both intuitive and analytical?

The unitary perspective suggests that intuition and analysis constitute opposing poles of the same information-processing continuum (Dunwoody et al., 2000). The most popular psychometric instruments to measure the cognitive style in light of the unitary perspective is the Cognitive Styles Index (CSI) from Allison and Hayes (1996). However, this unitary perspective and CSI is not without critics among psychologist and social cognition researchers. For example, Hodgkinson and Sadler-Smith (2003) argue that the validity of CSI could be biased based on factor analysis. Hodgkinson and Sparrow (2002) point out that the conceptualisation of redeeming intuition and analysis as the bipolar opposites in a single

continuum is flawed as the two types of information processing are necessary when completing a task.

3.3.2 Dual Perspective

The dual perspective suggests that intuition and analysis are both required when an individual is processing information (Evan, 2003; Wang et al., 2017). The Cognitive –Experiential Self-Theory (CEST) from Epstein et al. (1996), in which "rational" and "experiential" represent the two types of information processing, exemplifies this dual perspective. The most widely used self-reported instrument to measure the CEST model is the Rational-Experiential Inventory (REI) developed by Epstein et al. (1996) and Pacini and Epstein (1999).

Wang et al. (2017) conduct a meta-analysis to investigate the unitary and dual perspective's validity by looking into the relationship between intuitive and analytical cognitive style. The findings have shown that intuition and analysis are not correlated, and this has suggested that intuition and analysis are not are the bipolar opposite of a single continuum. Hence, this study has supported the dual perspective (e.g. Evan, 2003) and opposed the unitary perspective (e.g. Allison and Hayes, 1996). "Assessing intuition as the opposite of analysis is likely to lead to erroneous conclusions regarding the nature of cognitive style and its relation with general information processing" (Wang et al., 2017: 22).

The current research will be adhering to the dual perspective by supporting that information processing could be both intuitive and analytical (Wang et al., 2017). The duality is not mutually exclusive or antagonistic (Putnam et al., 2016). In a model of the cognitive strategy developed by Hodgkinson and Clarke (2007), the "cognitive versatility" has shed light on the nature of co-existence of both rationality and intuition during information processing. In light of this perspective, Hodgkinson and Sadler-Smith (2018) argue for the distinctions between the "default-interventionist" and "parallel-competitive" variants of the dual-process theory. This distinction of the central question is how Type 1 and Type 2 processing interplay with each other in judgment and reasoning. The most recent studies from Calabretta et al. (2017) and Keller and Sadler-Smith (2019) have used a new lens, paradox lens, to investigate the interplay between two types of information processing, based on the dual-process theory.

3.3.2.1 Variant 1: The Default-Interventionist

The default interventionist argues that human information processing will initially activate the Type 1 process due to the low cost and the aim to preserve the limited cognitive resources required for Type 2 processes. The Type 2 processes will be deployed only if necessary and essential (e.g. Evans, 2007; Stanvich and West, 2000). The judgement made by individuals must be "controlled either heuristically or analytically" (Evans, 2007: 322). This may have denied the principle of parallel process. This perspective's central tenet argues for potential conflicts or competitions between the two types of information processing (Evan and Stanovich, 2013).

This body of work represents the area of behavioural decision theory that focuses on the inherent biases associated with the Type 1 process, such as intuition and heuristics (Gilovich et al., 2002). Intuitive thoughts and heuristics first come into the mind without reflection from analytical analysis; the over-reliance of Type 1 will result in errors and biases (Tversky and Kahneman, 1974). The Type 2 processes normally do not intervene with the initial intuitive thought, reinforcing the potential mistakes or biases (Kahneman and Frederick, 2002). In essence, most of the human's decision-making behaviours will be subject to the default type (i.e. rules-of-thumb/heuristic) as people are inherently cognitive misers (Evan and Stanovich, 2013). To deal with those potential problems, decision-makers should engage in detailed, structured and systematic thoughts before taking a particular course of action (Hodgkinson and Sadler-Smith, 2018)

3.3.2.2 Variant 2: The Parallel-Competitive

Differently, parallel-competitive theorists argue that Type 1 and Type 2 processes are not mutually exclusive but existing and operating in parallel during people's reasoning process (Evans, 2008). Two theories from social psychology and social cognitive neuroscience will be most appropriate to support this parallel-competitive perspective, which is Cognitive-Experiential Self-Theory (‘CEST’) from Epstein (1985) and Lieberman's X and C-systems (Lieberman, 2007).

For the CEST, it assumes that two systems (i.e. experiential and rational system) are operating in parallel and bidirectionally interactive in which all the behaviours are expected to be

influenced by both systems (Epstein, 2008: 25). The main differences between CEST and the aforementioned default-interventionist perspective are that the latter argues that the two systems cooperate and collaborate when making judgements or decisions (Hodgkinson and Sadler-Smith, 2018). In line with the assumption, the instrument from Epstein (1996), Rational Experiential Inventory (REI), has been widely used (Akinci and Sadler-Smith, 2013). For Lieberman's X and C-systems, it is based on the social cognitive neuroscience where the reflexive' system (X-system) and a 'reflective' system (C-system) in people's brain are working together during the information process. The former is fast operating and non-reflective conscious, whereas the latter is slow operating and reflective conscious.

Therefore, for the parallel-competitive perspective, Hodgkinson and Sadler-Smith (2018: 11) argues that "Type 1 and Type 2 processes operate in parallel, and, in the event of conflicts between them, they literally compete for the control of thinking and behaviour" (Hodgkinson and Sadler-Smith, 2018: 11). Particularly, researchers of management and organisation studies need to be conscious about which perspective of the dual-process theory (default-interventionist or parallel-competitive) their studies are drawing upon (ibid). The current study will choose the parallel-competitive view of the dual-process theory and argue that both types of information processing will be deployed during TMT's SDMP. They are interplaying with each other cooperatively and collaboratively. To be specific, the two types of information process interplay in a way that Type 1 will come in the first place based on the match between the existing schemas and the cures in the focal situation since it is fast and automatic. However, the intuitive processing will “wait” for the Type 2 analytical processing to provide post-hoc analysis and convincing narrative before final decision-making actions taking place (Akinci and Sadler-Smith, 2020; Glöckner & Ebert, 2011)

Within the areas of management, the dual-process theory has been widely employed in the context of strategic management (Hodgkinson et al., 2009; Calabretta et al., 2017), entrepreneurship (Sadler-Smith, 2016) and organisational behaviour (Akinci and Sadler-Smith, 2016). However, the assumptions and the applications of the theory are restricted at the individual level. Substantial upper echelon studies use it to explain how individual senior managers’ or CEOs’ cognitive styles affect their strategic decision-making behaviours and the final performance (e.g. Khatri and Ng, 2000; Sadler-Smith and Shefy, 2004; Hodgkinson and Clarke, 2007). To the author’s best knowledge, only one study tries to conceptualise the dual-process theory at the team level (i.e. Healey et al., 2015). There is still a strong call for fully

understanding teams' collective behaviour from the cognitive perspectives (Maghzi et al., 2015).

Drawing upon the strategic decision-making literature, many widely researched constructs have been used to capture the team-level Type 2 processes, such as procedural rationality (e.g. Dean and Sharfman, 1996), decision-making comprehensiveness (e.g. Fredrickson, 1984) and formal analysis (Langley, 1989). However, only a handful of studies try to investigate the team-level Type 1 process, such as collective intuition (e.g. Eisenhardt, 1999) and organisational heuristics (Bingham and Eisenhardt, 2011; 2019).

The current study assumes that, similar to individuals, TMTs will rely on the Parallel-Competitive perspective of the dual-process theory to process information and make decisions collectively. In particular, collective intuition and procedural rationality will be adopted to capture the Type 1 and Type 2 processes at the team level. Using the dual-process theory to understand TMTs' collective behaviour will not only unveil the "black box" for the upper echelon research from a new cognitive perspective but operationalise the dual-process theory from the individual level to the team level. Given the lack of conceptualisation and empirical evidence of the team-level Type 1 (Akinci and Sadler-Smith, 2012), the next section will first review Type 1 at the individual level.

3.4 Type 1: Intuition

3.4.1 Individual-Level Intuition

In order to better understand the team-level intuition (i.e. collective intuition), this section will first review previous literature regarding individual-level intuition. In the past few decades, scholars from various disciplines, such as management, psychology, neuroscience and organisational learning, have gained tremendous interests as to the significant role of intuition (e.g. Simon, 1987; Crossan et al., 1999; Miller and Ireland, 2005; Sinclair and Ashkanasy, 2005; Dane and Pratt, 2007; Gore and Sadler-Smith, 2011; Sadler-Smith, 2016; Akinci and Sadler-Smith, 2012; Samba and Miller, 2018). Specifically, the effect of intuition in the domain of strategic decision-making has attracted much attention by many scholars (e.g. Khatri and Ng, 2000; Sadler-Smith and Shefy, 2004; Elbanna and Child, 2007).

The first main challenge for past intuition researchers is to conceptualise what intuition is legitimately, and the researchers now have less elusive conceptualisations of intuition (Akinci and Sadler-Smith, 2012). The most widely accepted definition of intuition comes from Dane and Pratt (2007: 40), who defines intuition as "affectively charged judgments that arise through rapid, nonconscious, and holistic associations". This definition integrates four critical features of intuition that have been accepted by previous studies, namely, been nonconscious, fast, affect-related and holistically associated. Firstly, the most important hallmark of intuition is the lack of consciousness. This distinguishing feature has been referred to as nonconsciousness (e.g. Epstain, 1994; Lieberman, 2000; Dane and Pratt, 2007) and subconsciousness (e.g. Crossan et al., 1999). Thus, decision-makers are entirely unaware and unable to control their intuitive process when making decisions (Salas et al., 2010). Secondly, most previous researchers argue that rapid decision-making speed is one of the critical drivers of applying intuition in the real managerial context (e.g. Khatri and Ng, 2000; Sinclair, 2010). The fast speed of intuition is attributed to 'analysis frozen into habit' (Simon, 1987) and minimum cognitive efforts (Evan, 2007).

Thirdly, previous studies have seen intuition as "gut feelings" and "hunches" (Epstein et al., 1996), "interoceptive awareness" (Craig, 2002), "intuition-as-feelings" (Sadler-Smith and Shefy, 2004) and the "nexus of thinking and feeling" (Hodgkinson et al., 2009: 278). This has suggested the inextricable link between intuition and affect/emotion. Affect has been seen as the crucial antecedent of intuition, and intuition is "affect-driven decisions" (Burke and Miller, 1999). In a qualitative study that investigates the intuitive decision-making in police first-response, quoted from the informant, "intuition is the 'feeling' of change in the internal bodily state 'viscerally' located as in 'a feeling in your stomach'" (Akinci and Sadler-Smith, 2020: 5). Meanwhile, Sadler-Smith (2016) develops the typology of the intuitive effect that categorises it into different forms depending on three dimensions, 'locus' (bodily/cognitive), 'level' (high/low), and 'valence' (positive/negative). The last distinguishing trait of intuition stems from its holistic manner (Sinclair, 2010). The intuitive decision-making process will help the decision-makers unconsciously map scattered information into their mental model and start recognising and comparing patterns.

Due to the different features of intuition, it is a multi-dimensional rather than a unitary construct (e.g. Dane and Pratt, 2007; Gore and Sadler-Smith, 2011; Crossan and Berdrow, 2003; Miller and Ireland, 2005; Salas et al., 2010). The first predominant view of intuition has been referred

to as intuition-as-expertise (Sadler-Smith and Shefy, 2004; Hogarth, 2001), intuitive expertise (Kahneman and Klein, 2009), automated expertise (Miller and Ireland, 2005), problem-solving intuition (Gore and Sadler-Smith, 2011), expertise-based intuition (Salas et al., 2010) and expert intuition (Crossan and Berdrow, 2003).

This type of intuition comes from the "analysis frozen into habit" (Simon, 1987: 63), eliminating the necessity for decision-makers to undertake the analytical analysis. The entire decision-making process is based on pattern recognition (Klein, 1997). This type of intuition could help decision-makers scan focal situation, predict events and make decisions quickly and accurately (Miller and Ireland, 2005; Salas et al., 2010). This process has been depicted in the "recognition-primed decision" model (Klein, 2003) and "recognition-based intuition" mode (Akinci and Sadler-Smith, 2020). In essence, during this process, decision-makers will match the cues in the focal situation with their mental model (Klein et al., 2010) or domain-relevant schemas (Dane and Pratt, 2007) without deliberation and then make final decisions. To be more specific, Sinclair (2010) argues that intuitive expertise is based on the existing schema applied in a similar situation. Hence, once the decision-maker recognises the current situation is similar to the one they have experienced in the past, they would match the cues in the focal position with their relevant existing schema and make swift and accurate decisions. Without this matching, decision-makers would need to go through a rigorous formal analysis to make the final decision (Langley, 1995).

The second dimension of intuition is far more mysterious than the first one, which involves novelty/innovation in combining the knowledge or the decision outcome. Past intuition research defines this type of intuition as creative intuition (Dane and Pratt, 2009), entrepreneurial intuition (Crossan and Berdrow, 2003) and holistic hunch (Miller and Ireland, 2005). For this type of intuition, decision-makers will just start matching similar patterns from their past specific experience. Instead, they undertake divergent thinking (Dane and Pratt, 2009) by unconsciously synthesising a wide range of external information together with long-term and short-term memory to generate novel solutions (Crossan and Berdrow, 2003). Notably, one of the significant factors that differentiate it from the previous type of intuition is regarding speed. As mentioned previously, expert intuition gives decision-makers rapid decision-making speed due to quick pattern recognition and matching. However, Gore and Sadler-Smith (2011) refer to creative intuition as slow-to-form judgment, which is in line with Dane and Pratt (2009).

There are also some other types of individual-level intuition in the literature, such as moral intuition (Dane and Pratt, 2009; Gore and Sadler-Smith, 2011).

The current study will only focus on the first type of intuition, automated expertise (Miller and Ireland, 2005), for further investigation. As Simon (1992: 155) states that "intuition is nothing more and nothing less than recognition". Intuition, as the pattern recognition based on explicit and implicit knowledge (Dane and Pratt, 2007), will enable us to demystify intuition. Importantly, based on the assumption mentioned above of the two variants of the dual-process theory, the current study will favour the parallel-competitive view. Intuitive processing comes in the first place following by analytical deliberation. Hence, investigating intuition as the expertise based on pattern recognition will be in line with the theoretical assumption.

3.4.2 Team-Level Intuition

So far, studies regarding team-level intuition are still scarce in the management and organisational study literature (Akinci and Sadler-Smith, 2012). In particular, intuition has been exclusively researched at the individual level, particularly for CEOs (Akinci and Sadler-Smith, 2012; Samba et al., 2019). The emerging literature on team intuition is very fragmented (Samba et al., 2019). Only a handful of studies try to theorise or empirically test the intuition at the team level.

Eisenhardt (1999) is the first study that highlights the concept of collective intuition, and she argues that establishing collective intuition would help decision-makers improve their ability to identify threats and opportunities faster and more accurately. However, she does not explicitly articulate what collective intuition is. Salas et al. (2010) argue that team dynamics (e.g. strong leaders; clear roles and responsibilities; prebrief and debrief cycle) will be the potential underlying mechanisms that develop the team's expertise-based intuition level. Dayan and Di Benedetto (2010) investigate team intuition in the new product development project team. They find a positive linear relationship between environmental turbulence and team intuition and the inverted U-shaped relationship between team intuition and team creativity for teams with experience. Dayan and Elbanna (2011) aggregate the individual intuition to the new product development team in which they find the positive effect of team intuition on product success. Kaufmann et al. (2014) also aggregate the individual intuition to the team level. They

find that the proportion of team members using experience-based intuition in the sourcing team will lead to positive decision effectiveness (i.e. innovative performance and high quality).

Insights from the team cognition literature would help tackle this scarcity (e.g. Eisenhardt, 1999; Gibson, 2001; Maghzi et al., 2015; Mohammed et al., 2010; West III, 2007; de Mol et al., 2015). Alike individuals who will develop and rely on their mental models to make sense of the environment (Johnson-Laird,1983), teams also form and use their team mental model to understand teams' relevant environment (Mohammed et al., 2010). The team mental model has been defined as the team's shared mental representation of knowledge regarding the environment's core factors (Klimoski and Mohammed, 1994). However, a similar construct has been frequently used interchangeably with the team mental model, the shared mental model (e.g. Cannon-Bowers et al., 1993; Cannon-Bowers and Salas, 2001; Healey et al., 2015). The subtle differences emanate from the locus of interests in which the former finds the term "shared" as an ambiguous term and focusing on team functioning (e.g. Mohammed et al., 2010) whereas the latter focuses on the convergence or similarities of individuals' mental model in the team (e.g. Cannon-Bowers et al., 1993; Kang et al., 2006). The shared mental model refers to the "knowledge structures held by members of a team that enable them to form accurate explanations and expectations for the task, and in turn, to coordinate their actions and adapt their behaviour to demands of the task and other team members" (Cannon-Bowers et al., 1993: 221). This study will use the term, team mental model, as the locus of the construct is beyond the mere similarity.

Healey et al. (2015) try to conceptualise the dual-process theory from the individual level to the team level. They used the shared mental model to capture the C-system and team representation (i.e. implicit attitudes, subconscious goals and implicit stereotypes) to account for the X-system. Particularly, they use the compositional approach suggested by Kozlowski and Klein (2000). It argues for the isomorphism by which the higher-level constructs are the convergence of similar lower-level attributes (e.g. representing the team-level mental model through the similarities across individuals' mental models) (ibid). Hence, Healey et al. (2015) conceptualise the team-level X-system and C-system as similar to individual team members' systems.

This conceptualisation is in line with Akinci and Sadler-Smith (2018: 16), who explicitly conceptualise collective intuition in the context of decision making and organisational learning.

They define collective intuition as "independently formed judgment based on domain-specific knowledge, experience and cognitive ability; shared and interpreted collectively". In essence, they argue that individual team members form their individual intuition when they face certain circumstances. However, due to the "interpretation" (e.g. rationalising) and "integration" process in the team (e.g. validating and consulting), they will arrive at the same course of action. Ali et al. (2016) also argue that team intuition is based on individual intuition in which individuals may share their intuition through certain metaphors and interpret them collectively.

Healey et al. (2015) suggest the future team cognition research to adopt the compilational approach (Kozlowski and Klein, 2000) when constructing the team-level X-system and C-system. This approach suggests that the development of the higher-level constructs stems from the combination of relevant, but not essentially similar, lower-level characteristics through configuration. In essence, the collective property is more than the sum of individual parts (Kozlowski and Klein, 2000). In light of socially situated cognition developments, it would be plausible that the team-level X-system state comes from the interactions between individuals' X-system representation, but not necessarily the similar ones (Healey et al., 2015).

In response to the call to adopt the compilational approach to develop the team-level X-system (Healey et al., 2015), Samba (2017: 62) defines collective intuition as the "product of social interchange that is constructed, shared and distributed among senior managers during the course of interaction". In her most recent intuition research, based on two dimensions (i.e. locus of intuition and integration of intuition), Samba and colleagues categorise the TMT-level intuition into four forms: dominant actor intuition, shared intuition, actor-driven collective intuition and team-driven collective intuition. For the final form (i.e. collective intuition), it has been defined as "fundamentally a product of social interactions, and it originates from the joint activities of TMT members" (Samba et al., 2019). The current study will take this compilational approach to conceptualise collective intuition by referring to the tenet from Samba et al. (2019). This endeavour is promising in light of assumptions made by Walsh (1995). They advocate that a collective knowledge structure is likely to appear when individuals gather together, providing their knowledge structure of the focal situation.

The development of collective intuition stems from the positive social interaction where TMT members share, exchange and integrate their individual ideas through joint activities (Samba and Miller, 2015; Samba et al., 2019). The tenet of collective intuition is in line with the ideas

of the group cognition research realm. They investigate the shared process where individuals in groups think collectively (de Mol et al., 2015; Elsbach et al., 2005). More specifically, in the context of TMT, top managers' affective, behavioural and cognitive inputs will enable the TMT to integrate the individuals' information, knowledge and beliefs of the cause-effect relationship regarding the strategic issues (Samba et al., 2019). This assumption has been supported by Eisenhardt (1999), who firstly introduce the concept of "collective intuition". She argues that senior managers' exchange of information from the "must-attend" meetings enables the TMT to form collective intuition, which allows the TMT to see threats and opportunities sooner and more accurately. In essence, the "must-attend" meetings are a good opportunity for TMT members to engage in collective activities. Walsh (1995: 286) argues that "the idea that a collectivity of individuals can serve as a repository of organised knowledge has been with us for some time, as has the idea that this repository can act as a template for interpretation and action". Thus, collective intuition is not only the simple aggregation of the intuition formed at the individual level. It is a positive social interaction and sharing mechanisms in the TMT that makes it possible for the TMT to collectively generate the ideas that individual decision-makers per se may not form.

Like individual-level intuition, collective intuition is also a multi-construct phenomenon (Samba and Miller, 2015; Samba, 2016). In line with the focus mentioned above of individual-level intuition, automated expertise (Miller and Ireland, 2005), collective automated expertise will be the dimension that the current study will be focusing on at the team level. Alike individuals who rely on their mental model to recognise the focal situation to fast and non-conscious decisions (Klein et al., 2010), the collective intuition also emerges as the pattern recognition when the TMT collective recognises the focal situation similar based on their team mental model. The team mental model enables the team to behave and process information collectively in a particular manner (Cannon-Bowers and Salas, 2001; Mohammed et al., 2010).

3.5 Type 2: Rationality

3.5.1 Individual-Level Rationality

In light of the dual-process theory, individual senior managers can follow a rule-based and analytical process to make strategic decisions (Hodgkinson and Healey, 2011). This rational decision-making process involves identifying and collecting pertinent information and

evaluating the possible alternatives (Elbanna, 2006). Some individuals have a consistent tendency to carry out this rational process to make decisions due to their distinctive cognitive style (Armstrong et al., 2012). Cognitive style is individuals' consistent differences in how they think, process information and make decisions (Witkin et al., 1997). In the past literature, organisational behaviour and strategy scholars have investigated individual senior managers' rational cognitive style. For example, Hough and Ogilvie (2005) conduct the strategic decision-making simulation, and they find that senior managers with the Thinking managers, measured by MBTI, would make strategic decisions with high quality. Kickul et al. (2009) rely on the cognitive Styles Index (Allison and Hayes, 1996) to investigate the effect of people's cognitive style on the perception and assessment of their entrepreneurial self-efficacy when they decide to start a new venture. They find that people with an analytical cognitive style are more confident in assessing, evaluating, and arranging resources.

3.5.2 Team-Level Rationality

In addition to investigating individuals' rational cognitive style at the individual level, studies also try to understand how upper echelon teams (e.g. TMTs) undertake a slow, rule-based and analysis-oriented process during the SDMP. Studies adopt various constructs to capture this decision-making phenomenon, such as procedural rationality (Dean and Sharfman, 1996), comprehensiveness (e.g. Fredrickson, 1984), formal analysis (Langley, 1989) and strategic rationality (Khatri, 1994).

Among those different constructs, procedural rationality and strategic decision-making comprehensiveness are the two widely used constructs in the SDMP literature for decades. Procedural rationality is "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" (Dean and Sharfman, 1993: 589). Similarly, comprehensiveness of strategic decision making has been defined as "the extent to which an organisation attempts to be exhaustive or inclusive in making and integrating strategic decisions. This study's focus is to peer into the process in which TMTs make strategic decisions collectively. Procedural rationality would be more suitable for this study as it particularly focuses on how the team process the information when making the strategic decision.

3.6 Summary

This chapter has introduced the "black box" problem (Lawrence, 1997), which has been regarded as a crucially important reason to explain the inconsistent findings of the previous upper echelon studies by the present research. The urgent need to uncover the "black box" has been raised by many upper echelon scholars (e.g. Pelled et al., 1999; Kilduff et al., 2000; Souitaris and Maestro, 2010; Tekleab et al., 2016). The past literature primarily uses a "group process perspective" (Shaw, 1981) to tackle the "black box", such as team conflict (e.g. Knight et al., 1999). The present research argues that how the decision-maker (e.g. CEO and TMT) makes strategic decisions, namely, the strategic decision-making process (SDMP), will be the most paramount "black box" for upper echelon studies. Despite the surging research interests of SDMP in the past decade, a large number of the studies have been focusing on the rational aspect (e.g. Miller et al., 1998; Goll and Rasheed, 2005) and the political aspect (e.g. Dean and Sharfman, 1996; Lampaki and Papadakis, 2018; Shepherd et al., 2019). There is still a lack of studies investigating the irrational aspect (e.g. intuition) of the SDMP. Cyert and March (1963) argue that individuals have bounded rationality, which has emphasised the importance of the upper echelon or SDMP scholars to pay great attention to the different cognitive perspectives of the SDMP.

In light of the comprehensive review of the SDMP literature in this chapter, the past research has shared several commonalities and limitations. For example, only a handful of research studies try to investigate both of the rational and intuitive aspects of the SDMP in a single study, such as Elbanna and Child (2007) and Carlabretta et al. (2017). This may have led to an incomplete understanding of the cognitive perspectives of the SDMP. In addition, most of the studies have focused on individual decision-makers' (e.g. CEO) SDMP (e.g. Goll and Rasheed, 2005) with a lack of investigation of the strategic decision-making team (e.g. TMT). This would be problematic as the TMT has been seen as the most influential coalition responsible for making strategic decisions (Hambrick and Mason, 1984). Especially, the team level studies (e.g. TMT) are still scarce to focus on the intuitive aspect of the SDMP (Akinci and Sadler-Smith, 2012). Furthermore, there is a dearth of studies that try to establish a holistic picture of the context of the SDMP (Shepherd and Rudd, 2014). This issue is imperative for the present research as it would determine the extent to which the SDMP could explain the effect of "black box" on organisational performance.

Combined, the current research has chosen to use TMT's SDMP as the "black box" to understand the inconclusive direct link between TMT characteristics and organisational outcomes. Particularly, drawing upon the dual-process theory, two SDMPs (i.e. procedural rationality and collective intuition) have been focused. However, in order to fully understand the "black box", the contexts in which it is developed and how it would unfold the influence on organisational performance need to be further investigated. This endeavour has highlighted the relevance of contingency theory (Donaldon, 2001). In the next chapter, chapter 4, key literature of the contingency theory will be reviewed to establish a holistic picture of the SDMP.

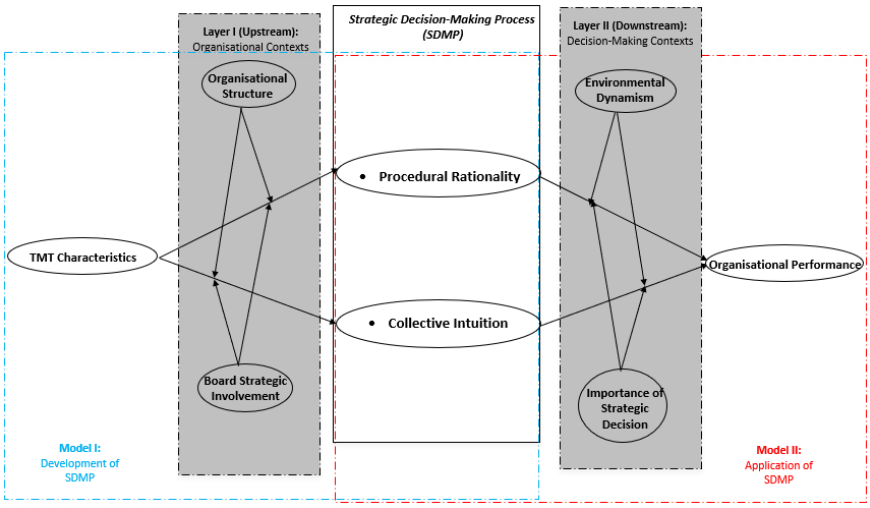
Chapter 4: Theoretical Background: Contingency Theory

4.1 Contingency Theory

The previous chapter 3 has provided a comprehensive review of the second theoretical background of the present research, the dual-process theory. In light of the key literature review, taking a dual-process perspective would be a promising way to peer into the crucially important "black box" (i.e. TMT's SDMP) between TMT characteristics and various organisational outcomes. However, the development and the application of the "black box" would not be without any constraints, so that it has highlighted the role of different contexts of SDMP (Shepherd and Rudd, 2014; Elbanna et al., 2020).

The assumptions of considering the influence of contexts are drawn upon the third theoretical background of the present research, contingency theory. Luthans and Stwewart (1997) refer to the organisation as a social system encompassing subsystems of resources variables concerning management politics, practices, and techniques embedded in the environment to achieve organisational goals or objectives. Contingencies have been seen as "any variable that moderates the effect of an organisational characteristic on organisational performance" (Donaldson, 2001: 7). The organisational performance or goal achievement is due to the congruence between organisational characteristics and contingencies (Morton and Hu, 2008). In light of the shaded areas in *Figure 4*, this chapter will review how the contingency theory has been applied in the strategic decision-making literature. This endeavour will provide a complementary perspective to deal with the "black box" problem.

Figure 4: Focus of Chapter 4



4.2 Three Key Perspectives of Contingency Theory in SDM literature

The application of the contingency theory in the SDM literature is pervasive, and there has been a particular research stream that tries to gain a deep understanding of a variety of contexts that the SDMP is embedded in (e.g. Papadakis et al., 1998; Shepherd and Rudd, 2014; Elbanna et al., 2020). Given that previous studies have categorised the contingency variables into four perspectives (e.g. Rajagopalan et al., 1993; Papadakis et al., 1998), and SDM researchers have widely adopted this classification (e.g. Shepherd and Rudd, 2014; Elbanna et al., 2020). Those four perspectives are external environmental perspective, decision-specific characteristic perspective, upper echelon perspective and firm-specific characteristic perspective (ibid). The past SDM studies are taking single or multiple views when investigating the impact of the contexts. In particular, among those four perspectives, the upper echelon perspective (e.g. TMT characteristics) has been treated mainly as antecedents of SDMP (e.g. Goll and Rasheed, 2005; Haleblian and Finkelstein, 1993). The other three perspectives have been investigated for both their roles as the determinants of the SDMP and the moderators on the relationship between SDMP and SDM outcomes (Shepherd and Rudd, 2014). Taking the contingency perspective as the focus in this research, the following section will mainly review the studies that treat those perspectives as moderators of SDMP.

4.2.1 Environmental Determinism Perspective

The environmental determinism perspective has been pervasively adopted in the literature to test the boundaries of SDMP. The external environment has been seen as the crucially essential contexts that affect the SDMP as the TMT has to filter and process information from the external environment (Hambrick and Mason, 1984). Meanwhile, the external environment is an organisation's external boundary that contains influential physical and social factors (Liao et al., 2008). Scholars have investigated the different aspects of the external environment by adopting a variety of terms, such as dynamism (e.g. Mitchell et al., 2011) and munificence (e.g. Baum and Wally, 2003). Findings regarding how the external environment will affect the SDMP are inconclusive (Elbanna et al., 2020). One of the most critical reasons identified by Forbes (2007) is that studies fail to distinguish different environmental aspects clearly. Therefore, the following section will briefly review the research results of the most commonly used external environment elements.

4.2.1.1 Environmental Dynamism/Turbulence/Velocity

Many studies have seen environmental dynamism as a crucially important environmental aspect in the SDMP research realm (e.g. Priem et al., 1995; Hough and White, 2003; Mitchell et al., 2011; Samba et al., 2020). Dynamism is a term adopted by scholars to capture the fast-changing rate, absence of pattern and unpredictability of the external environment (Priem et al., 1995). More precisely, Mitchell et al. (2011: 687-688) define environmental dynamism as the "highly unpredictable and unstable rate of change and high levels of uncertainty about the state of the context, the means-ends relationships, and/or the outcomes of the actions".

The past literature has provided mixed findings pertaining to how the environmental dynamism would affect the SDMP. For example, rationality during the SDMP is highly associated with positive firm performance in the dynamic environment (Goll and Rasheed, 1997). This echoes Hough and White (2003), who support the positive relationship between the rationality in the SDMP and the decision quality in a dynamic environment. Priem et al. (1995) also verify the positive relationship between rationality during the SDMP (e.g. planning and analysis) and firm performance in a dynamic environment. Walter and Bhuian (2004) investigate the senior executives in the hospitals where they find that the analytical comprehensiveness during their decision-making process will lead to positive organisational performance when operating in a highly dynamic environment. Finally, Mueller et al. (2007) investigate how the environmental dynamism will moderate the direct relationship between top management teams' formal analysis during the SDMP and the organisational performance. They find that formal analysis for informational purposes is related to positive organisational performance in both high and low dynamic environment. Formational analysis for persuasion and communication leads to positive organisational performance only in a dynamic environment. Formal analysis for symbolic purpose results in a negative organisational performance in the dynamic environment (ibid).

However, a handful of studies could not find any significant effect of environmental dynamism on SDMP. For example, Papadakis et al. (1998) try to develop an integrated model for SDMP by combining different perspectives, and they find that various factors shape SDMP. Still, environmental dynamism is not significantly related to any SDMP (e.g. rationality and politicisation). Similarly, due to the ongoing debate, Samba et al. (2020) conduct a meta-analysis for the strategic decision-making comprehensiveness-outcomes relationship under the

context of environmental dynamism. Unexpectedly, they find that environmental dynamism does not have any moderating effect on the comprehensiveness-outcomes linkage.

In addition to investigating the moderating role of environmental dynamism, a handful of studies have also provided empirical evidence of its direct influence on SDM outcomes. For example, Baum and Wally (2003) find a positive relationship between environmental dynamism and strategic decision-making speed. The decision-making speed also mediates the relationship between environmental dynamism and firm performance. Mitchell et al. (2011) find that CEOs are less likely to make an erratic strategic decision (i.e. inconsistent judgement about the firm's direction) when the external environment is dynamic.

Environmental turbulence could be seen as a similar environmental aspect as dynamism, given that it also captures the extent to which the external environment is changing (Dayan et al., 2012). Dayan and Di Benedetto (2011) try to understand the role of environmental turbulence in the context of new product development. They find that technical and market turbulence will result in a high level of team intuition (ibid). Those two dimensions of environmental turbulence will reinforce the positive relationship between team intuition and team performance (e.g. product success). However, Dayan et al. (2012) do not find any significant evidence to support environmental turbulence's moderating role on the relationship between political behaviour and team performance (i.e. speed to the market).

Environmental velocity has also been regarded as a similar aspect as dynamism (Baum and Wally, 2003). The studies that try to understand the environmental velocity mainly come from Eisenhardt and her colleagues' work. The environment with a high velocity has been defined as a situation in which "there is rapid and discontinuous change in demand, competitors, technology and/or regulation, such that information is often inaccurate, unavailable or obsolete." (Bourgeois and Eisenhardt, 1998: 816). They propose that analytical/comprehensive SDMP will positively impact firm performance in a high-velocity environment (ibid). The literature has been focusing on how strategic decision speed unfolds its effects in the high-velocity environment. For instance, Eisenhardt (1989) state that environmental velocity will strengthen the positive relationship between decision-making speed and firm performance. This finding is in line with Judge and Miller (1991), who also find that decision speed only positively influences firm performance in the high-velocity environment.

4.2.1.2 Environmental Instability/Uncertainty

There have been some confusions when trying to distinguish the differences between environmental instability and uncertainty. The former is the "rapid and often discontinuous changes" in the organisational environment (Henderson and Stern, 2004: 41) or "the extent to which market demand and technology are rapidly changing in a given industry" (Dean and Sharfman, 1996: 376). The latter is that decision-makers are expected to know the probabilities coupled with the possible outcomes, but they are not precisely sure which outcome will happen (Forbes, 2007).

Similar to environmental dynamism, research results as to the effect of instability and uncertainty on the SDMP are also inconsistent. For example, comprehensiveness during the SDMP positively influences firm performance in a stable environment and a negative effect in an unstable environment (Fredrickson, 1984; Fredrick and Mitchell, 1984; Fredrickson and Iaquinto, 1989). However, in light of Dean and Sharfman (1993) findings, procedural rationality during the SDMP has a significant positive influence on strategic decision-making effectiveness. Still, surprisingly, they do not find any significant moderating effect of environmental instability. In addition, Khatri and Ng (2000) undertake an empirical study to test the intuitive synthesis-organisational performance relationship under environmental instability. They find that using intuitive synthesis in the SDMP (e.g. gut-feeling) is associated with positive organisational performance in an unstable environment but negatively in a stable environment.

The findings as to environmental uncertainly are also not evident in the past literature. For example, Elbanna and Child (2007) find that environmental uncertainty does not moderate the relationships between any of the SDMP (i.e. rationality, intuition and political behaviours) and strategic decision-making effectiveness. Elbanna and Child (2007) also argue that the rationality of SDMP is shaped by different perspectives together. In particular, the environmental characteristics (e.g. uncertainty) appear to have a less direct influence on the rationality of SDMP compared to the other perspectives (decision-making characteristics and firm characteristics) (ibid). Klingebiel and De Meyer (2013) conduct a qualitative study to investigate the SDMP during the implementation. They find that when managers have an awareness of the new uncertainty, the decision-making process has more involvement in procedural rationality (e.g. deliberativeness and diligence). In contrast, when they are aware of

new certainty, the decision-making process tends to be more problem-solving adhocracy and decision-making messiness. Meissner and Wulf (2014) investigate top executives' SDMP in which they find the positive relationship between their perceived uncertainty and the decision comprehensiveness during the decision-making process. Elbanna et al. (2013) do not find the empirical evidence to support any moderating effect of environmental uncertainty on the relationship between intuitive SDMP and decision disturbance.

4.2.1.3 Environmental Munificence and Hostility

Environmental munificence and hostility have been generally used as the two ends of the same spectrum (e.g. Elbanna and Child, 2007). The former is "the extent to which an environment can provide sufficient resources for the firms present in it" (Sharfman and Dean 1991: 685)"; the latter is a situation where the external environment is threatening and dangerous (Miller and Friesen, 1983; Dean and Sharfman, 1993: Mitchell et al., 2011). Studies have provided empirical evidence to support that rationality during the SDMP is linked to positive firm performance when the external environment is munificent (Goll and Rasheed, 1997; Goll and Rasheed, 2005). However, Elbanna and Child (2007) find that the rationality in SDMP is positively associated with strategic decision-making effectiveness when the external environment is less munificent (i.e. hostile). Elbanna et al. (2013) provide empirical evidence regarding the moderating role of environmental hostility on the relationship between intuition in the SDMP and the decision disturbance in the context of Egypt. They find that the positive effect on decision disturbance will be more substantial when the external environment is hostile.

In addition to testing the moderating role of environmental munificence and hostility, some studies have also tried to investigate their direct effect on SDMP or decision-making outcomes. For example, Baum and Wally (2003) find that environmental munificence is positively associated with strategic decision-making speed. Mitchell et al. (2011) have shown that CEOs are more likely to make erratic strategic decisions when the external environment is hostile. However, this positive relationship will be less positive in a higher dynamic environment. Dean and Sharfman (1993) find that the extent to which the SMDP is rational will reduce when the external environment is competitively threatening. However, Papadakis et al. (1998) do not find any significant effect of environmental hostility on all the SDMP (e.g. rationality and politicisation).

4.2.2 Firm-Specific Characteristics Perspective

The firm's characteristics would also influence the SDMP as the firm is the context in which the decision-making process occurs. Many studies have shown empirical evidence that certain characteristics would affect how senior executives or TMT make strategic decisions and how the strategic decision unfolds its impact. The following section will briefly review the most adopted firm characteristics in the literature.

4.2.2.1 Firm Performance

In the literature, most studies have investigated how the firm performance would directly affect the SDMPs, such as rationality, political behaviour and intuition. For example, Papadakis et al. (1998) investigate the effect of corporate performance (i.e. return on assets and growth in profit) on a group of SDMPs. They find that the return on assets is positively related to comprehensiveness/rationality, financial reporting and hierarchical decentralisation; growth in profit is positively associated with politicis ation and problem-solving. These results are in line with Elbanna and Child (2007) and Francioni et al. (2015), who also find the positive relationship between firm performance and rationality during the SDMP.

However, Amason and Mooney (2008) investigate 45 TMTs' SDMP. They find that when TMTs are making strategic decisions under a high-performance situation, they tend to be less comprehensive during the decision-making process. In the meantime, Fancioni et al. (2015) do not find any significant relationship between firm past international performance and the political behaviour during the SDMP. This insignificance has resonated with the findings from Elbanna et al. (2014). Besides, Simsek et al. (2005) show that TMTs are likely to develop behaviour integration when the firm performance is high. Elbanna et al. (2013) also do not support the proposed positive relationship between company performance and intuition during the SDMP. Finally, Elbanna et al. (2013) also find that company performance has no significant impact on the intuition in SDMP.

To the author's best knowledge, only one empirical study tries to test how firm performance moderates the relationships between SDMPs and outcomes. Elbanna et al. (2007) find that the positive effect of rationality during the SDMP on strategic decision-making effectiveness will become weaker when the firm performance is high. The negative relationship between political

behaviour during the SDMP on strategic decision-making effectiveness will also become weaker when the firm performance is high (ibid).

4.2.2.2 Firm Size

Firm size is another crucial factor that could potentially exert influence on SDMP. Still, like the above firm performance, most of the studies in the literature have tried to investigate its direct effect on SDMP. In a large firm, strategic decision-makers (e.g. TMT or senior executives) are more likely to be more rational when making strategic decisions (Papadakis et al., 1998; Elbanna and Child, 2007; Fredrickson and Iaquinto, 1989). However, Brouthers et al. (1998) provide contradicting results that top executives in small firm tend to make rational strategic decisions. Dean and Sharfman (1993) can not find any significant association between firm size and the use of rationality during the SDMP.

Regarding the effect of firm size on political behaviour during the SDMP, Papakakis et al. (1998) do not find any significant relationship. However, Elbanna et al. (2014) partially support that large firms tend to have less political behaviours when CEOs are making strategic decisions. Lastly, Elbanna et al. (2013) cannot find a relationship between firm size and intuition during the SDMP. Simsek et al. (2005) find weak support for firm size's negative effect on TMT's behavioural integration. Akin to firm performance, only Elbanna and Child (2007) test firm size's moderating role on the relationship between SDMPs and strategic decision-making effectiveness. However, they are unable to find any significant moderating effect on any of the SDMPs (i.e. rationality, intuition, political behaviour).

4.2.2.3 The Structure of the Firm

Drawing upon the literature, the organisational structure has been regarded as a crucial firm-specific characteristic that affects the SDMP (Shepherd and Rudd, 2014; Elbanna et al., 2020). Organisational structure manifests internal patterns of relationships, power and communication in an organisation (Fredrickson, 1986). It is also "the enduring allocation of work roles and administrative mechanisms that allow organisations to conduct, coordinate, and control their activities" (Jackson and Morgan 1982: 81). Mintzberg (1979) argues that organisational structure may exert a prominent effect on how an organisation makes decisions. For instance, Fredrickson (1986) proposes that organisational structure may affect some important SDMP

characteristics, such as comprehensiveness and process initiation. In a similar vein, Langley (1989) proposes the potential impact of organisational structure on the extent to which an organisation is making a formal analysis.

In general, scholars have peered into the different aspects of the organisational structure. The most commonly researched dimensions are centralisation, formalisation and structural differentiation (e.g. Mintzberg, 1979; Fredrickson, 1986; Langley, 1989; Morton and Hu, 2008). Centralisation refers to the extent to which the authority making and evaluating the decision-making is concentrated at the high level of hierarchy in the organisation, such as the top management team (Tsai, 2002; Willem and Buelens, 2009). Formalisation is the extent to which standard rules determine members' behaviours and duties, procedures and instructions (Schminke et al., 2000; Chen and Huang, 2007). Structural differentiation refers to "the difference in goal orientation and in the formality of the structure of the organisational units'' (Lawrence and Lorsch, 1967:10)".

Ashmos et al. (1998) find that organisations with less formalised rules enjoy a higher level of participation of shareholders in the SDMP than the rules-orientated structure. Miller et al. (1987) also prove that structural integration leads to rational SDMP. However, Miller et al. (1988) find the opposite relationship where the rationality during the SDMP will result in the formalisation and integration within the organisational structure. Besides, centralised power has positively associated political behaviours during the SDMP (Bourgeois and Eisenhardt, 1988; Eisenhardt and Bourgeois, 1988). Also, strategic decision-making speed is an important consideration when trying to understand the organisational structure's influence. Wally and Baum (1994) find that a centralised decision-making structure is related to the fast strategic decision process when evaluating acquisition candidates. Baum and Wally (2003) also find out that centralised strategic management enables CEOs to make fast strategic decisions, but decentralised operational management results in slow strategic decision-making speed. Meanwhile, they also find that formalised routines and informalised non-routines will foster a fast decision-making speed.

Finally, in addition to testing the direct relationship between organisational structure and the SDMPs, one study draws upon the contingency theory by using the organisational structure as the context to test the relationship between senior executives' decision-making styles and the firm performance (Covin et al., 2001). They discover that intuitive experienced-based decision-

making styles within the organic organisational structure will result in higher firm performance than in the mechanistic structure under high technology environment. However, under the low technology environment, technocratic decision-making styles (analytical and systematic) will present higher firm performance in the organic structure than the mechanistic structure (Covin et al., 2001). There has been an important call from the literature that more empirical evidence regarding the moderating roles of organisational context on SDMP would be needed (Certo et al., 2006; Carpenter et al., 2004).

4.2.2.4 Board of Directors

Board of directors, the "extended TMT" (Vanaelst et al., 2006; Knockaert et al., 2015), has been seen as the most crucial parties outside the TMT (Carpenter et al., 2004). In the past literature, there has been a surge of interests in the role played by the board of directors in the SDMP, such as the board strategic involvement (e.g. Judge and Zeithmal, 1992; Stiles, 2001; Hillman et al., 2000; Carpenter and Westphal, 2001; Pugliese et al., 2009; Nikolić and Babić, 2016; Bozhinovska, 2019). However, the previous studies are mainly investigating the determinants of the extent to which the board of directors get involved in SDMP, such as the board composition (Judge and Zeithaml, 1992; Brunninge et al., 2007), board structure (Wan and Ong, 2005), board process (Cornforth and Edwards, 1999; Zhu et al., 2014). To the author's best knowledge, there has not been an empirical study that tries to test the board of directors' activities as the context in which TMTs/senior managers are making strategic decisions. In essence, a board's potential role in its TMT's SDMP is rooted in the corporate governance literature (e.g. Zehra and Peace, 1989; Zahra, 1990; Stiles, 200l; Zhu et al., 2016). There are theoretical debates in the past literature when investigating the board's role, which provide inconsistent insights (Judge and Zeithaml, 1992; Stile, 2001).

Firstly, the agent theory argues that executives/TMT are the "agents" of the "principals" (owners) where the TMT is trying to maximise their own goals or interests that might contradict with the shareholders (Eisenhardt, 1989). Drawing upon this theoretical perspective, the board is regarded as the ultimate corporate control mechanism (Zehra and Peace, 1989) by exercising power over corporate entities to defend shareholders' interests and benefits (Johnson and Greening, 1999). Hence, the primary role of board involvement is to monitor and control the TMT's strategic decision-making to maximise the shareholders' value (Nikolić and Babić, 2016).

The second theoretical lens is the stewardship theory. Senior managers are seen as trustworthy collectivists (Davis et al., 1997) who will be willing to take effective actions to achieve mutual interests with shareholders. Donaldson (1990: 375) states that managers are driven by "a need to achieve, to gain intrinsic satisfaction through successfully performing inherently challenging work, to exercise responsibility and authority, and thereby gain recognition from peers and bosses". As such, the board's role is to facilitate, support and empower the TMT (Kim et al., 2009).

The third theoretical perspective, resource dependency theory, describes the board as the boundary spanner, who plays an essential role in linking the firm with the external environment by giving executives access to information and resources (Zehra and Peace, 1989). The board tends to provide counsel, advice and resources to its TMT and initiate their analysis and propose alternatives (Hillman and Dalziel, 2003). The managerial hegemony theory remains to be the last theoretical perspective in the literature, and it argues that managerial power is dominated by executives/TMT in which the board only has a "rubber-stamp" function through its review and approval role (Herman, 1981; Hendry and Kiel, 2004).

In summary, peering into the role of the board from those different theoretical perspectives will provide divergent insights into board involvement. Especially, Hendry and Kiel (2004) argue that the four different theoretical lenses could be categorised into two schools of thoughts as to the board's role, which is "active" and "passive" (Golden and Zajac, 2001). The former states that the board of directors is the independent thinkers who lead the direction and the development of the organisation (Davis and Thompson, 1994), whereas the latter supports that the board decisions are subject to its powerful top management team (Herman, 1981). The board's positive role needs more attention from scholars (Hendry and Kiel, 2004).

Considering the four theoretical lenses and the two schools of thought as to the role of the board, board involvement unfolds its effect in three ways: control, service and strategy (Zahra and Peace, 1989). The past corporate governance literature has primarily focused on board control (e.g. Tuggle et al., 2010). There have been controversies over the board's strategic role, and how a board makes strategic involvement has mainly been overlooked (Zehra and Peace, 1989; Hendry and Kiel, 2004; Zhu et al., 2016). As the apex of a central organisational bridge between its owner and top management team (Brunninge et al., 2007), Board should be

regarded as an essential strategic asset to provide strategic perspective into the SDMP (Kim et al., 2009).

The majority of the past corporate governance research literature investigates the factors that determine the extent to which a board gets involved in the SDMP, such as the board composition (Judge and Zeithaml, 1992; Brunninge et al., 2007), board structure (Wan and Ong, 2005), board process (Cornforth and Edwards, 1999; Zhu et al., 2014), TMT composition (Knockaert et al., 2015; Carpenter and Westphal, 2001) and external environment (Hendry and Kiel, 2004; Kim et al., 2009). To the author's best knowledge, there is no empirical research in both the strategic decision making and corporate literature that consider board strategic involvement as the vital contingent context that the SDMP is embedded in.

Judge and Zeithamal (1992) argue that a board's strategic involvement in the SDM consists of two phases, formation involvement and evaluation involvement. In the former phase, the board involves working with its TMT to develop strategic directions, define the organisation's strategic goals, and ratify TMT's SDM proposals. In the latter phase, the board probes TMT's evaluation of resource allocations and assess the evaluation of the SDMP that TMT provides. During the strategic involvement, the board of directors tends to give advice and consultation to the TMT, provides access to resources (e.g. Hillman and Dalziel, 2003) and advance the firm's legitimacy that the TMT is serving (Certo et al., 2001). This role has been referred to as board strategic involvement (e.g. Calabro et al., 2013; Huse, 2007)

SDMP scholars have mainly overlooked the potential moderating role of board involvement, but the prominent role of the board and the interacting relationship between the board and its TMT has been raised by scholars (e.g. Daily et al., 2003; Hendry and Kiel, 2004; Balic et al., 2011). Nikolić and Babić (2016) find that a board strategic involvement in SDM depends on the extent to which the board is undertaking ratification and evaluation of the SDMP and providing essential counsel and advice to the formation and implementation of the strategic decision-making.

4.2.3 Decision-specific Characteristics Perspective

Strategic decision-specific characteristics are decision-makers' subjective perception of the strategic decision (Bell et al., 1997) and the labels/categories given to strategic decision

according to their perceptions of stimuli (Papadakis et al., 1998). The SDMP literature provides empirical evidence that the strategic decision-makers' perceptions of the strategic decisions will significantly influence the SDMP itself (e.g. Hickson et al., 1986; Dean and Sharfman, 1993; Papadakis et al., 1998). It will also affect how the SDMP unfold its effect on various organisational outcomes (e.g., Elbanna and Child, 2007; Dayan et al., 2012). Importantly, compared with other aspects of contexts, namely, external environment and firm characteristics, Papadakis et al. (1998) find that decision-specific characteristics have the strongest explaining power of SDMP.

Previous literature has investigated some decision-specific characteristics from two primary perspectives. The first perspective is to examine their explaining power as being the determinants of different SDMPs (e.g. Judge and Miller, 1991; Dean and Sharfman, 1993; Nooraie, 2008; Elbanna and Fodol, 2016), such as the Basic Model of SDM (Bell et al., 1997) and the integrative framework of SDMP (Pajagopalan et al., 1993). The second perspective is based on the contingency theory, treating decision-specific characteristics as one of the crucial contexts in which the effect of the SDMP is embedded (e.g. Papadakis et al., 1998; Elbanna and Child, 2007). However, compared with other aspects of the contextual contingencies in the SDMP literature, such as external environment(e.g. Fredrickson, 1984; Baum and Wally, 2003; Mitchell et al., 2011) and firm-specific characteristics (e.g. Papadakis et al., 1998; Covin et al., 2001; Elbanna and Child, 2007), there is still a lack of empirical evidence regarding the role of strategic decision-specific characteristics in SDMP (Papadakis et al., 1998; Pajagopalan et al., 1993; Hutzschenreuter and Kleindienst,2006), especially for their role as the contexts of SDMP (Shepherd and Rudd, 2014; Elbanna et al., 2020).

There are three most widely investigated decision-specific characteristics in the literature: decision importance, decision uncertainty and decision motive (c.f. Shepherd and Rudd, 2014; Elbanna et al., 2020). The following section will give briefly review the related studies in the literature.

4.2.3.1 Decision Importance

Strategic decision importance represents the magnitude of the strategic decision's impact on an organisation's performance, and it has been one of the vital decision-specific characteristics (Sharfman and Dean, 1997). Importantly, decision importance has the most substantial

explanatory power, among other decision characteristics (Papadakis et al., 1998). However, only a handful of studies empirically test its direct or moderating effect on SDMP, but inconsistent findings are presented.

Papadakis et al. (1998) find that TMTs intend to follow the comprehensive SDMP if the strategic decision has been perceived as having a high level of impact on organisational performance. This finding is in line with Nooraie (2008) that finds the positive relationship between senior managers' perceived impact of the strategic decision and their rational decision-making process. However, Dean and Sharfman (1993) do not find any empirical support for significant relationships between decision importance and procedural rationality during the SDMP. Regarding other SDMPs, Dayan and Elbanna (2011) find the significantly negative effect of decision importance on the new product development team's intuition. Dayan et al. (2012) find the positive relationship between political behaviours and project importance in the new product development teams. However, there is no empirical evidence for the relationship between intuition and strategic importance in Elbanna and Fadol (2016). In addition, regarding its moderating role, Elbanna and Child (2007) do not find any empirical support, whereas Nutt (2000;2008) find that decision success improves if the decisions are perceived as high importance where discovery SDMPs (stresses logic and analysis) tends to be more successful for critical strategic decisions.

4.2.3.2 Decision Uncertainty

Unlike environmental uncertainty, decision uncertainty refers to the lack of information used to clarify and interpret the situation (Sonenshein 2007). Like the decision importance, there have also been conflicting findings regarding the effect of decision uncertainty on SDMPs. The majority of studies find the empirical support for the negative impact of decision uncertainty on rationality (Dean and Sharfman, 1993; Papakakis et al., 1998) but positive impact on intuition (Elbanna et al., 2012; Elbanna and Fodol, 2016) and political behaviours (Papakakis et al., 1998; Lylis, 1981). In addition, Elbanna and Child (2007) find that it will weaken the positive relationship between rationality and decision-making effectiveness. However, they are unable to find any significant moderating effect on the relationship between intuition and political behaviour and strategic decision-making effectiveness (ibid). Dayan et al. (2010) do not find any significant impact of decision uncertainty on political behaviours. The critical underlying reasons are that decision-makers are less intended to collect more information and

analyse the information as the interpretation of the decision is unclear (Dean and Sharfman, 1993). But, the political coalitions are likely to be formed to defend their interests (Papakakis et al., 1998).

4.2.3.3 Decision Motive

The last decision characteristic is strategic decision motive, which refers to whether the strategic decision is made in response to an opportunity or crisis (Shepherd and Rudd, 2014; Elbanna et al., 2020). The organisational crisis has impacted how TMT's group behaviours (e.g. conflict) affect the strategic decision-making outcomes (Hurt and Abebe, 2015). As to its influence on SDMP, Fredrickson (1985) finds that decision-makers intend to be more comprehensive during the SDMP when they perceive the strategic decision as to the crisis through laboratory experiments. Senior executives' perception of the strategic decision as a threat also leads to the hierarchical decentralisation in the SDMP (Papadakis et al., 1998). However, Ashmos et al. (1998) do not find any empirical support that participation would be higher for the strategic decisions perceived as opportunities than threats. As to its influence on other SDMPs, Dayan and Elbanna (2011) show that new product development teams are more likely to reply to the team intuition when they see the strategic decision as an opportunity. However, in their following study, Elbanna et al. (2013) do not support their previous assumptions regarding the role of decision motive on intuition in the SDMP due to the lack of significant support.

Regarding its moderating role in the SDMPs, Elbanna et al. (2007) do not find any significant moderating effect of decision motive on the relationship between intuition and strategic decision-making effectiveness. However, they find its significant moderating effect on the relationship between political behaviour/rationality and strategic decision-making effectiveness. To be specific, they find that perceiving the strategic decision as a crisis rather than opportunities will foster the positive effect of rationality on strategic decision-making effectiveness and mitigate the negative impact of political behaviour on strategic decision-making effectiveness.

4.3 Summary

This chapter has reviewed the three perspectives of contingency theory in the strategic decision-making literature: environmental determinism, firm-specific, and decision-specific

characteristics. This review has shown that contextual variables from each perspective would directly or indirectly affect the SDMP. In particular, this chapter has provided a detailed review of the most popular research theme within each view. Some ongoing debates in the literature have been discussed critically (e.g., the external environment).

There could have been some critical limitations in the literature. For instance, past studies have mainly focused on the downstream contexts of SDMP. Simply, it means that scholars have tried to investigate the contexts in which different SDMPs unfold their influence, such as the moderating role of environmental dynamism (e.g. Goll and Rasheed, 1997; Hough and White, 2003; Muller et al., 2007) and firm performance (e.g. Elbanna and Child, 2007). Surprisingly, the contexts in which CEO/TMT develops SDMP (i.e. the development of SDMP) have been overlooked except for a handful of research, such as Elbanna and Child (2007). Besides, even if those three contextual perspectives have all shown their moderating effect on SDMP, there is still a particular lack of empirical evidence regarding the role of strategic decision-specific characteristics in SDMP (Papadakis et al., 1998; Pajagopalan et al., 1993; Hutzschenreuter and Kleindienst,2006). Furthermore, the previous literature is fragmented in which a large number of the studies have only focused on one contextual perspective or variable, mostly likely the external environment. This nature may have hindered the findings' generalisability and caused inconsistent research results in the SDM literature (Hough and White, 2003).

Therefore, it would be imperative for the present research to develop an integrative model that combines multiple contextual perspectives to establish a more accurate picture of SDMP. This endeavour would also reveal the impact of a single view and the overall effect on the SDMP. In particular, integrating those three perspectives would allow the present to fully understand the “black box” (i.e. SDMP) of the upper echelon studies. In addition, considering the absence of research that investigates the contexts in which the SDMPs are developed. It would be crucially important to establish an integrative model of SDMP that incorporates both contexts of the development and the application of the SDMP.

In the next chapter, chapter 5, a double-layered contextual model of SDMP will be proposed, and the underlying rationale of the development of this conceptual model will be explained. After the development of the conceptual model, all the hypotheses within the model will be introduced.

Chapter 5: Double-Layered Contextual Model of SDMP and Hypotheses

In the past chapters, three essential theoretical background of the present research are introduced. The important literature regarding the upper echelon theory, the dual-process theory and the contingency theory have been reviewed. In light of the previous review, there will be a paramount necessity to take an integrative perspective by combining those three theoretical perspectives to gain a holistic picture of the "black box" (i.e. TMT's SDMP) in the upper echelon literature. Simply, it means that how TMT's characteristics affect various organisational outcomes dependents on TMT's SDMP. Importantly, how the strategic decisions are developed and unfolding its influence will be embedded in critical contexts. This endeavour will enrich our understanding of the upper echelon theory and the SDMP literature. Hence, this chapter aims to establish a double-layered contextual model of SDMP by integrating those three theoretical perspectives (i.e. upper echelon theory, dual-process theory, contingency theory).

5.1 Conceptual Model

There has been a handful of existing integrative models of SDMP in the past literature (Rajagopalan et al., 1993; Papadakis et al., 1998; Papadakis and Barwise, 2002; Elbanna and Child, 2007; Shepherd and Rudd, 2014; Elbanna et al., 2020), which have tried to build a comprehensive picture of the SDMP by taking into account multiple theoretical perspectives. However, those integrative models might have some key limitations that could hinder the progress of getting a further in-depth understanding of the SDMP.

Firstly, SDMP, as the core of the integrative model, has been theorised and operationalised from two perspectives: synoptic formalism and political incrementalism (Fredrickson and Mitchell, 1984; Hitt and Tyler, 1991; Goll and Rasheed, 1997; Elbanna, 2006). The former is an extension of the traditional rational perspective in which the analysis remains as the key feature of this perspective (Elbanna, 2006). The widely adopted constructs to capture this perspective in the SDMP literature include procedural rationality (Dean and Sharfman, 1993), comprehensiveness (Fredrickson and Mitchell, 1984; Papadakis et al., 1998) and formal analysis (Langley, 1989). The latter sees the SDMP from a more realistic perspective, such as

the bounded rationality/cognitive limitation (Cyert and March 1963) and the inevitable involvement of politics or power during the SDMP (Eisenhardt and Zbaracki, 1992). The most commonly used constructs to represent this perspective are intuition (e.g. Khatri and Ng, 2000; Dane and Pratt, 2007) and political behaviour/ politics/politicisation (e.g. Dean and Sharfman, 1996; Elbanna and Child, 2007). Even if those existing integrative models have tried to treat SDMP as a multi-dimensional phenomenon by means of integrating constructs from both perspectives, the underlying rationale as to why those two perspectives have to be taken into account simultaneously in the same model still remains unclear.

Secondly, the level of investigation for the existing SDMP models mainly focuses on strategic decisions made by individuals (e.g. CEOs), such as 70 strategic decisions made by CEOs (Papadakis et al., 1998) and individual strategic decisions made by a range of senior executives (Elbanna and Child, 2007). Instead of having individual strategic decision-makers (e.g. CEOs) make strategic decisions, TMT, as the dominant coalition in the organisation, has more collective power to determine the SDMP (Hambrick, 2007; Papadakis and Barwise, 2002). However, there has not been a comprehensive model that tries to establish a holistic picture of the SDMP made by the TMT collectively.

Thirdly, followed by the aforementioned potential drawbacks, the less focus on the TMT's collective SDMP has led to a dominant emphasis on individual decision-makers' (e.g. CEOs) characteristics as the potential determinants of SDMP. Especially, apart from a handful of studies that directly test the psychological characteristics of the decision-makers (please see the review in Chapter 2), a majority of the studies still use demographics as the proxies, which has raised lots of criticism (Priem et al., 1995; Shepherd and Rudd, 2014).

Fourthly, regarding moderating effects of the different streams of SDMP contexts, there is still a lack of empirical evidence from the three main streams of contextual characteristics (i.e. external environment, strategic decision-specific characteristics and firm-specific characteristics) in comparison to treating the contexts as the direct determinant of the SDMPs or the outcomes. As such, the moderating roles of those contexts in SDMPs are scarce. Most assumptions of the moderating effect are exclusively focusing on the SDMPs-outcomes relationship. For example, how the rationality-firm performance relationship is embedded in an external environment (e.g. Fredrickson and Mitchell, 1984; Elbanna and Child, 2007). On the one hand, the overemphasis of the external environment has neglected the other two

potentially important contexts. On the other hand, there has been an ongoing debate of the external environment's moderating effects due to the inconsistent findings (c.f. Shepherd and Rudd, 2014; Elbanna et al., 2020).

Another primary limitation of only focusing on the contexts of the SDMPs-outcomes relationship is the risk of overlooking the contexts in which the SDMPs are developed. Joseph and Gaba (2020) look at the decision-making process from an information-processing perspective. They argue that strategic decisions are embedded in different contexts, such as organisational structure, industry, and the external environment. Importantly, empirical evidence has shown that firm-specific characteristics (e.g. organisational structure) and strategic decision-specific characteristics (e.g. decision importance) appear to have more substantial explaining power for SDMPs (Papadakis et al., 1998). However, they have been rarely tested as the potential moderators for SDMP (ibid).

Fifthly, the final organisational outcome variables in those existing models vary from firm performance, such as financial performance (e.g. Amason and Mooney, 2008; Baum and Wally, 2003) to strategic decision-making outcomes, such as strategic decision-making effectiveness (e.g. Dean and Sharfman, 1996; Elbanna and Child, 2007), decision speed (Judge and Miller, 1991) and commitment (Olson et al., 2007). Those outcome variables' operationalisation incorporates objective or subjective measures or both of the measures in different models. The inconsistencies in the operationalisation of the outcome variables could have caused the mixed results of the SDMP model.

Considering those mentioned above five possible limitations of the existing integrative SDMP models in the SDMP literature, the double-layered contextual model of SDMP will address those limitations and provide new insights into understanding the SDMP in the following ways.

1: Drawing upon the upper echelon theory, the double-layered contextual model of SDMP is based on core baseline relationships of TMT characteristics-organisational outcomes. It might be problematic to use demographic characteristics as the proxies of TMT’s underlying behavioural or cognitive patterns (Priem et al., 1999). Hence, in light of the individual psychology literature, the current study chooses three TMT social psychological characteristics: TMT Cohesion, TMT Behavioural Integration and TMT Transactive Memory System (full

details will be provided next section). Besides, both subjective and objective dimensions of the strategic decision-making outcomes are used to estimate organisational performance better.

2: The inclusive findings as to the core baseline relationship of TMT characteristics-organisational outcomes have indicated the missing link between "who", describing the characteristics of TMT, and organisational outcomes. The missing link from "who" to organisational outcomes has been labelled as the "black box" problem (Lawrence, 1997). Research focuses on particular SDMPs, based on the perspectives of synoptic formalism and political incrementalism (Goll and Rasheed, 1997; Elbanna, 2006). Differently, this study will rely upon the dual-process theory (Evan, 2003) and treat the strategic decision-making process (SDMP) as the "black box" between the TMT characteristics-organisational performance from a cognitive perspective. In particular, procedural rationality and collective intuition will be used as the two SDMPs to capture the two types of team-level information processing processes (see the detailed review of the dual-process theory in Chapter 3).

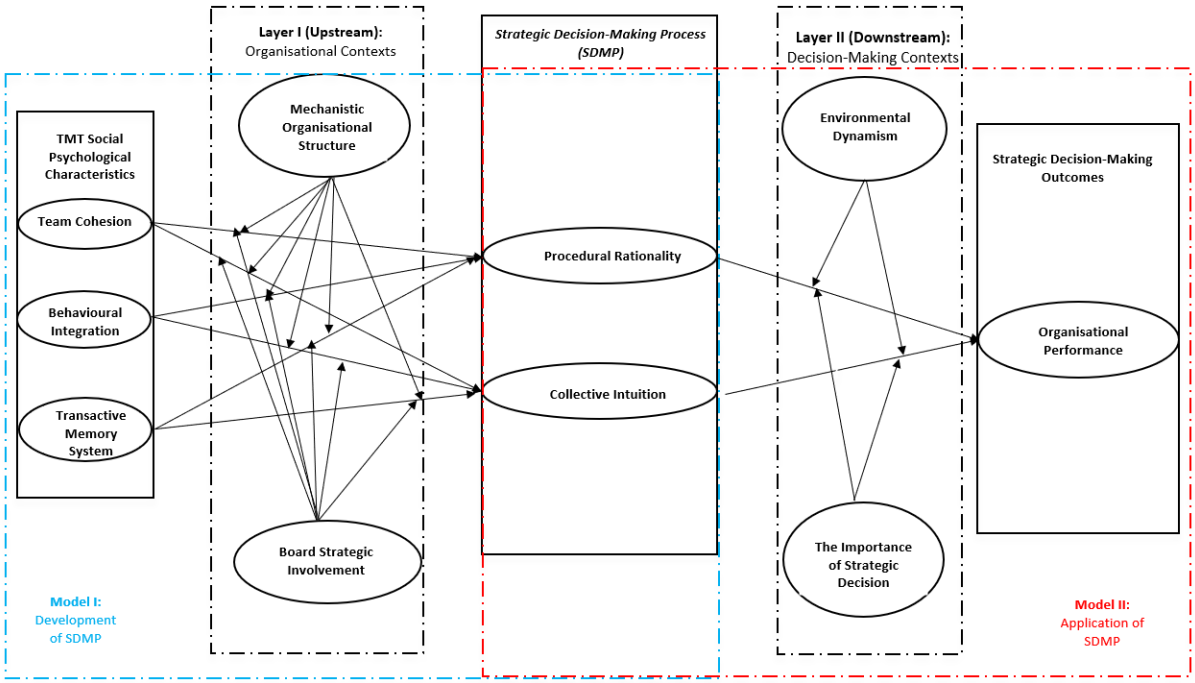
3: In light of the dual-process theory, as the "black box", SDMP will divide the core baseline relationships into two sub-baseline models: TMT characteristics-SDMP and SDMP-organisational performance. Those two baseline models will explain how the TMT develops its SDMP and how the SDMP unfolds its impact.

4: In light of the contingency theory, the SDMP would be embedded in different aspects of contexts. Based on existing models' possible limitations in the past literature, there has been a lack of focus on the contextual perspectives of firm-specific characteristics and strategic decision-specific characteristics. Meanwhile, fewer investigations have been put to understand the contexts in which the TMT develops its SDMP. On this basis, the model for this study will incorporate the upstream organisational contexts in which the TMT develops its SDMP and the downstream decision-making contexts in which the SDMP unfolds its impact. Combining the two baseline models of SDMP and two contexts of SDMP, it will be referred to as the Double-Layered Contextual Model of SDMP. It incorporates two sub-models of SDMP: Model I: Development of SDMP, embedded in upstream organisational contexts (i.e. organisational structure; board strategic involvement); Model II: Application of SDMP, embedded in downstream decision-making contexts respectively (i.e. environmental dynamism; the importance of strategic decision).

In summary, combining those three theoretical perspectives (i.e. upper echelon theory, dual-process theory, contingency theory), this double-layered contextual model of SDMP will explain how TMTs with their different social-psychological characteristics (i.e. TMT cohesion, TMT behavioural integration and TMT transactive memory system) affect the organisational performance through the process in which the team collectively make strategic decisions (i.e. SDMP). Taking a dual-process perspective, SDMPs (i.e. procedural rationality and collective intuition) will be investigated. Specifically, how does a TMT develop SDMPs in the organisational contexts (i.e. organisational structure; board strategic involvement)? How does SDMP unfold its impact in the decision-making contexts (i.e. environmental dynamism and the importance of strategic decision)?

The following *Figure 5.1* depicts the Double-Layered Contextual Model of SDMP. The next sections will explain the details and hypotheses of those two sub-models.

Figure 5.1: Double-Layered Contextual Model of SDMP



5.2 Model I: The Development of SDMP

5.2.1 Baseline Model I

Drawing on the dual-process theory, individuals' unique traits would influence the system in which they process information (rationality-based system 1; intuition-based system 2) (Epstain, 1994). Following the same rationale, at the team level, when a team (e.g. TMT) is processing information and making decisions collectively, TMT characteristics could also be crucial factors of the decision-making process. This process is referred to as SDMP in the current study. To test this baseline model of the TMT characteristics-SDMPs relationships, considering the criticisms of using observable characteristics as the proxies (Priem et al., 1995; Samba et al., 2018), the current study will focus on the TMT's social-psychological characteristics. Hence, this endeavour will enrich and provide new insights into the upper echelon theory and the SDMP literature by looking at some under-researched TMT characteristics from a new perspective.

5.2.1.1 TMT Social Psychological Characteristics

The current research defines TMT's social-psychological characteristics as the traits that characterise how TMT members interact with each other emotionally, behaviourally and cognitively. The underlying rationale for the current study to keep focused on this particular group of characteristics originates from the personality psychology literature (e.g. Wilt et al., 2012; Wilt and Revelle, 2015). This stream of research's fundamental question is how individuals are different from each other (Wilt and Revelle, 2015). Psychologies use some widely accepted "Big Five" personality traits to understand people's differences, such as extraversion and conscientiousness (e.g. Ozer and Benet-Martinez, 2006). McCrae and Costa (2008) introduce a similar Five-Factor Model. It has a consistent pattern of affect, behaviour and cognition (Revelle et al., 2011; DeYoung and Gray, 2009). In essence, personality psychologies are trying to understand individuals' differences in terms of how they feel, act and think. An extra dimension has also been considered along with those three dimensions, "desire/motivation", capturing what people want (Revelle, 2008; Wilt and Ravelle, 2009; Wilt et al., 2011). However, Mayer (2000) argues that the first three dimensions are the most crucially important parts of an individuals' personality. Furthermore, the tripartite components of affect, behaviour and cognition have also constructed individuals' attitude (Breckler, 1984), which may have a particularly important influence on how people make decisions.

The current research will also adhere to these widely tested assumptions by arguing that, at the team level, TMTs should also differ in terms of how the team feels (affect), behaves (behaviour) and thinks (cognition) collectively. Arguably, this collectivity could be regarding how team members interact in those three aspects. Samba et al. (2019) argue that TMT members' social and cognitive interactions influence how TMTs collectively process information during the SDMP, such as through collective intuition. As such, three social-psychological characteristics of TMT will be chosen to account for the team-level of affect, behaviour and cognition. We assume that those TMT social psychological characteristics would influence how the TMT makes strategic decisions collectively, namely, the SDMP.

Before giving detailed explanations of those three TMT social psychological characteristics and propose the hypotheses to develop the Baseline Model I, it would be crucially important to explicitly clarify the essential differences between team process and team characteristics. Marks et al. (2000) argue that team-level studies have to make clear distinctions between the team process and team emergent states. In essence, the former is in the middle of the input-process-output sequences, and it is regarding how team members interact as the results of various inputs. The latter "characterize the team's properties that are typically dynamic in nature and vary as a function of team context, inputs, processes and outcomes" (Marks et al., 2001: 357). The TMT social psychological characteristics in the model will be treated as team emergent states, functioning as the "inputs" that influence the "process" (i.e. SDMP). They are similar to team psychological traits (Cohen and Bailey, 1997) but more fluid and likely affected by the contexts. In essence, this baseline model investigates how TMTs with different social-psychological characteristics take other processes to make strategic decisions collectively.

5.2.1.1.1 TMT Cohesion

This study will choose TMT cohesion as the first TMT social psychological characteristics to capture the dimension of "how the team feels (affect)". This term has been used interchangeably with team cohesiveness and group cohesiveness in the past literature (e.g. Mullen et al., 1994). It is "the degree to which members of the group are attracted to each other" (Shaw, 1981: 213). It serves as the implicit force that binds the members to each other in the team (Liang et al., 2015). This is similar to another construct, social integration that has been used to describe the same team phenomenon (O'Reilly et al., 1989; Michel and Hambrick,

1992; Smith et al., 1994), defined as “the extent to which members are psychologically attached to each” (O’Reilly et al., 1989).

There has been considerable evidence that shows that team cohesion is a multidimensional construct, including social and task foci (Elron, 1997; Lvina et al., 2018; Chiocchio and Essiembre, 2009). The former is regarding the shared task commitment, whereas the latter concerns the team's social bonds (Lvina et al., 2018). Due to the particular focus, the current study only focuses on the social aspect of the concept. Hence, TMT cohesion exclusively refers to the extent to which the team members are attached to each in the team (Shaw, 1981), such as the feeling of morale and sense of belonging (Ensley et al., 2002) and stated attraction to the group and general morale of group members (O’Reilly et al., 1989). This distinction is crucially important, given that the inconsistent conceptualisation and operation of team cohesion have led to the ambiguity of the literature's cohesion-performance (Beal et al., 2003).

Team cohesion research has remained an essential research topic in small group research in the past few decades (Greer, 2012). It has been gradually investigated in a variety of team setting, such as TMT (Ensley et al., 2002; Ferguson et al., 2019), action teams (i.e. firefighter teams) working in an extreme environment (Marques-Quinteiro et al., 2020), sports teams (Ravio et al., 2009) and organisational working teams (Park et al., 2017). The past studies indicate the different roles team cohesion plays in explaining team performance, and various foci have been taken to understand the other aspects associated with team cohesion.

Many studies treat team cohesion as a vital team process and investigate its direct impact on various performance. The team cohesion-performance in the literature are mixed but generally positive. For example, O’Reilly et al. (1989) find that team cohesion (referred to as “social integration”) will reduce individuals’ turnover in the team; Mullen and Copper (1994) find the highly positive relationship between group cohesiveness and group performance. Mathieu et al. (2015) undertake a meta-analysis by which they show the positive and reciprocal relationship between team cohesion and team performance, which is in line with Rodriguez-Sanchez et al. (2017). Bjornali et al. (2016) also verify the positive effect of TMT cohesion on TMT effectiveness. Chiniara and Bentein (2018) find that team cohesion is positively related to team task performance and team organisational citizenship behaviour. In the context of TMT, Ensley et al. (2002) state that TMTs with a high level of cohesion are more likely to achieve high new venture performance. However, Mullen et al. (1994) do not find any significant effect

of general group cohesiveness on group decision quality. In particular, they also reveal that the interpersonal attraction aspect of cohesiveness impairs the team decision quality. Ravio et al. (2009) find that cohesive teams do not have better team performance in all situation when investigating the ice-hockey team. Lastly, Mello and Delise (2015) also find no significant effect on team cohesion on team performance.

Followed by the traditional inputs-process-outputs model for teams (Steiner, 1972), studies are also trying to understand the team process. Team cohesion serves as potential intermediaries between team inputs and outputs (ibid). Alike the inconsistent findings as to the direct team cohesion-performance relationship, the possible mediating effect of team cohesion are also unclear. For example, Liang et al. (2015) find that team cohesion partially mediates the relationship between both team surface-level diversity (e.g. age and gender) and deep-level diversity (e.g. personality) and the team helping behaviours. Similarly, Thatcher and Patel (2011) also find the partial mediating effect of team cohesion on the relationship between team demographic faultline and team performance and team satisfaction. However, Livina et al. (2018) provide empirical evidence to support team social cohesion's full mediating effect on the relationship between team-level political skills and both team subjective and objective team performance. Hill et al. (2019) find the full mediating effect of team cohesion on the relationship between team maximum negative effect and team performance behaviours, and this relationship is moderated by face-to-face communication. Mello and Delise (2015) also find the full mediating effect of team cognition on the relationship between team cognitive style diversity (i.e. intuitive and rational) and team viability, but no significant mediating effect on team performance.

In addition to treating team cohesion as an essential team process in light of the traditional inputs-process-outputs model for teams (Steiner, 1972), Mark et al. (2001) make clear distinctions between team process and team emergent state and explicitly categorise team cohesion as an emergent state. Team cohesion is a dynamic team state varying according to the team input, processes, outputs and contexts (Barrick et al., 2007). Hence, studies have tried to unpack the missing links between team cohesion and performance, aiming to unravel the hidden mechanisms in which team cohesion unfold its inconclusive effect on performance. For example, the positive effect of TMT cohesion on team creative performance is through the full mediating effect of team's collective task engagement (Rodriguez-Sanchez et al., 2017); its positive influence on team performance is through team learning (Teklead et al., 2016). In

addition, in the context of TMT's SDMP, Ensley et al. (2002) and Ensley and Pearce (2001) do not find the possible mediating role of team conflict on the direct positive relationship between TMT cohesion and new venture performance relationship. They find the significant effect of TMT cohesion on two types of team conflict during the SDMP and indicate team conflicts' possible mediating effect.

Those inconclusive findings may have indicated that other important interlinking mechanisms, referred to as the "black box" (Lawrence, 1997), maybe still at play to explain the direct effect of this important team emergent state on a variety of team outcomes. This study argues that TMT cohesion is a vital team emergent state that accounts for the first dimension of TMT social psychological characteristics. It will affect the TMT's SDMP, which in turn affects the final organisational outcomes. The potential effect of team cohesion on team decision making has been raised in the literature (Mullen et al., 1994. In particular, Park et al. (2017) state that team cohesion would potentially affect a team's decision-making regarding how the team collects information and reaches an agreement.

However, only very few studies investigate TMT cohesion's effect on how a TMT makes strategic decisions. Ensley and Pearce (2001) look at how TMT cohesion affects the two types of conflict (i.e. cognitive conflict and affective conflicts) when TMT makes a strategic decision. They find that TMT cohesion has a negative influence on both of the conflict. However, Ensley et al. (2002) partially support this finding, and they find that TMT cohesion is positively related to cognitive conflict but negatively related to affective conflict during the SDMP. Similarly, Johnson et al. (2008) undertake a quasi-experimental research design for a TMT strategy simulation. They find that perception of team cohesion is negatively linked to individual use of privileged information in SDMP.

The current study argues that TMT cohesion would affect the development of SDMP (procedural rationality and/or collective intuition), and the next sections will illustrate detailed hypotheses.

5.2.1.1.2 TMT Behavioural Integration

In this study, behavioural integration will be adopted as the second TMT social psychological characteristics to capture the dimension of "how the team behaves (behaviour)". This construct

originates from the upper echelon research and has been widely used by a bulk of upper echelon studies (e.g. Ling et al., 2008; Lubatkin et al., 2006; Shepherd et al., 2019; Venugopal et al., 2020). Hambrick (1994: 188) firstly introduces and conceptualises the TMT behavioural integration as "the degree to which the group engages in mutual and collective interaction". Meanwhile, it is a meta-construct that synchronises the team's social and task process (Hambrick, 1994; Li and Hambrick, 2005). More specifically, TMT team behavioural integration captures the degree to which the TMT is engaging in three dimensions of processes: the quality and quantity of information exchange (task dimension), the emphasis of the joint decision making (task dimension) and the level of collaborative behaviour (task dimension) (Hambrick, 1994; Simsek et al., 2005).

In essence, behavioural integration has been deemed as an essential construct to account for the degree of "teamness" in the team (Carmeli and Halevil, 2009; Raes et al., 2013). The application and operationalisation of this construct have not been just restricted in the upper echelon research realm but human resources management (e.g. Raes et al., 2013; Venugopal et al., 2019) and project management (e.g. Mooney et al., 2007), and the different contexts, such as family firms (e.g. Rosenkranz and Wulf, 2019) and SMEs (e.g., Lubatkin et al., 2006; Venugopal et al., 2018; 2020).

In line with its original assumption, behavioural integration is a vital TMT process (Hambrick, 1994). There are two main research streams around it. The first stream investigates its effect (direct or indirect) on various outcomes and its essential determinants. For instance, regarding its direct effect, Carmeli (2008) finds that TMT behavioural integration will contribute to positive firm economic performance, human resource performance, and marginally high service quality and development in the service sector. This finding is consistent with Rosenkranz and Wulf (2019), who reveals the positive direct relationship between TMT behavioural integration and family firm's performance. Alternatively, Li and Hambrick (2005) show the significant negative effect of behavioural disintegration in the work teams on the firm performance.

In addition, recently, there has been surging interests for upper echelon scholars to understand the direct effect of TMT behavioural integration on organisational/TMT ambidexterity. Ambidexterity is a capability that an organisation or a TMT has when dealing with an important organisational paradox of exploration and exploitation (Carmeli and Halevi, 2009; Halevi et

al., 2015). The underlying rationale for the potential relationship between TMT behavioural integration and ambidexterity is that behaviourally integrated TMTs would be able to manage contradictory choice with enhanced paradoxical cognitive capabilities (Hambrick, 1984; Lubatkin et al., 2006). The positive direct TMT behavioural integration-ambidexterity relationship has been empirically verified by several studies (e.g. Lubatkin et al., 2006; Halevi et al., 2015; Luo et al., 2018; Venugopal et al., 2018; 2019; 2020). Other direct effects of TMT behavioural integration found in the literature include the positive role in reducing the relationship conflict in the TMT (Camelo-Ordaz et al., 2014). Only one upper echelon study does not find any effect of TMT behavioural integration on organisational outcomes. Namely, Ling et al. (2008) are unable to find any hypothesised positive impact of TMT behavioural integration on corporate entrepreneurship (i.e. the sum of the product innovation, business venturing and strategic renewal endeavours).

Meanwhile, TMT behavioural integration, as a critical TMT process, has also been investigated its indirect effect on different organisational outcomes through other important team processes/team constructs. For example, Carmeli et al. (2011) find that TMT behavioural integration will significantly increase firm performance through TMT potency (i.e. team members' beliefs regarding the team's ability to deal with the tasks across the contexts). Raes et al. (2013) show the indirect effect of TMT behavioural integration on employee-related outcomes (i.e. job satisfaction and turnover intention among employees) through a high level of employees' productive energy, such as more time for sense-making and thinking constructively. Venugopal et al. (2020) also find the indirect effect of TMT behavioural integration on firm financial performance through organisational ambidexterity. This relationship depends on the different dimension of ambidexterity. Only the combined ambidexterity (i.e. organisation's ability to pursue the exploration and exploitation to a greater combined degree) rather than the balanced ambidexterity (i.e. organisation's ability to pursue the exploration and exploitation in an equal manner) has the mediating effect (ibid). However, Carmeli and Schaubroeck (2006) find that TMT behavioural integration will significantly reduce the organisational decline, but they cannot provide the proposed mediating role of perceived quality of strategic decision for this significant direct relationship.

As to the crucially important determinants of TMT behavioural integration, Simsek et al. (2005) model the multilevel determinants of TMT behavioural integration. More specifically,

they find that both CEO-level factors (CEO collectivistic orientation and tenue) are positively associated with TMT behavioural integration. TMT-level factors (goal preference diversity and educational diversity) negatively influence TMT behavioural integration, and firm-level factors (firm size) also negatively link to TMT behavioural integration (ibid). Carmeli and Shteigman (2010) also find that the TMT identification (team members' readiness to define themselves as the TMT members) is an essential antecedent of TMT behavioural integration.

The second research stream regarding TMT behavioural integration emanates from the "black box" problem (Lawrence, 1997), and upper echelon theory theorists also have explicitly raised this concern (Hambrick, 2007). In light of the original theory's central tenet, CEO/TMT characteristics/composition will significantly influence organisational performance (Hambrick and Mason, 1984; Hambrick, 2007). However, the inconsistent findings associated with the CEO/TMT characteristics/composition-outcomes relationships have indicated that important team processes may be at play (Smith et al., 1994; MacCurtain et al., 2010; Teklead et al., 2016). Together with other important team processes, such as team conflict (e.g. Knight et al., 1999) and team communication (Keller, 2001), TMT behavioural integration has also been adopted as an essential team process to unpack the "black box". For example, Carmeli et al. (2011) try to understand how the CEO empowering leadership would affect the firm performance. They find that CEO with empowering leadership will contribute to particular TMT processes (behavioural integration and TMT potency), leading to positive firm performance. Similarly, Venugopal et al. (2019) investigate how the TMT mechanisms would affect the organisational ambidexterity through TMT behavioural integration. They find the full mediating effect of TMT behavioural integration for the direct relationships of two TMT mechanisms: TMT connectedness-organisational ambidexterity and senior team contingency-organisational ambidexterity.

Other than using TMT behavioural integration as a crucial TMT process, it has been used in various ways, such as TMT characteristics (Ling et al., 2008; Shepherd et al., 2019), TMT dynamics (Chen et al., 2010) and emergent states (Mathieu et al., 2008; Lubatkin et al., 2006). Those studies try to understand how behaviourally integrated TMT can influence team or organisational performance. For example, Chen et al. (2010) use a similar construct, TMT sociobehavioural integration, by integrating social integration and behavioural integration concepts. It has been defined as "reflecting how well senior executives of a firm work together, both socially and as a team" (Chen et al., 2010: 1413). They find that sociobehaviourally

integrated TMTs are likely to have more action aggressiveness, which will lead to positive firm performance. In particular, the hypercompetitive environment will strengthen the TMT's likelihood to develop action aggressiveness (ibid).

Shepherd et al. (2019) use TMT behavioural integration as a TMT characteristic and one of the TMT's psychological contexts. They find that TMT behavioural integration can moderate the political behaviours-strategic decision quality relationship from negative to positive due to the team's high level of shared identity and mutual trust (Shepherd et al., 2019). Similarly, for the TMT with a high level of cognitive conflict, TMT behavioural integration can help the team mitigate the chance to develop affective conflict (Mooney et al., 2007). However, TMT behavioural integration will strengthen the negative non-linear effect of TMT tenure diversity separation on team performance (Yi et al., 2018).

In light of the above rationale, the current study will also use TMT behavioural integration as a TMT characteristic. The present research will try to understand how behaviourally integrated TMT affect organisational performance. In particular, Hambrick and Cannella (2001) state that TMT's behaviour directly affects how the team makes strategic decisions. Hence, we argue that TMT behavioural integration would affect the development of SDMP (i.e. procedural rationality and/or collective intuition), and the detailed hypotheses will be illustrated in the next sections.

5.2.1.1.3 TMT Transactive Memory System

TMT transactive memory system (TMS) will be used as the third TMT social psychological characteristics to capture the dimension of "how the team thinks (cognition)". Wegner (1987) first introduces and conceives the TMS concept to understand the dyad team behaviour in a close relationship (intimate couples). TMS is a shared system in which team members encode, store, and retrieve information (Wegner, 1987). TMS occurs when team members start to rely on others for complementary areas of information (Lewis et al., 2005). Three key behavioural indicators of TMS have been mentioned by Wegner (1987), namely, directory updating, information allocation and retrieval coordination. Through directory updating, team members have a good sense of others' knowledge and expertise and raise their awareness of "who knows what", which has been referred to as the metaknowledge (e.g. Choi et al., 2010; Ren and Argote,

2011; Mell et al., 2014). Information allocation allows team members to store certain information into their memory in light of their area of expertise, whereby the team's cognitive burden to store the information as the whole would be reduced (Hollingshead, 1998; Liao et al., 2012). Through retrieval coordination, team members rely on their metaknowledge to request needed information from specific teammates who may have a particular area of expertise. This is the original assumption and the first perspective to conceptualise the TMS, which is in light of the information processing perspective in which the teams are the information processors (Ellis, 2006; Rau, 2006).

There has been another different but compatible conceptualisation of TMS in the literature, which peers it from a cognitive lens. In this regard, TMS has been seen as the group-level emergent cognitive state (Kozlowski and Klein, 2000), the team-level cognitive mechanism (Dai et al., 2016; Heavey and Simsek, 2015), distributed cognition (Heavey and Simsek, 2017), shared cognition (Zhang et al., 2020), social cognition (Liao et al., 2012) and team cognitive process (Rau, 2005). The early cognitive manifestations of the TMS is from a laboratory study by Liang et al. (1995). They find that TMS is a combination of three components: memory differentiation (i.e. team members have their specialised expertise in their area), task credibility (i.e. the extent to which team members trust others expertise) and task coordination (i.e. effective coordination for exchanging the knowledge). Built on this initial cognitive conceptualisation of the construct, Lewis (2003; 2005) conceptualise TMS into specialisation (i.e. team members' specialised expertise), credibility (i.e. mutual trust of each other's expertise) and coordination (i.e. positive knowledge sharing).

Only the coexistence of those dimensions in the team could show the TMS presence (Heavey and Simsek, 2015). This tenet of TMS development is in line with an essential concern of the TMS literature mentioned by Lewis and Herndon (2011). They argue that it would be problematic and inaccurate for some TMS studies to only use the "who knows what" as the representation of TMS for their investigation, and the TMS is more than just a shared understanding in the team (ibid). Three distinguishing features that differentiate TMS from other shared cognition constructs (e.g. team mental model) or team-level constructs (e.g. team cohesion and behavioural integration) are differentiated knowledge, transactive encoding, storage and retrieval process the dynamic nature of the TMS functioning. Due to the focus of the current study and the particular importance of cognitive manifestations of TMS for organisation studies (Ellis, 2006), in the present study, TMS will be used as the essential team-

level construct to be the third TMT social psychological characteristics to capture "how the team think" (cognition).

There have been a handful of widely cited review papers (e.g. Ren and Argote, 2011; Lewis and Herndon, 2011) and the most recent meta-analysis study of TMS from Bachrach et al. (2019). Since the concept of TMS is introduced by Wegner (1987), the applications of the TMS have been extended to a variety of research areas, such as knowledge management (e.g. Choi et al., 2010), group learning (e.g. Lewis et al., 2005), information system management (e.g. Simeonova, 2017), entrepreneurship (e.g. Dai et al., 2016; 2017) and leadership (Bachrach and Mullins, 2019). It has also been used in different team settings, such as TMTs (e.g. Heavey and Simsek, 2015; 2017), project-based teams (e.g. Hood et al., 2016) and R&D teams (e.gh. Huang and Chen, 2017), and use mixed research designs, such as experiments (e.g. Liang et al., 1995; Mell et al., 2014) and field studies (e.g. Zhang and Guo, 2019; Rau; 2005).

The first stream of research is regarding the investigation of the direct relationship between TMS and various outcomes. In general, most of the studies have provided empirical evidence to support a positive relationship. For example, Bachrach and Mullins (2019) find that the TMS in the sale teams leads to higher team performance. Dai et al. (2016) investigate the effect of TMS in high-tech start-up ventures. They find the TMS in the new venture teams contribute to the positive entrepreneurial orientation (i.e. innovation, risk-taking, proactiveness). Dai et al. (2017) find the positive effect of a new venture's entrepreneurial team's TMS on new venture ambidexterity. This finding is in line with Heavey and Simsek (2017), who also find a positive relationship between TMT's TMS and the firm's ambidexterity orientation. In addition, TMS has been found to have a direct positive influence on firm performance (e.g. Heavey and Simsek, 2015; Rau, 2005), group performance (e.g. Austin, 2003; Zhang et al., 2007), team learning and creativity (Michinov et al., 2008) and organisational innovation (Zhang et al., 2020).

The second stream of research is based on the traditional input-process-outcome (IPO) model (McGrath, 1964; Steiner, 1972). For example, Ellis (2006) uses TMS as one of the team information processing processes (i.e. storage and retrieval information). TMS only partially explained the negative effect of team acute stress on team performance (ibid). Zheng (2012) regards TMS as an important team-level cognitive process. They find the partial mediating effect of TMS in the relationship between the founding team's prior shared experience and the

new venture performance. Zhang and Guo (2019) adopt TMS as a crucially important teamwork process to explain the inconsistent findings regarding team diversity (knowledge diversity) and team performance. They find that the effect of team knowledge diversity on team performance will be fully explained through TMS. Similarly, Zhang et al. (2007) use TMS as a necessary "black box" in the relationship between team characteristics and team performance. Specifically, they find the full mediating effects of TMS in the working teams on all the group task characteristics (task interdependence; cooperative goal interdependence support for innovation)-team performance relationships.

Notably, up till most recently, the concept of TMS has been applied to the M&A context. Khan et al. (2020) create a conceptual model in which TMS has been proposed as an important mechanism that affects the post-merger agility (PMA). They argue that in the global M&A PMA context, AMO-enhancing HRM practices (i.e. ability, motivation and opportunity) impose their influence on global PMA through TMS. The underlying rationale is attributed to the effect of AMO-enhancing HRM practices on three key dimensions of TMS. Namely, AMO-enhancing HRM enables personnel in the merging companies to have knowledge differentiations and expertise; ensures the credibility of people's knowledge through HRM-related activities (e.g. network activities); facilitates personnel coordination through a high level of motivation. The influence of TMT is then being transferred to PMA as the key source of competitive advantage.

In addition to treating TMS as a vital team process, many studies have also seen it as the team's emergent cognitive state (e.g. Kozlowski and Klein, 2000; Mathieu et al., 2008; Mell et al., 2014). It characterises the "properties of the team that are typically dynamic in nature and varies as a function of team context, inputs, processes and outcomes" (Marks et al., 2001; 357). Based on this assumption, partially or fully drawing up the input-mediator-outcome (IMO) model (Ilgen et al., 2005; Mathieu et al., 2008), studies are trying to understand the different team-level inputs (e.g. organisational context; team context, team characteristics and interaction between the team and other contexts) of TMS, the mediating role of TMS and its effect on various team-level outcomes. For example, Huang and Chen (2017) find that the social interaction process in R&D teams (i.e. knowledge sharing and social network tie) is positively linked to TMS development. Hood et al. (2016) find that team's psychological safety is an important determinant of the TMS. Other determinants of TMT found in the literature include team interdependence (Hollingshead, 2001); team leaders' transformational and

transactional leadership (Bachrach and Mullins, 2019); environmental dynamism (Bachrach et al., 2019).

Being as an emergent cognitive state of the team, in addition to its direct influence on various outcomes (e.g. Heavey and Simsek, 2015), there is only a handful of studies that try to investigate the "black box" between TMS and the outcomes. For example, Huang and Chen (2017) argue that TMS exerts its positive effect on team performance through its positive impact on knowledge integration. This mediation is only significant when the team psychological safety is high. Rau (2006) intends to propose that TMT with TMS could have an accurate perception of environmental volatility. This positive effect is through the high level of TMT's environmental information gathering. However, they can not find any significant mediating role of environmental information gathering.

The application of TMS have raised surging attention in the upper echelon research realm (e.g. Rau, 2006; Heavey and Simsek, 2015; 2017), but more insights into the mechanisms regarding the TMS in the TMT setting are still needed, such as strategic decision making (Heavey and Simsek, 2015). Compared to other teams in the organisation (e.g. R&D and new product development team), the importance of TMT's TMS development would be more salient. This is not just due to TMT's particular role in determining the organisational performance (Hambrick and Mason, 1984) but its distinctive team features. Hambrick (1989) argues that TMTs have to understand both the internal and external environment and the required information processing is generally complex and ambiguous. As such, TMTs may experience information overload. TMT can benefit from having a TMS, such as mitigating individuals' cognitive burden (Hollingshead, 1998) when dealing with a wealth of information and accelerate the information search (Bachrach and Mullins, 2019). Therefore, developing a TMS may be particularly important for TMTs.

Hence, we argue that the TMT's TMS would affect how the team makes strategic decisions, the SDMP (i.e. procedural rationality and/or collective intuition), and the detailed hypotheses will be outlined in the next sections.

5.2.1.2 Hypotheses for Baseline Model I

5.2.1.2.1 The First Group of Hypotheses: TMT Cohesion-SDMPs relationships

The current study hypothesises the positive relationship between TMT cohesion and procedural rationality and collective intuition. Firstly, regarding the potential positive influence of TMT cohesion on procedural rationality, cohesive TMTs are likely to experience a high level of cognitive conflicts by engaging in discussions to develop the best solutions during the SDMP (Ensley et al., 2002; Mathieu et al., 2015). One of the critical features of undertaking rational decision-making is the involvement of inevitable debates and arguments (Kilduff et al., 2000). Importantly, considerable evidence has shown that the cognitive conflict would potentially lead to high a level of affective conflict (e.g. Amason, 1996; Pelled et al., 1999; Ensley and Pearce, 2001; Ensley et al., 2002). TMT members' possible fear of having personal conflicts with each other could have hindered the team's engagement in the rational decision-making process (i.e. procedural rationality). However, members in the cohesive team tend to communicate with each other in a positive manner and follow the team norms (Park et al., 2017) due to the high level of mutual trust in the team (O'Reilly et al., 1989; Ensley and Pearce, 2001; Ensley et al., 2002) and the pressure of conformity (Pashevich et al., 2001). Hence, cohesive TMTs would be motivated to conduct rational SDMP. It means that team members would be willing to collect relevant information, provide comprehensive analysis, and engage in team discussions to make reasonable strategic decisions.

Secondly, the main reason for the potential positive relationship between TMT cohesion and the development of collective intuition is the likelihood of having a high level of a shared mental model in the cohesive team. Team members in a cohesive team are likely to share their individual mental model through positive interpersonal relationship and intimate and regular social interactions (Beal et al., 2003; Bjornali et al., 2016). The mental model serves as an important basis for individuals to make sense of the external environment (Johnson-Laird, 1983) by describing and predicting the events (Mathieu et al., 2000). The convergence of individuals' mental model (i.e. shared mental model) in a cohesive TMT will affect how the team behaves and process information collectively in a particular manner during the SDMP (Cannon-Bowers et al., 1993; Cannon-Bowers and Salas, 2001; Mohammed et al., 2010). More specifically, it may enable the team members to share common perceptions of the external environment's stimuli during the SDMP. As a possible foundation for developing collective intuition, the shared mental model could facilitate the TMT to seek a cognitive shortcut by recognising and matching the patterns between the focal situation and the shared mental model. Once the

similarity is being found during the matching processes, TMT will rely on collective intuition to make rapid strategic decisions.

The hypotheses are as follows:

H1a: *When cohesion is high, TMTs are more likely to develop procedural rationality during the SDMP.*
H1b: *When cohesion is high, TMTs are more likely to develop collective intuition during the SDMP.*

5.2.1.2.2 The Second Group of Hypotheses: TMT Behavioural Integration-SDMPs Relationships

Hambrick (1984) argues that behaviourally integrated TMTs have a better paradoxical cognitive ability that allows the team to manage contradictory choices. Two SDMPs (i.e. procedural rationality and collective intuition) in this study have been seen as paradoxes for making effective strategic decisions (Calabretta et al., 2017). Hence, those potential TMT behavioural integration-SDMPs relationships enable the current study to make the following hypotheses.

The current study hypothesises the positive relationship between TMT behavioural integration and procedural rationality and collective intuition. Firstly, behaviourally integrated TMTs are likely to have a reciprocal exchange for a high quality of information (Lubatkin et al., 2006; Simsek et al., 2005; Coleman, 1990; Ensley and Pearce, 2001). This positive information exchange encourages TMT members to share their perspectives and solutions to deal with strategic issues during the SDMP (Carmeli, 2008). This would lead to positive task conflict during the SDMP, making each team member likely to provide explicit reasons for their judgments. Hence, TMT's SDMP would be based on collecting relevant information and relying on the information's analytical analysis to make optimal strategic decisions.

In addition, behaviourally integrated TMTs are unlikely to have unnecessary politics (Mooney and Sonnenfeld, 2001), or the negative effect of political behaviour in the SDMP will be mitigated (Shepherd et al., 2019) as a result of strong team identity (Carmeli and Shteigman, 2010). In this case, when TMTs are making strategic decisions, they could undertake rational

decision-making instead of being subject to someone's political power in the team. Furthermore, behaviourally integrated TMTs have less chance to experience relationship conflict (Camelo-Ordaz et al., 2014). Task conflict's potential possibilities of causing relationship conflict will be attenuated, given TMT's behavioural integration (Mooney et al., 2007). Hence, the risks of undertaking procedural rationality due to the possible damage of existing personal relationships (Fredrickson and Mitchell, 1984) would be mitigated, which encourages the development of procedural rationality.

Secondly, as to the relationship between TMT behaviour integration and collective intuition development, the current study also argues for a positive relationship. Lubatkin et al. (2006) find that behaviourally integrated TMTs could better synchronise various points of view within the team, generate a comprehensive understanding of the team's knowledge base, and offset team members' resistance to sharing tacit knowledge. Accordingly, TMT members' deep understanding of the existing knowledge base could contribute to quicker and better team cognition development, enabling the TMT to develop collective intuition during the SDMP. Additionally, one of the central features of behavioural integration, joint decision-making (Simsek et al., 2005), fosters TMT's information acquisition and assimilation ability (Lin et al., 2012). This would also help TMTs develop collective intuition by matching the current environment's focal stimuli and their shared team experience (Samba et al., 2019).

Thirdly, another crucial positive outcome from the behaviourally integrated TMTs is the high level of mutual trust among team members (Smith, 1994; Carmeli and Schaubroeck, 2006; Mooney and Sonnenfeld, 2001). When TMTs rely on collective intuition to make strategic decisions, TMT members can not explain those choices' underlying rationale. In this case, the high level of mutual trust among TMT members would be pivotal for them to trust the "collective gut feeling" before making it. The final reason is attributed to the positive social interchange in the behaviourally integrated TMT due to collective behaviour, information exchange and joint decision-making (Simsek et al., 2005). The positive team social interchange has been seen as an important team context in which TMT could develop collective intuition (Samba et al., 2019).

The hypotheses are as follows:

H2a: *When behavioural integration is high, TMTs are more likely to develop procedural rationality during the SDMP.*

H2b: *When behavioural integration is high, TMTs are more likely to develop collective intuition during the SDMP.*

5.2.1.2.3 The Third Group of Hypotheses: TMT Transactive Memory System-SDMPs Relationships

In light of the previous arguments, TMS could have a potential influence on how TMTs make strategic decisions (Heavey and Simsek, 2015) due to its effect on information processing (Ellis, 2006) and cognition distribution (Heavey and Simsek, 2017). The current study proposes the positive relationship between TMT transactive memory system (TMS) and procedural rationality and collective intuition.

Firstly, regarding the effect of TMS on procedural rationality, the differentiated expertise embedded in the TMT would make it available for the team to access individuals' rich cognitive resources (Smith et al., 1994). Those resources are unique and nonoverlapping knowledge based on the complementary knowledge domains (Zajac et al., 2014). They enable the TMT to draw on different perspectives when making strategic decisions due to the diversity of available information or knowledge in the TMT (Hambrick and Mason, 1984). Due to the richness of the team's diverse expertise, TMTs would be likely to collect more information (Bantel and Jackson, 1989; Rau, 2006) and rely upon the analytical analysis of information from multiple perspectives during the SDMP.

Secondly, the metaknowledge of "who knows what" (Choi et al., 2010; Mell et al., 2014) would also help TMTs develop procedural rationality. The empirical evidence shows that TMS will increase information search speed (e.g. Bachrach and Mullins, 2019) as the team could retrieve the required information quickly and accurately. The underlying rationale is regarding the distributed information storage in the team in which team members only require to remember and store the information from their area of expertise, whereby the team will be able to retain an ample amount of information (Rau, 2006; Lewis, 2005; Ellis, 2006). This enables the team to establish an immense information reservoir (Hollingshead, 1998; Lewis, 2003; Lewis and Herndon, 2011) and encourages the TMT to take advantage of the abundant information by recalling and analysing the needed information during the SDMP. Thirdly, another essential

feature of TMS, the mutual trust of each other's expertise (Lewis, 2003), would also encourage the TMT to develop procedural rationality. This is because TMT members will have a high level of trust when relying on others' information or knowledge when making strategic decisions.

Regarding the potential positive effect of TMS on collective intuition, the first explanation is regarding the development of the team mental model in TMTs. TMT's team mental model plays an important role in developing collective intuition (Samba et al., 2019). When a TMT has the TMS, TMT members might be unlikely to have a high level of similar mental models due to individuals' differentiated expertise. However, TMS may lead to a high level of team mental model. It captures a team's shared mental representation of key stimuli in the environment (Mohammed et al., 2010; Cannon-Bowers et al., 1993). The main reason is the metaknowledge of "who knows what" in the TMT (Lewis, 2005). Even though team members may not have a similar mental model in the TMT, the team mental model enables the team to predict how others think and act (Cannon-Bowers et al., 1993). Hence, TMS could increase the team's ability to collectively recognise and recall individuals' expertise (Hollingshead,1998). Some similar studies have supported this speculation. For example, TMS positively affect the creation of team collective mind (i.e. individuals take actions while envisaging the joint actions in the team) (Yoo and Kanawattanachai, 2001), team mental model (interactive perspective) (Ellis, 2006) and collective knowledge (Lewis et al., 2007; Hecker, 2012).

Additionaly, Salas et al. (2010) highlight the importance of team affect, team coordination and cooperation in developing the team-level expertise-based intuition. Some studies find that teams with TMS have a high level of psychological safety (e.g. Hood et al., 2016) and good coordination within and between teams (Olabisi and Lewis, 2018). Hence, the TMS would make it possible for TMTs to develop collective intuition when making strategic decisions.

Hence, the hypotheses are as follows:

H3a: *When transactive memory system is high, TMTs are more likely to develop procedural rationality during the SDMP.*
H3b: *When transactive memory system is high, TMTs are more likely to develop collective intuition during the SDMP.*

5.2.2 Layer I (Upstream): Organisational Contexts

Drawing upon the contingency theory, the baseline models of developing TMT's SDMP are not free of constraints, and they could be embedded in different organisational contexts. The current study will keep focused on two crucially important but under-researched organisational contexts to reveal the critical boundaries for the development of SDMP.

5.2.2.1 The Context of Organisational Structure

In light of the review as to the contingency theory in the previous Chapter 4, there have been three most commonly researched dimensions of organisational structure: centralisation, formalisation and structural differentiation (e.g. Mintzberg, 1979; Langley, 1989; Morton and Hu, 2008). According to those three dimensions, scholars have developed different organisational structures that encompass those various structural aspects. For example, Mintzberg (1979) categorises organisational structure into machine bureaucracy, professional bureaucracy or adhocracy. Each of them represents the structure with the different level of each dimension, (e.g. the high level of formalisation and centralisation and a medium level of structural differentiation represents the machine bureaucracy). The current study will adopt a distichous categorisation (i.e. mechanistic structure or organic structure) from Covin et al. (2001). The former is featured as a centralised decision-making process, standard and formal rules and procedures, strict information control and constructed workflow relationships; the latter is characterised as a decentralised decision-making process, open communication system, organisational adjustment and flexibility, and de-underlines on standard and formal rules and procedures. Covin et al. (2001) find that executives with intuitive-experience based decision-making styles will lead to higher firm performance in the organic organisational structure than the mechanistic organisational structure under the high-tech environment. Also, technocratic decision-making styles (analytical and systematic) will generate higher firm performance in the organic structure than the mechanistic organisational structure in the low-tech environment.

The investigation of the potential moderating role of organisational structure in the upper echelon literature is still limited, particularly how the organisational structure affects the development of the SDMP needs more emphasis (Shepherd and Rudd, 2014). This underlying possibility is that organisational structure may influence how an organisation processes

information from the external environment (Mintzberg, 1979) and how the information/knowledge is transmitted and transferred within the firm (Burns and Stalker, 1961). Hence, how organisational structure moderates TMT social psychological characteristics-SDMPs relationships will be proposed in the following sections.

5.2.2.1.1 The Fourth Group of Hypotheses: The Moderating Role of Organisational Structure on TMT Social Psychological Characteristics-SDMPs Relationships

In light of the previous hypotheses, the current study proposes the positive effect of those three TMT social psychological characteristics on the development of procedural rationality. Considering the potential moderating role of organisational structure, this study proposes that the mechanistic structure will foster those positive relationships.

Firstly, Chiocchio and Essiembre (2009) conduct a meta-analytic review and find the effect of group cohesion is moderated by many factors, highlighting contexts' vital role. Cohesive TMTs are likely to have a high level of mutual trust (Ensley et al., 2002). Hence, team members are encouraged to engage in team discussions and share their different perspectives on tackling strategic issues (ibid). This process will inevitably involve information collection and rational analysis when making strategic decisions (Kilduff et al., 2000). When an organisation has a mechanistic structure, there are formal rules and procedures and existing reporting and workflow relationships (Covin et al., 2001). The TMT would be more likely to conduct formal meetings or team discussions to deal with strategic issues. Due to the organisation's formal reporting procedures, the TMT would need to collect comprehensive information and conduct robust information analysis to follow the formal decision-making procedure.

Secondly, behaviourally integrated TMTs intend to engage in mutual activities to exchange high-quality information (Lubatkin et al., 2006). In an organisation with a mechanistic structure, the formal rules and procedures require the TMT to have more scheduled and formal team meetings. TMT members could have more opportunities to exchange high-quality information and discuss the different perspectives of strategic issues. This would strengthen the likelihood for the behaviourally integrated TMTs to develop procedural rationality during the SDMP. In particular, the strictly constructed reporting and workflow relationship would also foster the TMT to adhere to procedural rationality.

Thirdly, when a TMT has the TMS, the team intends to rely on its rich cognitive resources originating from individuals' differentiated expertise (Smith et al., 1994). The team would be able to collect necessary information from internal members for further rational analysis. Arguably, when an organisation has a mechanistic structure, there will be formal–prescribed rules and procedures, manifesting senior executives' precise job descriptions and responsibilities. As such, it could be likely that the TMT would have a diversity of unique and nonoverlapping knowledge (Zajac et al., 2014). This should make it easy for TMT members to gain the metaknowledge of "who knows what", which could further facilitate procedural rationality during the SDMP. Besides, a centralised decision process and the tight control of information flow would enable aggregation of a bulk of information to flow from other organisation levels to the TMT (Lawrence and Lorsch, 1967). Combined, the availability of abundant internal information would reinforce the development of procedural rationality.

Hence, the first group of hypotheses regarding the moderating role of the mechanistic structure are as follows:

H4a-6a: *Mechanistic organisational structure will foster the positive effect of TMT cohesion (H4a), behavioural integration (H5a) and transactive memory system (H6a) on the development of procedural rationality.*

Regarding the moderating role of mechanistic structure on the development of collective intuition, this study proposes that it will attenuate the positive effect of those three TMT social psychological characteristics on developing collective intuition. In essence, this is also attributed to the mechanistic structure's nature in which people in the organisation have to be adherent to the formally prescribed rules and procedures (Mintzberg, 1979; Covin et al., 2001). In this situation, TMTs would reduce their intention to develop collective intuition when making strategic decisions. They may need to follow strict strategic decision-making procedures, such as filling up all the checklists. Hence, the hard-to-articulate collective intuition makes it difficult for the TMT to follow the existing formal roles and procedures.

Specifically, centralised decision making in the mechanistic organisation may cause a high level of politics during the SDMP. As such, cohesive TMT's initial intention to actively engage in discussions based on the high level of mutual trust would be attenuated. As a result, TMT

members may have fewer chances to share their mental models regarding strategic issues, which would hinder the team mental model. In addition, the tight control of information flow could make it even harder for the TMT to develop a team mental model, whereby the TMT is less likely to develop collective intuition.

The mechanistic structure's features mentioned above could also cause obstacles for behaviourally integrated TMTs to engage in mutual and collaborative interactions. It would be difficult for the TMT members to exchange and share their explicit and tacit knowledge and further affect their intention to engage in joint decision-making endeavours. Samba et al. (2019) state that the TMT collective intuition's development originates from the positive social interactions in the TMT. The mechanistic structure could impede the positive social interaction in the behaviourally integrated TMTs, reducing the possibilities to develop collective intuition. The positive effect of TMS on developing collective intuition would also be attenuated in a mechanistic organisation.

Based on the previous arguments, the mechanistic structure could have a multi-sided effect on the TMTs with TMS. On the one hand, TMT members' clear roles and responsibilities could enable the executives to know each other explicit knowledge. On the other hand, the mechanistic structure could make it difficult for the executives to understand their tactic knowledge due to tight information control, a potentially high level of politics and the centralised decision-making process. In this situation, arguably, there would be more formal team meetings than the TMT casual meetings. The executives could exchange the necessary information but reduce the possibility of transactional information/knowledge encoding, storing and retrieval (Hollingshead, 1998). As a result, the mechanistic structure would reduce the extent to which the TMT could develop collective knowledge or collective cognition (team mental model). As such, the development of the collective intuition in the TMT with the TMS would be reduced in the mechanistic organisation. In addition, based on Salas et al. (2010), team affect and team coordination are the key foundations to establish the team-level expertise-based intuition. The mechanistic structure could hinder effective TMT coordination. It may cause the team's relationship conflict due to the rigid rules, centralised decision-making, and the possible high level of politics during the SDMP.

Hence, the second group of hypotheses regarding the moderating role of the mechanistic structure are as follows:

H4b-6b: *Mechanistic organisational structure will hinder the positive effect of team cohesion (H4b), behavioural integration (H5b) and transactive memory system (H6b) on the development of collective intuition.*

5.2.2.2 The Context of Board Strategic Involvement

Based on the review of the contingency theory in Chapter 4, the board of directors have been regarded as the most crucial parties outside the TMT in the organisation (Carpenter et al., 2004), and it has been labelled as the "extended TMT" (Vanaelst et al., 2006; Knockaert et al., 2015). There have been surging interests regarding how the board would affect how the TMT makes its strategic decisions, such as the board strategic involvement (e.g. Judge and Zeithmal, 1992; Stiles, 2001). However, the board's potential moderating role in influencing the TMT's SDMP has mainly been overlooked by strategic decision-making scholars. However, interests in interacting relationships between the board and its TMT have been raised by some corporate governance scholars (e.g. Daily et al., 2003; Balic et al., 2011).

Judge and Zeithamal (1992) argue that board strategic involvement exerts its impact on the strategic decision-making of TMT in two phases: formation involvement phase and evaluation involvement phase. During the former phase, the board works with the TMT to develop strategic direction, define organisational strategic goals and ratify the TMT's strategic decision-making proposals. During the latter phase, the board evaluates the allocation of the resources and SDMP in general. For the present study, Model I (Development of the SDMP) focuses on understanding how a TMT makes strategic decisions. As such, both the board formation and evaluation involvement will be relevant when investigating its moderating role as an essential organisation context for the development of SDMP.

5.2.2.2.1 The Fifth Group of Hypotheses: The Moderating Role of Board Strategic Involvement on TMT Social Psychological Characteristics-SDMPs Relationships

The current study argues that the high level of the board strategic involvement would foster those initially proposed positive relationships between TMT social psychological

characteristics and procedural rationality but attenuate the positive relationships between TMT social psychological characteristics and collective intuition.

Generally speaking, when the board has a high level of strategic involvement in its TMT's SDMP, the board will be actively engaging in some activities, such as defining strategic decision-making goals, evaluating proposals and providing essential consultations and advice (Hillman and Dalziel, 2003; Calabro et al., 2013). The board strategic involvement may also involve the use of structural power for the board to determine and maintain the definition of the business and instil the confidence of the quality of TMT thinking, which has been referred to as the gatekeeping and confidence functions (Stiles, 2001). The board may especially ask its TMT to check their assumptions during the SDMP and do the "homework" prior to proposing strategic proposals to the board (Judge and Zeithmal, 1992). Board strategic involvement is also responsible for setting the parameters of strategic activities (e.g. SDM) for its TMT (Stiles, 2001). During the ramification and evaluation of the SDMP, TMTs would be expected to demonstrate tangible and accessible reports to justify strategic decisions they have made. The board may also be likely to use formal procedures and checklists to evaluate TMTs' strategic decision-making processes and strategic choices. Hence, in essence, the board strategic involvement would encourage the TMT to develop and rely upon procedural rationality rather than collective intuition during the SDMP as the former can be easily articulated explicitly, and the latter could require the additional post-hoc rationalisation from the TMT. In addition, the consultation and advice provided by the board may provide the TMT with extra information regarding the strategic issues during the SDMP, which could further strengthen the likelihood for the TMT to follow procedural rationality during the SDMP.

To be specific, in a cohesive TMT, executives are likely to tie in their interests or needs within the team due to mutual trust and good interpersonal relationship (Bjornali et al., 2016). However, the board may have uneven interpersonal relationships with all the executives in the TMT (Carpenter and Westphal, 2001). As such, the board involvement may potentially impede the consensus of interests and lead to interpersonal conflicts in the TMT (Buchholtz et al., 2005). Accordingly, the initial high level of a shared mental model in the cohesive TMT due to the positive interpersonal relationship and intimate and regular social interactions (Beal et al., 2003) would be attenuated, negatively influencing the initial likelihood of the development of collective intuition. However, the board has been seen as a crucially important strategic asset (Kim et al., 2009). The TMT would receive additional information needed to make strategic

decisions. Therefore, the cohesive TMT may take this opportunity to further develop and rely upon procedural rationality when making strategic decisions.

In a behaviourally integrated TMT, there should be a high level of collaborative behaviours, positive information exchange and join decision-making activities (Lewis, 2003). Considering the potential effect of the board strategic involvement on the behaviourally integrated TMT's SDMP, the TMT would require more regular meetings with the board to keep the board updated and informed about the progress during the SDMP. As such, there could be more opportunities for the TMT to undertake information-exchanging and collaborative activities, and the TMT would also get essential advice and consultation to support its SDMP. This will reinforce the likelihood of developing procedural rationality. However, the board will be responsible for ensuring that the TMT's final strategic decision aligns with the organisation's overall strategic goal by setting up parameters (Judge and Zeithmal, 1992; Stiles, 2001). Hence, this would reduce the initial possibility of developing the collective intuition as it would be difficult for the TMT to justify how their SDMP have met various parameters set by the board.

In a TMT with the TMS, how the board strategic involvement influences its development of the SDMPs (procedural rationality and collective intuition) would be similar to the behaviourally integrated TMT. The board could have a good understanding of each executive's expertise in the TMT. Hence, TMT members would be more certain about others' expertise or knowledge areas when the board is involved in facilitating information storage and retrieval. As such, the benefits of the metaknowledge of who knows what in the TMT to facilitate more accurate or efficient information searching could be more salient. The board's explicit rules or formal procedures to verify or evaluate the strategic decision process would further encourage the TMT to undertake more comprehensive information analysis to reach the final decision. Hence, the development of procedural rationality will be foster when the board strategic involvement is high. On the other hand, alike the requirement of tangible evidence that enables the board to evaluate TMT's strategic proposals, the development of the collective intuition in the TMT with the transactive memory system will be attenuated.

Hence, the group of hypotheses regarding the moderating role of board strategic involvement are as follows:

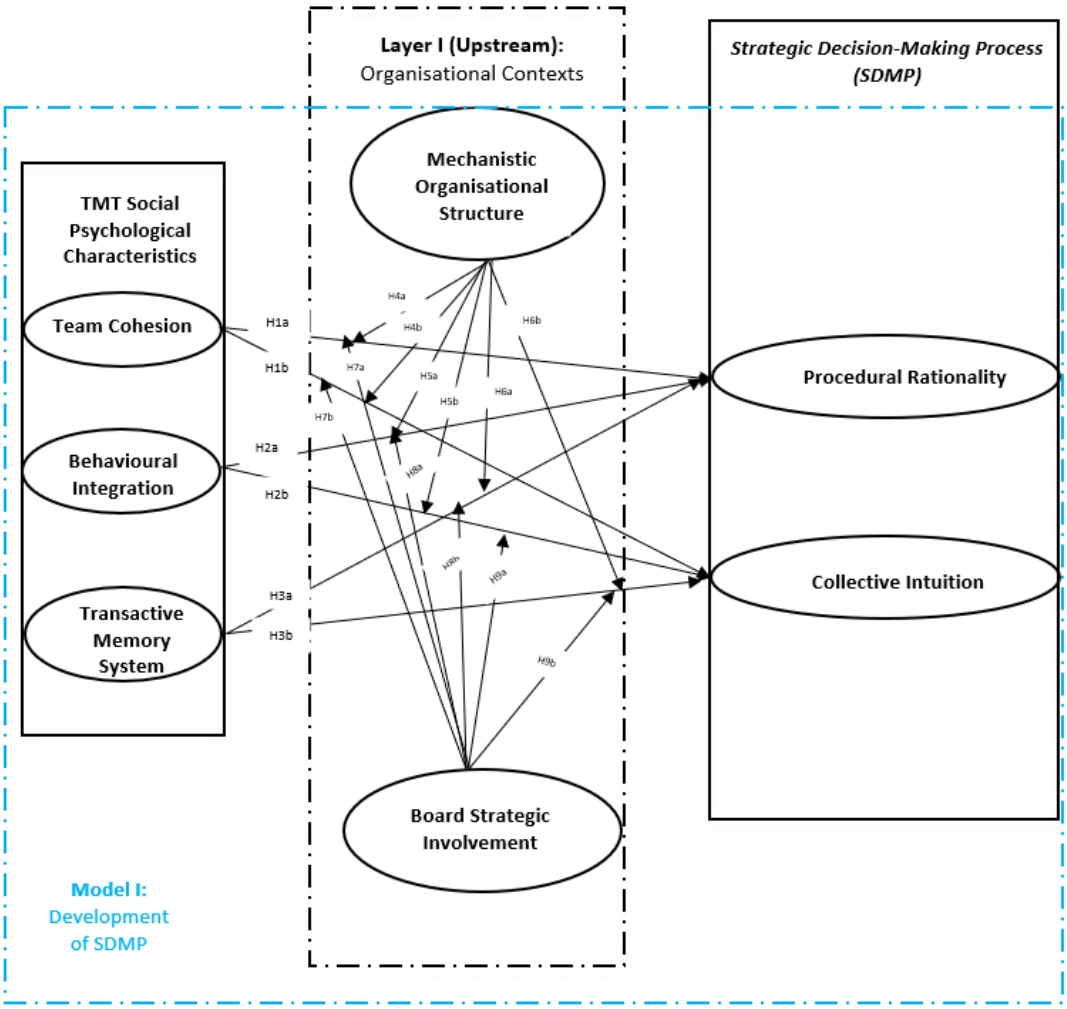
H7a-9a*:* *A high level of board strategic involvement will foster the positive effect of team cohesion (H7a), behavioural integration (H8a) and transactive memory system (H9a) on the development of procedural rationality.*

H7b-9b: *A high level of board strategic involvement will hinder the positive effect of team cohesion (H7b), behavioural integration (H8b) and transactive memory system (H9b) on the development of collective intuition.*

The following *Figure 5.2* describes Model I: Development of SDMP.

Figure 5.2

(Model I: Development of SDMP)



5.3 Model II: The Application of SDMP

In addition to understanding how a TMT develops its SDMP in light of its social-psychological characteristics and the critical organisational contexts, the current study's another focus is to investigate how TMT's SDMPs unfold the impact on organisational performance considering essential decision-making contexts.

5.3.1 Baseline Model II

Based on the strategic choice perspective raised by Dean and Sharfman (1996), who argue that the different processes in which TMT make its strategic decision will lead to various strategic choices, and it exerts different influence on the final organisational performance. In particular, decision-makers are likely to make different choices that result in either successful or detrimental consequences in a similar context (Bourgeois, 1984). This has highlighted the importance of understanding the direct relationships between different SDMPs and organisational outcomes.

In the SDMP literature, studies have tried to understand how different SDMPs would influence various organisational outcomes or decision-making outcomes. For example, studies have looked at the influence of the rational aspect of the SDMP (e.g. procedural rationality and strategic decision-making comprehensiveness), such as strategic decision effectiveness (e.g. Dean and Sharfman, 1996; Elbanna and Child, 2007), organisational financial performance (e.g. Fredrickson, 1984; Eisenhardt, 1989; Goll and Rasheed, 2005; Miller, 2008; Samba et al., 2018), decision quality (e.g. Hough and White, 2003; Nooraie, 2008), decision-making speed (e.g. Judge and Miller, 1991; Eisenhardt, 1989) and new product performance (e.g. Atuahene-Gima and Li, 2004). Some studies have also investigated the influence of the intuitive aspect of the SDMP on a variety of outcomes, such as organisational performance (e.g. Khatri and Ng, 2000), strategic decision-making effectiveness (e.g. Elbanna and Child, 2007), new product development performance (e.g. Dayan and Di Benedetto, 2011; Dayan and Elbanna, 2011) and internationalisation success (e.g. Bingham and Eisenhardt, 2011). In addition, politics/political behaviour have also gained much attention from strategic decision-making scholars. As such, studies have also tried to test its direct impact on strategic decision-making effectiveness (e.g. Elbanna and Child, 2007; Dean and Sharfman, 1996), organisational performance (e.g. Bourgeois and Eisenhardt, 1988; Eisenhardt and Bourgeois, 1988), new product development performance (e.g. Dayan et al., 2012) and strategic decision implementation success (e.g. Lampaki and Papadakis, 2018).

In light of the current study's cognitive focus and the previous review in Chapter 3, the investigation of the SDMP will be based on the dual-process theory (Epstain, 1994; Evan, 2003). The next section will propose hypotheses regarding the direct influence of the intuitive aspect (i.e. collective intuition) and rational aspect (i.e. procedural rationality) on organisational performance. This endeavour will provide more insights into two crucially important but unsolved issues in the SDMP literature. Firstly, empirical results as to the direct

effect of rational SDMP are still inconsistent (Samba et al., 2020; Miller and Mckee, 2020), ranging from positive (e.g. Samba et al., 2018) to negative (e.g. Braybrooke and Lindblom, 1963) or non-significant (e.g. Dean and Sharfman, 1996). As a result, this baseline model's investigation would provide new empirical evidence to clarify this continuous debate. Secondly, another issue is regarding the empirical evidence for the effect of team-level intuition. Up to now, to the author's best knowledge, there are only a handful of studies that try to investigate the effect of intuition at the team level (e.g. Eisenhardt, 1999; Salas et al., 2009; Dayan and Elbanna, 2011; Samba and Miller, 2015; Samba et al., 2019; Akinci and Sadler-Smith, 2019). Especially, Samba et al. (2019) emphasise the importance for upper echelon scholars to keep providing empirical evidence of team-level intuition in the context of TMT. Hence, this baseline model will provide more empirical evidence to the effect of TMT's collective intuition, which will enrich our understanding of this mysterious decision-making process.

5.3.1.1 Hypotheses for Baseline Model II

5.3.1.1.1 The Sixth Group of Hypotheses: SDMPs-Organisational Performance Relationships

The final organisational outcomes will be directly related to the specific research context (i.e. Mergers and Acquisitions) for this research (see more information in the next Chapter). To develop hypotheses at this stage, the general organisational performance will be adopted, which is "the way an organisation performance vis-à-vis other similar organisation in the industry" (Khatri and Ng, 2000: 68).

Procedural Rationality

Dean and Sharfman (1993) define procedural rationality as the extent to which the decision-making process involves information collection, and the final decision-making choices are based on the analysis of the information. The current study proposes the positive effect of procedural rationality during the SDMP on organisational performance due to the following reasons.

Firstly, TMT would develop more alternatives and insights into the environment and evaluate the potential opportunities and threats of the strategic decisions effectively before making the strategic decision (Dean and Sharfman, 1996; Atuahene-Gima and Li, 2004; Miller et al., 2008). Due to those potential benefits associated with procedural rationality during the SDMP, TMT

could better understand the internal resource constraints and industry, accurately predict competitors' reaction, and disregard irrelevant information during the SDMP. In essence, the TMT would identify and make sense of the complex contingencies concerning the strategic issue (Dean and Sharfman, 1996), contributing to positive organisational performance.

Secondly, many studies have provided empirical evidence to support the positive role of procedural rationality in strategic implementation (e.g. Bagozzi et al., 2003; Elbanna et al., 2016; Miller, 2008). The underlying reason is attributed to the high level of motivation associated with the rational decision-making process. Plenty of effort, time and resources have been invested at the initial stage (Bagozzi et al., 2003). As such, the great degree of motivation and the possible high level of commitment during the SDMP would generate positive organisational performance. Thirdly, the rational process during the SDMP enables the decision-makers to decrease the detrimental effect of the inevitable cognitive biases, such as the sunk cost (Idson et al., 2004). During the decision-making process, the TMT would try to make the most use of the information or resources they have to find the optimal solutions for the strategic issues.

However, a handful of studies propose the possibilities of the negative effect of procedural rationality during the SDMP. For example, Cyert and March (1963) introduce the concept of bounded rationality of individuals in which decision-makers may have the limited cognitive capacity for them to collect and process all the essential information to generate the optimal alternatives for the strategic issue. Due to these inevitable cognitive limits, the consequence of possible actions is uncertain when a decision is being made (March, 2006). The world is not static, whereby it will be difficult for the decision-makers to collect and analyse the most up-to-date information to make accurate decisions (Samba et al., 2020). Therefore, the analysis based on obsolete information or data could be inaccurate, leading to inappropriate strategic choice and negative organisational performance.

Nevertheless, considering the two sides of possibility as to the role of procedural rationality during the SDMP, the current study still proposes the positive relationship between procedural rationality and organisational performance due to all the benefits mentioned above. Importantly, the study assumes that the comprehensive information collection and analysis could compensate for the drawbacks of bounded rationality and negative impacts of the potential outdated information.

Hence, the hypothesis is as follows:

H10a: *The greater the procedural rationality, the greater the organisational performance.*

Collective Intuition

In light of the dual-process theory, the intuitive information-processing system's effectiveness has raised increasing attention in the past two decades and generated heterogeneous results (e.g. Khatri and Ng, 2000; Elbanna and Child, 2007; Elbanna et al., 2013). A number of studies have supported its positive role in contributing to various organisational outcomes. For example, Sadler-Smith (2004) finds a positive association between managing directors' intuitive decision-making styles and financial performance in small and medium-sized enterprises. Hough and Ogilvie (2005) also verify the positive role of managers' intuitive decision-making style in decision quality. However, some studies fail to reveal any empirical evidence regarding the intuitive decision-making process (e.g. Elbanna and Child, 2007). In addition, intuition, as a mysterious decision-making process, has also been seen as a "troublesome decision tool" (Miller and Ireland, 2005).

In light of the review of collective intuition in Chapter 3, in comparison with the fruitful findings regarding the individual-level intuition, only a handful of studies try to theorise or empirically test the team level intuition (e.g. Eisenhardt, 1998; Salas et al., 2010; Dayan and Di Benedetto, 2010; Dayan and Elbanna, 2011; Akinci and Sadler-Smith, 2018; Samba et al., 2019). The possible underlying reasons for the slow progress of team-level intuition research may be the ambiguous and difficult conceptualisation (Akinci and Sadler-Smith, 2018) and an unclear picture of how a team may develop and use intuition during their decision-making activities (Samba et al., 2019).

Intuition is a multi-dimensional phenomenon that incorporates two main aspects: automated expertise and holistic hunch (Miller and Ireland, 2005). In light of the previous Chapter 3, the current study will conceptualise collective intuition as collective automated expertise. This endeavour is in line with the conceptualisation and recommendation for the team's expertise–based intuition (Salas et al., 2010). Individuals will rely on their mental model to recognise the focal situation to fast and non-conscious decisions (Klein et al., 2010). In the team, the use of

this type of collective intuition will be based on a shared mental model or the team mental model by which the TMT would be able to make an intuitive decision collectively. The current study proposes the positive effect of collective intuition on organisational performance, and two possible reasons are as follows.

Firstly, "intuition is nothing more and nothing less than recognition" (Simon, 1992:155), and in essence, intuition is pattern recognition based on explicit and implicit knowledge (Dane and Pratt, 2007). When a TMT relies on its collective intuition to collectively make strategic decisions, the team will start the pattern matching and comparing processes between the current situation and the shared/team mental module. This process could potentially lead to a successful strategic choice as the team mental model could enable the team to develop accurate explanations and expectations collectively for the team task (Cannon-Bowers et al., 1993). As such, the final strategic choice will be highly related to their team mental model. The similarity from the pattern matching between the current environment and the team mental model could arguably ensure the accuracy of TMT's final strategic decision.

Secondly, in addition to the good strategic choices originating from the collective intuition during the SDMP, the intuitive decision-making process (i.e. heuristics) has been seen as a cognitive shortcut for decision-makers by which they do not need to go through the time-consuming and arduous cognitive processes (Bingham and Eisenhardt, 2011). Hence, the collective intuition makes it possible for the TMT to scan the environment and synthesise the available information promptly without having any cognitive burden. The potential positive effect of collective intuition on the strategic decision-making speed could be speculated based on the individual intuition's empirical evidence. For example, Eisenhardt (1989) and Wally and Baum (1994) find that the use of intuition of top executives during their SDMP makes it possible to have a fast SDMP due to the nature of intuition, such as being automatic and unconscious. (Dane and Pratt, 2007; Hodgkinson et al., 2009). Therefore, the fast decision-making speed and no need for any cognitive requirement would further contribute to the positive organisational performance.

Hence, the hypothesis is as follows:

H10b: *The greater the collective intuition, the greater the organisational performance.*

5.3.2 Layer II (Downstream): Decision-Making Contexts

Drawing on the contingency theory, the "application of SDMP" is also not free of constraints. A handful of studies try to investigate the various contexts where different SDMPs unfold their impact. However, the findings are largely inconclusive in the past few decades, such as the role of the external environment (e.g. Fredrickson, 1984; Bourgeois and Eisenhardt, 1988; Hough and White, 2003; Khatri and Ng, 2000). The current study will provide new insights and empirical evidence regarding those inconsistencies by considering the two most important contextual factors.

5.3.2.1The Context of Environmental Dynamism

In light of the upper echelon theory, TMTs make their strategic choices by filtering and processing information from the external environment (Hambrick and Mason, 1984). The external environment context will significantly influence SDMP-outcomes relationships (Shepherd and Rudd, 2014). A variety of environmental factors have been taken into account in the past SDM literature, such as dynamism, instability, uncertainty, ambiguity and munificence. Forbes (2007) states that fail to distinguish different environmental factors is an important reason that causes inconsistent findings.

Instability has been defined as the "rapid and often discontinuous changes" in the organisational environment (Henderson and Stern, 2004: 41). Uncertainty is that decision-makers are expected to know the probabilities and possible outcomes. Still, they are not precisely sure which outcome will happen, whereas decision-makers are unsure about the outcome probabilities themselves under an ambiguous environment (Forbes, 2007). Munificence has been defined as "the extent to which an environment can provide sufficient resources for the firms present in it" (Sharfman and Dean 1991: 685)". A bulk of studies have seen environmental dynamism as the most vital environmental factors in the SDMP research realm (e.g. Priem et al., 1995; Hough and White, 2003; Mitchell et al., 2011; Samba et al., 2020). Dynamism, as opposed to the other environmental factors, is in respect to the changing rate, absence of pattern and unpredictability of the external environment (Priem et al., 1995). More precisely, Mitchell et al. (2011: 687-688) argue that environmental dynamism is a "highly unpredictable and unstable rate of change and high levels of uncertainty about the state

of the context, the means-ends relationships, and/or the outcomes of the actions". The SDMP in the current study is drawing upon the dual-process theory, where two information-processing systems will be considered (Evans, 2003). As such, the changing rate and unpredictability of the external information could have a particularly important effect on how the two SDMPs unfold their impact. Hence, the current study will only investigate the moderating role of environmental dynamism over other environmental factors.

Past studies have shown that environmental dynamism is not a unitary construct (e.g. Heavey and Simsek, 2015). There have been two widely accepted dimensions from Atuahene-Gima and Li (2004), namely, technology dynamism and market dynamism. The former is the perceived speed and unpredictability of the technology in an organisation's primary industry, which is manifested as the quick technological obsolescence and short product life cycle (Atuahene-Gima and Li, 2004). The latter refers to the perceived speed and unpredictability of customers' preferences and demands and the emergence of the new customer segment (Jaworski and Kohli, 1993). This categorisation is in line with Forbes (2007), who regards "technology" and "demand/market" as the two most important strategic considerations during the SDMP. A recent study from Heavey and Simsek (2015) adopt those two dimensions to investigate the moderating effect of environmental dynamism on the relationship between TMT's transactive memory system and firm performance, which generates fresh insights. Shepherd and Rudd (2014) also argue that future studies should test different dimensions of a single environmental factor to understand its moderating effect better. Therefore, the current study will investigate environmental dynamism from those two perspectives, namely, technology dynamism and market dynamism.

5.3.2.1.1 The Seventh Group of Hypotheses: The Moderating Role of Environmental Dynamism on the SDMPs-Organisational Performance Relationships

Procedural Rationality

The value of procedural rationality on various organisational outcomes under environmental dynamism is the subject of longstanding debates in the SDM literature (Samba et al., 2020; Miller and Mckee, 2020). Ample evidence from past studies finds that environmental dynamism will decrease, eliminate or reverse the positive influence of procedural rationality (e.g. Fredrickson, 1984; Fredrickson and Mitchell, 1984; Hough and White, 2003; Goll and

Rasheed, 2005). However, other bulk of studies have shown that the opposite holds true (e.g. Eisenhardt, 1989; Bourgeois and Eisenhardt, 1988). Apart from the linear relationships, Miller (2008) finds an inverted U-shaped relationship between comprehensiveness and firm performance under the nonturbulent environment and some curvilinear relationships in the turbulent environment. Surprisingly, some studies do not find any significant moderating role (e.g. Dean and Sharfman, 1996; Elbanna and Child, 2007).

Building upon this long debating literature, the current study proposes that both environmental dynamism dimensions (i.e. technology and market) will attenuate the possible positive effect of procedural rationality on organisational performance. However, they will foster the potential positive impact of collective intuition on organisational performance.

Regarding the possible negative moderating role of the environmental dynamism on the procedural rationality-organisational performance relationship, the first inherent reason is that the external environment is not static but changing over time (Snyder and Paige, 1958). On the one hand, the information or data collected through the arduous processes in the present time may not be applicable for the actions in the future. In a similar vein, March (2006) argues that the consequences of a certain decision are possibly unknown when it was made due to the continually changing environment. The fast-changing speed in the dynamic environment would make it difficult for the TMT to collect the most up-to-date information and rely upon the analysis of this information to make a strategic decision. As such, the initial positive effect of the rational decision-making process would be attenuated.

On the other hand, taking the perspective of the strategic choices from Dean and Sharfman (1996), TMTs have to try to understand the environment and generate a variety of alternatives and draw upon their preference to make the final strategic choice. However, TMTs' preference regarding the best solution would likely change according to the change in the external environment (Miller, 2008). As such, the dynamic environment hinders the TMT's possibility to fully evaluate the environment to reflect on the initial preference or strategic choice (Bennett and Lemoine, 2014), which then hinder the initial positive effect of the procedural rationality on the organisational performance.

Furthermore, Fredrickson (1984) argues that the dynamic environment will be challenging for TMTs to identify the most critical decision variables and develop theories through rational

models in this situation. The last possible reason is regarding the availability of the time used for information collection and analysis in the dynamic environment. Samba et al. (2020: 9) argue that the time required for rich information searching and analysis may not be available in the fast-changing environment. It may also "cause harmful delays in responding to the fleeting windows of opportunities and pressing problems" (ibid).

To be specific, Anderson and Tushman (2001) argue that technology dynamism creates the most hazard conditions for organisations. Rapid technological change will also be difficult for TMTs to keep up with the updated technology tools and hinder the collection of the latest information, which has been seen as an unanalysable environment (Atuahene-Gima and Li, 2004). Similarly, the change of customer's preferences and demands could also result in equivocal and inconsistent market information for TMTs to process, which could hinder the positive values of rationally collecting and analysing information during strategic decision making. In addition, those two dimensions of environmental dynamism could increase the cost and difficulties for the TMT to make sense of the most significant implications of the SDMP.

Hence, the hypotheses as follows:

H11a: *Environmental dynamism (i.e. technology dynamism and market dynamism) will hinder the positive relationship between procedural rationality and organisational performance.*

Collective Intuition

Drawing on the previous literature, the influence of intuition on organisational outcomes are likely to be contingent on the external environment (e.g. Dane and Pratt, 2007; Khatri and Ng, 2000; Elbanna, 2015). Some studies have found empirical evidence to support the positive influence of the intuitive decision-making process on organisational performance in the dynamic environment (e.g. Khatri and Ng, 2000; Dayan and Di Benedetto, 2011). The underlying reasons are inextricably linked to challenges or hurdles that an organisation may have encountered in the dynamic environment. For example, in a dynamic environment, collecting information is constrained; a more considerable amount of information as to the environment is required to be collected; the reliability of the collected data is relatively low due to being potentially outdated (Khatri and Ng, 2000). The key advantages of applying

intuition during the decision-making process could help decision-makers overcome those challenges by quickly synthesising available information (Dane and Pratt, 2007).

In addition, Matzler et al. (2014) find the role of managers' intuitive style in helping the organisation achieve innovation as it could reduce the managers' cognitive constraints. Inevitably, the dynamic environment would cause a high level of cognitive constraints to the TMT due to the need to deal with a large amount of information, whereby the use of intuition could be beneficial. Furthermore, one of the dynamic environment's key features is rapid change (Priem et al., 1995; Mitchell et al., 2011). Intuition could help the decision-maker respond to those changes more effectively (Dayan and Elbanna, 2011). In light of the potentially positive role of environmental dynamics on the relationship between individual intuition and organisational performance, the current study proposes that collective intuition's initial positive effect on organisational performance will also be fostered in the dynamic environment.

Firstly, Eisenhardt (1999) states that collective intuition enables executives to identify threats and opportunities sooner and more accurately as opportunities occur. In the dynamic environment, this benefit of using collective intuition would be more salient as the technological application and customers' demands are changing rapidly and unpredictable (Atuahene-Gima and Li, 2004). The influence of fast and accurate identification of opportunities resulting from the collective intuition will impact the final organisational performance in the dynamic environment.

Secondly, technology and market dynamism have been seen as an unanalysable environment due to the fast-changing technological application and unpredictable customer demands and preferences (Anderson and Tushman, 2001; Atuahene-Gima and Li, 2004). Based on the previous illustration, collection intuition, in essence, is pattern recognition and matching between the current environment and the team mental model or the shared mental model (Dane and Pratt, 2007). The difficulties for TMTs to fully grasp the completed information in the dynamic environment would encourage the TMT to start matching the pieces of the scattered available information. As such, the dynamic environment would enhance TMT's initial reliance on the collective intuition to make a strategic decision. Moreover, possible positive decision-making outcomes associated with the team mental model (Cannon-Bowers et al., 1993) will further foster the initial positive effect on organisational performance.

Thirdly, Dickson (1992) argue that in the fast-changing environment, such as the short product cycle and the rapid change of the customers' need, it would be difficult for the decision-making team to detect and make sense of the cause-and-effect of the key factor in the environment. As similar to the above reasons, relying on the team mental model to start the pattern recognising and the matching process would make it possible for the TMT to detect the causality of critical stimuli in the environment. This is due to the similar environment the TMT has experienced in the past, or the TMT members have developed accurate explanations and expectations collectively for the team task (Cannon-Bowers et al., 1993). As such, the technology and market dynamism would reinforce the positive influence of collective intuition.

Hence, the hypothesis is as follows:

H11b: *Environmental dynamism (i.e. technology dynamism and market dynamism) will foster the positive relationship between collective intuition and organisational performance.*

5.3.2.2 The Context of Strategic Decision Importance

Based on the previous literature review of the contingency theory in Chapter 4, how the decision-makers perceive the strategic decision's characteristics before making it (e.g. importance, motive and uncertainty) could affect their SDMP (Papadakis et al., 1998). Those perceptions would not just potentially affect the SDMP itself but how the SDMP unfolds its impact on various organisational outcomes (Elbanna and Child, 2007; Dayan et al., 2012). However, most of the studies investigate the role of those decision-specific perceptions as being the antecedents of SDMPs (e.g. Dean and Sharfman, 1993; Nooraie, 2008; Elbanna and Fodol, 2016). There is still a lack of empirical evidence as to their potential role as an essential context of the SDMP (e.g. Papadakis et al., 1998; Hutzschenreuter and Kleindienst, 2006; Shepherd and Rudd, 2014; Elbanna et al., 2020). In particular, strategic decision importance represents the magnitude of the strategic decision's impact on an organisation's performance and has the most substantial explanatory power, among other decision characteristics (Papadakis et al., 1998). Due to its particular importance and the lack of relevant studies in the literature, strategic decision importance will be chosen as another decision-making context for the Model II: Application of SDMP.

5.3.2.2.1 The Eighth Group of Hypotheses: The Moderating Role of Strategic Decision Importance on the SDMPs-Organisational Performance Relationships

The current study proposes that strategic decision importance will foster the positive relationship between procedural rationality and organisational performance but attenuate the positive effect of collective intuition on organisational performance.

Regarding its potential positive role in fostering procedural rationality's positive effect, the most important underlying reason could be explained through the attention-based view of the firm (Ocasio, 1997). Theoretically, all the strategic decisions should be important as they could have a tremendous impact in determining the firm's success (Hambrick and Mason, 1984). However, due to the inherence cognitive constrain of decision-makers (Cyert and March 1963), they are likely to prioritise their limited time and cognitive capability to the strategic decisions they perceive as the high importance initially and pay more attention to those strategic decisions.

In a similar vein, the balance between the cost and benefits from an economic perspective could also shed more light on how the strategic decision importance affects procedural rationality during the SDMP. Winter (1981) argues that more attention and commitment are most likely to be allocated to deal with the issues that involve high cost and high possible benefits. When the strategic decision's importance is high, TMTs are likely to focus more on the strategic decision as it would involve high cost and high benefit. Hence, the TMT tend to undertake rational decision-making processes (Papadakis et al., 1998; Hickson et al., 1986) and try to be more careful and circumspect when collecting and analysing the information to make the final decision and achieve the best decision-making outcomes. Additionally, when the TMT perceives the importance or the impact of the strategic decision, the rational decision-making process would be more conservative to minimise and control the strategic decision's potential risks. Therefore, the current research proposes the positive moderating role of the strategic decision importance in the relationship between procedural rationality and organisational performance.

However, when the TMT perceives the strategic decision as high importance, the team will initially reduce the intention to rely on team intuition to make the strategic decision due to the

fear of the possible negative consequences (Dayan and Elbanna, 2011). Rational SDMP (i.e. procedural rationality) can be articulated and tracked for every stage of the processes. Differently, collective intuition, as unconscious SDMP originating from the pattern matching with the team mental model, makes it difficult to justify the unexpected results (Elbanna and Fadol, 2016). Besides, when the level of strategic decision importance is high for a certain strategic decision, the potential benefits from collective intuition (e.g. fast synthesis of information; the accuracy of the team mental model) would be attenuated. TMT may not trust their "collective gut feeling" anymore, and they are afraid of taking their responsibility if the final collective decision ends up with a failure with detrimental consequences. Therefore, the potential positive effect of collective intuition on the organisational performance could be attenuated if the TMT initially perceives the strategic decision as high importance (i.e. strategic decision importance).

Hence, the hypotheses are as follows:

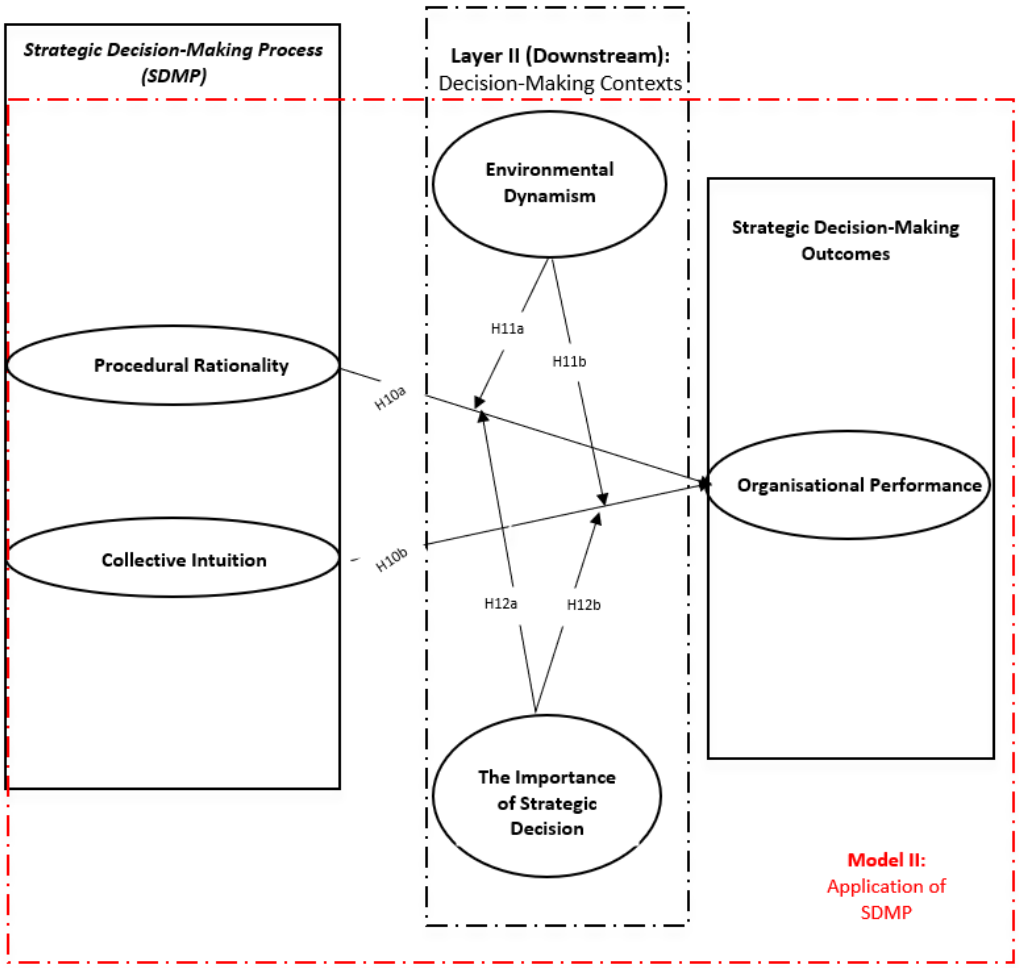
H12a: *The importance of strategic decision will foster the positive effect of procedural rationality on organisational performance.*

H12b: *The importance of strategic decision will hinder the positive effect of collective intuition on organisational performance.*

Taking into account all the considerations as mentioned above of "Baseline Model II" and "Layer II (downstream): Decision-Making Contexts", the full conceptual model for "Model II: Application of SDMP" is as follows in *Figure 5.3*:

Figure 5.3

(Model II: Application of SDMP)



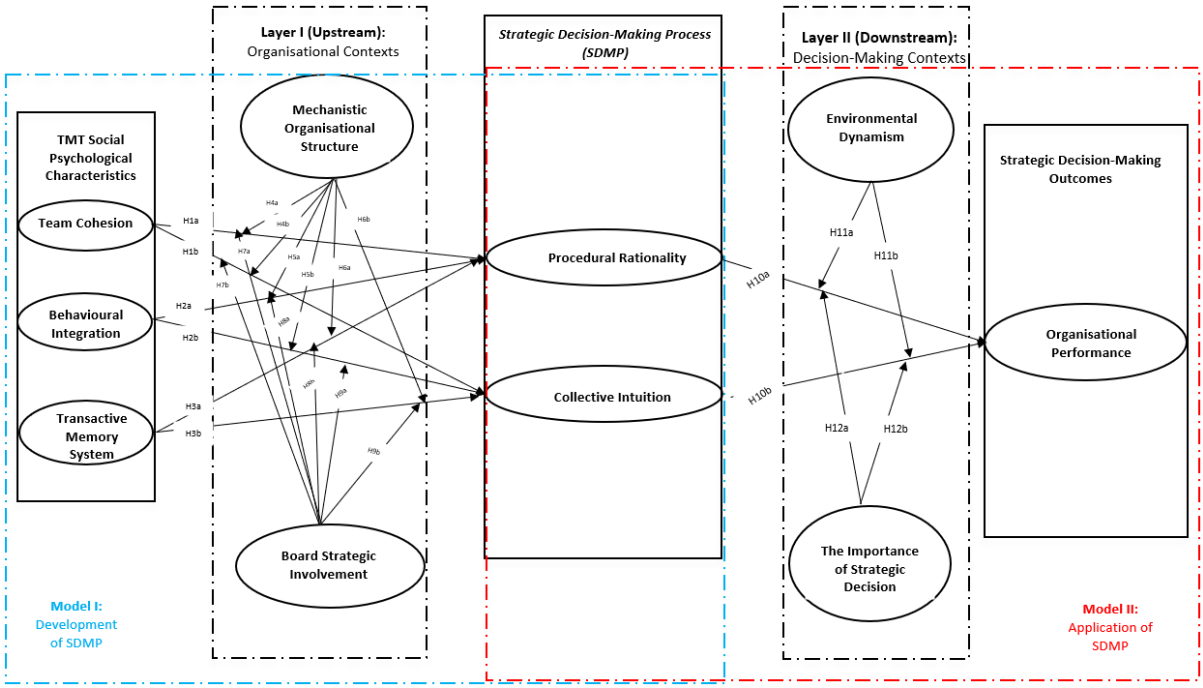
5.4 Full Double-Layered Contextual Model of SDMP

By combining Model I (Development of SDMP) and Model II (Application of SDMP), the full double-layered contextual model of SDMP is depicted in *Figure 5.4*. This model will provide a holistic picture that captures how TMTs with different social-psychological characteristics develop their SDMPs (i.e. procedural rationality and/or collective intuition) and how those SDMPs unfold the impact on organisational performance. Importantly, taking into account the

significance of the contexts, two layers of the contexts (i.e. organisational contexts and the decision-making contexts) have been proposed to understand the critical boundaries for the development and the application of the "black box", namely, strategic decision-making process (SDMP).

Figure 5.4

(Double-layered contextual model of SDMP)



5.5 Summary

Based on the comprehensive literature review of the present research's theoretical background in the previous three chapters, this chapter has taken an integrative view to develop a double-layered contextual model of SDMP. Eight groups of hypotheses have been proposed (see *Table 5.1 and 5.2* as a summary) in the final contextual model by integrating the three theoretical perspectives.

After proposing the conceptual model with eight groups of hypotheses in this chapter, the next chapter, chapter 6, will outline the research contexts of the present research and explain the underlying rationale why M&A remains as a crucially important context for SDMP literature and the double-layered contextual model.

Table 5.1: Summary of Hypotheses-Models I: Development of SDMP

Model I: Development of SDMP	
Hypothesis Numbers	**Hypothesis**
The *First* Group of Hypotheses: TMT Cohesion-SDMPs relationships	
H1a	When cohesion is high, TMTs are more likely to develop procedural rationality during the SDMP.
H1b	When cohesion is high, TMTs are more likely to develop collective intuition during the SDMP.
The *Second* Group of Hypotheses: TMT Behavioural Integration-SDMPs Relationships	
H2a	When behavioural integration is high, TMTs are more likely to develop procedural rationality during the SDMP.
H2b	When behavioural integration is high, TMTs are more likely to develop collective intuition during the SDMP.
The *Third* Group of Hypotheses: TMT Transactive Memory System-SDMPs Relationships	
H3a	When the transactive memory system is high, TMTs are more likely to develop procedural rationality during the SDMP.
H3b	When the transactive memory system is high, TMTs are more likely to develop collective intuition during the SDMP.
The *Fourth* Group of Hypotheses: The Moderating Role of Organisational Structure on TMT Social Psychological Characteristics-SDMPs Relationships	
H4a-6a:	The mechanistic organisational structure will foster the positive effect of team cohesion (H4a), behavioural integration (H5a) and transactive memory system (H6a) on the development of procedural rationality.
H4b-6b:	The mechanistic organisational structure will hinder the positive effect of team cohesion (H4b), behavioural integration (H5b) and transactive memory system (H6b) on the development of collective intuition.
The *Fifth* Group of Hypotheses: The Moderating Role of Board Strategic Involvement on TMT Social Psychological Characteristics-SDMPs Relationships	
H7a-9a:	A high level of board strategic involvement will foster the positive effect of team cohesion (H7a), behavioural integration (H8a) and transactive memory system (H9a) on the development of procedural rationality.
H7b-9b	A high level of board strategic involvement will hinder the positive effect of team cohesion (H7b), behavioural integration (H8b) and transactive memory system (H9b) on the development of collective intuition.

Table 5.2: Summary of Hypotheses-Models II: Application of SDMP

Model II: Application of SDMP	
Hypothesis Numbers	**Hypothesis**
The *sixth* Group of Hypotheses: SDMPs-Organisational Performance relationships	
H10a	The greater the procedural rationality, the greater the organisational performance.
H10b	The greater the collective intuition, the greater the organisational performance.
The *Seventh* Group of Hypotheses: The Moderating Role of Environmental Dynamism on the SDMPs-Organisational Performance Relationships	
H11a	Environmental dynamism (i.e. technology dynamism and market dynamism) will hinder the positive relationship between procedural rationality and organisational performance.
H11b	Environmental dynamism (i.e. technology dynamism and market dynamism) will foster the positive relationship between collective intuition and organisational performance.
The *Eighth* Group of Hypotheses: The Moderating Role of Strategic Decision Importance on the SDMPs-Organisational Performance Relationships	
H12a	The importance of strategic decision will foster the positive effect of procedural rationality on organisational performance.
H12b	The importance of strategic decision will hinder the positive effect of collective intuition on organisational performance.

Chapter 6: Research Context: Mergers and Acquisitions (M&A)

6.1 M&A: Rare and Complex Strategic Decisions with Intensity of Conflicts

The current study's central aim and the previously proposed double-layered contextual model of SDMP are to understand how TMTs make strategic decisions (i.e. SDMP). Drawing upon the upper echelon theory and the dual-process theory, two SDMPs from the cognitive perspective (i.e. procedural rationality and collective intuition) have been seen as an essential "black box" between TMT social psychological characteristics and organisational performance. In particular, how TMTs develop the SDMPs (Model I: Development of SDMP) and how SDMPs unfold the impact (Model II: Application of SDMP) within the corresponding contexts have been proposed in order to understand the SDMPs of TMT fully.

As the foci of the current study, strategic decisions have some distinguishing features compared to other decisions made in the organisation (e.g. operation decisions). For instance, strategic decisions impose long-term implications on the organisation due to the substantial resources' involved, and they are complex and ill-structured with high risk and uncertainty (Papadakis and Barwise, 1997). In this respect, M&A decisions have met all the essential characteristics to be a crucial strategic decision made by an organisation. In particular, M&A are uncertain due to the information asymmetry problem (Boeh, 2011).

Firstly, M&A decisions are rare strategic decisions (Zollo, 2009; Zollo and Meyer, 2008). Strategic decision-makers may not be able to speculate about the M&A decision due to the lack of experience in the past (Brown and Duguid, 1991). Secondly, M&A are unique and complex decisions due to their salient differences in critical dimensions (Zollo, 2009), whereby the analogical thinking may not be helpful (Gavetti et al., 2005). Thirdly, the causal ambiguity and the outcome ambiguity (March and Levitt, 1988; King and Zeithamal, 2001; Zollo, 2009) make it extremely complex and challenging for the M&A decision-makers to predict the possible cause-effect relationships.

In addition to rarity, complexity and uncertainty, another particularly important feature of M&A decisions that distinguishes them from other similar strategic decisions (e.g. joint venture and strategic alliance) is the intensity of conflicts. The origin of those conflicts might have

come from the direct clashes between the acquirer and the target firm. Because of the ownership transfer as the result of the M&A decision, one side (i.e. the acquirer) can impose the decision (e.g. culture and HR practice) on the other side (target firm), leading to intensive conflicts (Weber et al., 2012). Therefore, the intensity of conflicts associated with the M&A decision makes them particularly worthwhile to be investigated in the present research.

A recent review study suggests that SDMP studies should focus on specific strategic decisions made by the organisation (Shepherd and Rudd, 2014). The findings in the SDMP literature are inconsistent and scattered due to the lack of focus on particular strategic decisions (ibid). Therefore, keeping focused on the rare, complex and uncertain strategic decisions with intensity of conflicts (i.e. M&A) will enable the current study to shed the greatest light on the development and the application of the SDMP and provide new insights into the SDMP literature.

6.2 The Dual-Process Perspective of M&A Decision-Making

In the M&A literature, a particular stream of research tries to look at M&A from a process perspective (e.g. Jemison and Sitkin, 1986; Pablo et al., 1996; Homburg and Bucerius, 2006; Gomes et al., 2013). This process perspective defines and investigates the M&A as a series of decision-making processes that affect different stages of the M&A event (Jemison and Sitkin, 1986). Those processes include, for example, making choices and evaluating the strategic partners in the pre-merger phase (Gomes et al., 2013) and deciding the integration strategies in the post-merger phase (Birkinshaw et al., 2000; Bauer et al., 2020).

In light of the information processing perspective, how TMTs make those decisions depend on their perception and information processing of the external environment (Daft and Lengel, 1986). For example, for integration decisions in the post-merger phase, TMT will need to decide the degree of integration and integration speed (Cording et al., 2008; Bauer and Matzler, 2014). TMT could follow a rational decision-making process to collect and analyse human resources and structural information between the acquiring and target companies to make the final integration decisions. Based on the rigorous information analysis of the extensive information, the TMT would be able to make critical strategic decisions about integration, such as the balancing between integration and autonomy (Zaheer et al., 2013; Haspeslagh and

Jemison, 1991) and choosing broad post-acquisition integration strategies, e.g. preservation (high autonomy but low knowledge transfer) and absorption (low autonomy but high knowledge transfer) (Angwin and Meadows, 2015).

However, the SDMP of M&A may not only be the consequences of the decision-makers' rational reasoning due to some reasons, such as the inherent complexity of the M&A decision making (Zollo, 2009), decision-makers' limited information-processing abilities (Simon, 1976) and the cognitive biases from the bounded rationality (Cyert and March 1963). Hence, TMTs could rely on intuition when making M&A decisions. Additionally, crucial catalysts of the possible intuitive decision-making process could be in respect to TMTs' limited time to conduct extensive planning and evaluation for M&A processes (e.g. post-merger integration decisions). Other reasons include, for example, the large amounts of information are required to be processed and interpreted to make the decision (Vester, 2002; Uzelac et al., 2016). As such, TMTs would use intuition as a cognitive shortcut when making M&A decisions (Bingham and Eisenhardt, 2011).

Importantly, it is highly possible that during the M&A decision-making process, TMT will rely on both rational and intuitive approaches, given time restraints, relevant experience, availability of the information and resources and the collective cognitive ability. Empirical evidence from Uzelac et al. (2016) has supported this speculation. They find that decision-makers' deliberate and intuitive decision-making style would influence how the post-merger integration decisions (task integration and human integration speed) unfold the impact on the final M&A performance.

Therefore, the presence and the interplay of both rational and intuitive elements during the M&A decision-making process have shed light on the dual-process theory's fundamental assumptions (Evan, 2003). According to the theory, individuals will rely on two types of information processing to make a decision: Type 1(fast, unconscious and intuitive) and Type 2 (slow, analytical and rational); and two types of information processing are not mutually exclusive but operating in parallel (Evan, 2003; Evan, 2008). Besides, the study's focus is to investigate the TMT's collective SDMP from a cognitive perspective. Moreover, Zhang and Greve (2019) argue that the dominant coalitions in the organisation will affect how the acquisition decision is finally made (i.e. the type of acquisition target). TMT, the dominant coalition in the organisation (Hambrick and Mason, 1984), would be held accountable to make

the rare and complex M&A decision. As such, using M&A as the research context will not just fulfil the underlying assumptions of investigating the SDMP from a dual-process cognitive perspective but meet the level of the present study (i.e. TMT-level).

6.3 The Decision-Making Perspective of M&A: An Emerging but Still Overlooked Research Territory

M&A is an approach for organisations to pursue non-organic growth to enhance their organisational performance by acquiring critical resources and capabilities (Christensen et al., 2011; Bazel-Shoham et al., 2017). Undoubtedly, massive amounts of time and resources would need to be involved in the acquisition-related events. However, in reality, only 40-60 per cent of the acquisition endeavours are successful (Christensen et al., 2011). Surprisingly, studies have found that the acquisitions have even damaged the acquiring firm's initial firm value (e.g. King et al., 2004). This "puzzle of M&A performance" (Bauer et al., 2019: 2) has raised tremendous attention from M&A scholars to unlock this puzzle.

A handful of recent comprehensive M&A review papers have proposed possible reasons to explain the puzzle of M&A performance (e.g. Haleblian et al., 2009; Devers et al., 2020; Dao and Bauer, 2020; Graebner et al., 2017), such as critical factors in the pre-merger phase (e.g. indicators of synergy potential) and critical success factors in the post-merger integration phase (e.g. speed of implementation and communication during implementation) (Gomes et al., 2013; Bauer and Matzler, 2014). However, there are still substantially under-researched areas in the M&A literature (Haleblian et al., 2009). Dao and Bauer (2020) argue that M&A research is still very fragmented. Adopting new perspectives and broad ideas to look at the M&A would improve our understanding of the ambiguities of the puzzle of M&A performance, such as taking process-oriented and context related perspectives (ibid). In line with the previous arguments that M&A is the rare and complex strategic decision made by the TMT (Zollo, 2009), looking at the M&A from a strategic decision-making perspective seems plausible to gain fresh insights into the puzzle of M&A performance. However, surprisingly, the behavioural perspective of M&A, such as the behavioural antecedents of the acquisition decision-making behaviours, have not received sufficient attention from M&A scholars so far (Devers et al., 2020).

In the M&A literature, a stream of research investigates the critical factors that explain why and how decision-makers make M&A decisions. Firstly, the CEO's demographic and psychological characteristics have a potential influence on their M&A decision-making behaviours. For example, Matta and Beamish (2008) investigate the effect of the CEO's career horizon on their intention to make international acquisitions decisions. They find that older CEOs (i.e. CEOs nearing retirement) are less likely to take international acquisition decision if they have a high level of in-the-money unexercised options and equity holding. Huang and Kisgen (2013) research the gender difference between male and female executives' acquisition decision-making behaviours. They find those male executives make acquisitions more often than female executives, and the male executives are more overconfident when making the acquisition decisions.

Besides those CEOs' demographic characteristics, their psychological characteristics have been investigated to understand the influence on their M&A decision-making behaviours. For example, Malhotra et al. (2018) find a positive relationship between extroverted CEOs and their intention to take large-size acquisition decisions. Gamache et al. (2015) find that the CEO's regulatory focus (i.e. being sensitive to positive stimuli-promotion focus or the negative stimuli-prevention focus) will affect the way how they pursue the acquisitions decisions (i.e. numbers and the value of the acquisitions). Other CEOs' psychological characteristics that could potentially influence their M&A decision-making behaviours are CEO narcissism (e.g. Chatterjee and Hambrick, 2007), hubris (Hayward and Hambrick, 1997), charisma (Agle et al., 2006) and risk propensity (Cain and McKeon, 2016).

In the meantime, the CEO/senior managers' previous acquisition experience has been seen as an essential characteristic that affects their M&A decision-making behaviour (e.g. Zollo, 2009; Bauer et al., 2016; Brouthers and Dikova, 2010; Bruton et al., 1994). The underlying reason is attributed to the possible high level of confidence and competence to make the right decision for the next M&A endeavour (Zollo, 2009; Yelle, 1979) and the development of the decision-makers' capabilities from enhanced organisational routines (Schweiger and Goulet, 2005). On the one hand, those factors mentioned above may have motivated the decision-makers to be bold to make new acquisitions. On the other hand, superstitious learning (Levitt and March, 1988; Zollo, 2009) and causal and outcome ambiguity (King and Zeithamal, 2001) could make it difficult for CEOs to have an effective reflection on their past learning. They do not know how to apply lessons from the previous experience to the next acquisition decision-making

process (Haleblian and Finkelstein, 1999). As such, there could be a scenario in which the decision-makers with prior acquisition experience still not be willing or less confident to make the next acquisition decision due to the ambiguous learning outcomes in the past.

Even if there has been some evidence as to how decision-makers' (e.g. CEO) characteristics could potentially affect their M&A decision-making behaviours, additional insight into specific characteristics that influence the M&A decision-making willingness and decision biases are still needed (Devers et al., 2020). In particular, compared with the studies on understanding the behavioural aspects of the M&A decision from an individual decision-makers perspective (CEO), there are only a handful of team-level studies in the M&A literature. For example, Steinbach et al. (2017) find that the high average level of the TMT incentive motivates the team to take more acquisition investment and the within-TMT incentive homogeneity fosters this positive relationship. In addition to TMT, the board has been seen as another essential team that has a salient effect on the M&A decision (Chen et al., 2016). For instance, the board with a high proportion of outside directors makes it more likely for the firm to favour acquisition decisions than joint venture decision in foreign market entry (Datta et al., 2009). In line with the studies that focus on how individuals' (e.g. CEO) past acquisition experience affect the M&A decision-making behaviour (e.g. Bauer et al., 2016), TMT's acquisition experience has also gained attention by some M&A scholars. For instance, Nadolska and Barkema (2014) find a significant positive relationship between TMT's acquisition experience and the frequency of making acquisition decisions.

Simply, it means that as a rare and complex strategy decision, the decision-making perspective of M&A seems to be glossed over by the previous studies, and that might hinder the progress of unpacking the puzzle of M&A performance. In particular, how strategic decision-makers' characteristics (i.e. TMT) affect the process in which the M&A decision is made remains unclear (Devers et al., 2020). Therefore, the inherent alignment between this important scarcity in the M&A literature and one of the current study's key foci (i.e. development of SDMP) makes the M&A an applicable research context.

6.4 The Upper-Echelon Perspective of M&A: SDMP-An Overlooked "Black Box" to Unpack "M&A Performance Puzzle" and "Causal Ambiguity."

In light of the upper echelon theory, the central tenet is that the upper echelons' characteristics (e.g. CEO and TMT) will affect the organisational performance through their strategic choices (Hambrick and Mason, 1984). Taking this upper echelon perspective, M&A scholars have started to investigate how individual strategic decision-makers (i.e. CEO) or the decision-making teams (i.e. TMT and the board) affect the final M&A performance based on their demographic or psychological characteristics. However, findings regarding some of those characteristics are inconsistent.

The already researched CEO's characteristics that potentially influence the M&A performance include narcissism (e.g. Chatterjee and Hambrick, 2011), level of confidence for the acquisition decision (Zollo, 2009) and gender (Huang and Kisgen, 2013). They find that even if CEOs are likely to make the acquisition decision due to narcissism and confidence, the final M&A performance is negative, and female CEOs are likely to make more successful acquisition decisions than male CEOs (Chatterjee and Hambrick, 2011; Huang and Kisgen, 2013). However, regarding the effect of the CEO's risk propensity and past acquisition experience, findings have been mixed in the literature. For example, Cain and McKeon (2016) find that acquiring companies led by pilot CEO (i.e. risk-taking CEO) have significantly higher announcement returns, which contradicts with Bernile et al. (2017), who have found the negative effect of the CEO's risk-taking characteristics. A similar inconsistency also has been found in how the acquirer's acquisition prior experience (as a proxy for the CEO's acquisition experience) affect the M&A performance. For example, some studies find the positive effect of the previous acquisition experience (e.g. Fewler and Schmidt, 1989; Bruton et al., 1994; Trichterborn et al., 2016). Others find the negative impact (e.g. Kusewitt, 1985) and the U-shaped relationship in which the past acquisition experience will need to cross a certain threshold to contribute to positive M&A performance (Haleblian and Finkelstein, 1999).

There are only a handful of M&A studies investigating the relationships between the team level characteristics (e.g. TMT and board) and the M&A performance. For example, Steinbach et al. (2017) find the positive effect of TMT incentive compensation heterogeneity on the final M&A performance. Mcdonald et al. (2008) find that outside directors' average acquisition experience positively impacts the acquisition performance.

It is still scarce to use the upper echelon perspective to understand the main behavioural drivers of M&A performance in the literature. At the TMT level, in addition to the demographic and

the experience attributes, a more in-depth investigation of the effect of "psychological attributes of TMT on acquisition performance" is still urgently needed by the M&A scholars (Devers et al., 2020). With this regard, investigating how TMT social psychological characteristics affect the acquisition performance, as the central baseline question of the double-layered contextual model of SDMP, would help the M&A literature get new insights.

In particular, the concept of causal ambiguity has raised much attention by M&A scholars (e.g. Zollo and Meyer, 2008; Zollo, 2009). It has been broadly defined as the ambiguous link between firm resources and the firm competitive advantage (Barney, 1991). Specifically, King and Zeithaml (2001) argue for the two sub-types of causal ambiguity: linkage ambiguity and characteristics ambiguity. The former is between resource/competency and organisational performance. In contrast, the latter is the "fuzziness" of characteristics as to the resources and competency due to the possible involvement of the tacit knowledge (King and Zeithaml, 2001; Reed and DeFillippi, 1990). In the M&A literature, to deal with the causal ambiguity, the intermediate goals have been used as an approach to understanding the missing links that cause the ambiguity between resources/competency/key decisions in different M&A phases and the acquisition performance (e.g. Cording et al., 2008; Bauer et al., 2019).

In essence, it would be applicable to see TMT as the firm's human resource or human capital. The ambiguous links between TMT's characteristics and the M&A performance could be categorised into the linkage ambiguity. TMT social-psychological characteristics could also represent the characteristics ambiguity due to the "tacitness" nature. As such, ambiguous cause-effect linkages (March and Levitt, 1988) between the TMT social psychological characteristics and M&A performance would also need to be solved in the context of the M&A due to the presence of two types of causal ambiguity.

This endeavour is in line with the "black box" problem (Lawrence, 1997). Upper echelon scholars try to solve this problem by testing the missing links between the TMT characteristics and the organisational outcomes (e.g. Goll and Rasheed, 2005; Knight et al., 1999). The current study aims to unpack the "black box" by introducing the dual-process cognitive perspective of the SDMP. In light of the assumptions in section 6.2, M&A is a rare and complex strategic decision (Zollo, 2009), involving rational and intuition elements during the SDMP. Therefore, how a TMT makes M&A decisions could be another crucial way to unravel the M&A causal

ambiguity. This endeavour could provide new insights into the "M&A performance puzzle" (Bauer et al., 2019).

6.5 The Contingency Perspective of M&A: A Promising Way to Unpack the "M&A Performance Puzzle."

Some M&A scholars argue that M&A events are independent and decontextualised (e.g. Rouzies et al., 2019). Other scholars have highlighted the importance of various contexts in which different stage of the M&A activities are embedded to fully understand the M&A events and explain the mixed results in the literature (e.g. Haleblian and Finkelstein, 1999; King et al., 2004; Capron and Guillén, 2009). In particular, Dao and Bauer (2020) state that the contextual perspective of M&A is still broadly ignored in the M&A literature; instead of spotting gaps, taking this perspective will help us understanding boundaries and ambiguities around M&A events.

This contextual perspective will be based on the contingency theory (Luthans and Stwewart, 1997; Donaldson, 2001), which argues for the congruence between the organisational characteristics/activities and contingencies (Morton and Hu, 2008). In the M&A literature, both external contingencies (e.g. the external environment and national culture) and internal contingencies (e.g. organisational structure and organisational coordination) have been investigated to understand how those contingencies moderate specific relationships within the different phases of the M&A. For example, Schriber et al. (2019) investigate how the relationships between resilience during integration and acquisition outcomes are embedded in the technologically turbulent environment. They find that the positive effect of flexibility (i.e. one dimension of the resilience) on reducing the competitor retaliation will be fostered in a technologically turbulent environment. Bauer et al. (2016) find that the national cultural difference between the acquiring company and the target firm has an inverted U-shaped relationship, moderating the effect on the relationship between task integration and organisational innovation. Zollo (2009) find that the deliberate learning process (knowledge codification) will attenuate the negative effect of the senior corporate development managers' perception of past success on the focal acquisition performance.

However, to the author's best knowledge, there has not been a study that integrates the internal and external contingencies to establish a holistic picture of the M&A event. Taking this contingency perspective would provide more fresh insights into unpacking the "M&A performance puzzle". This promising contingency perspective could also help M&A scholars better understand the critical boundaries associated with the M&A decision-making process.

6.6 Summary

This chapter has tried to illustrate the appropriateness of putting the double-layered contextual model of SDMP into the M&A research contexts. The inherent nature of the M&A decision (i.e. rare, complex, uncertain), decision-making level (i.e. TMT) and the inevitable involvement of the dual-process cognitive process (i.e. procedural rationality and collective intuition) make an initial fit for the M&A context. In particular, the emerging but still unsolved decision-making, upper echelon, and contingency perspectives of the M&A would help the M&A research move forward. This endeavour is entirely in line with the current study's theoretical foundations. Therefore, taking M&A as the research context will make SDMP literature more focused and also provide new insights into the unsolved "M&A performance puzzle".

In the next chapter, chapter 7, all the essential methodological considerations the present research has taken into account when carrying out the empirical investigation will be fully explained, such as research design, data collection and data analysis procedures.

Chapter 7: Methodology

Previous chapters have explained research questions, theoretical foundations of the conceptual model (i.e. the double-layered contextual model of SDMP) and the hypotheses developed for the conceptual model in great detail. In this chapter, to empirically test the conceptual model and all the proposed hypotheses, comprehensive discussions on the adopted methods will be presented. In particular, following the general processes of taking the business research (e.g. Bryman and Bell, 2003; Iacobucci and Churchill, 2010), this chapter will discuss the research strategy and design, data collection procedure, sampling methods, measurement development, survey questionnaire design and data analysis methods.

7.1 Research Strategies and Design

7.1.1 Philosophical Orientations of the Research

In order to explain why the current research adopts a specific research strategy and design, the philosophical orientations of research will be reviewed first. Saunder et al. (2019) use the term "research philosophy" to define the system of beliefs and assumptions that researchers hold throughout all research stages. It is pivotal for researchers to be aware of those philosophical orientations as they will affect how they perceive the research questions, choose the choices of research strategy and the methods to collect and analyse the data (Crotty, 1998).

Two fundamental philosophical orientations that shape the research strategy and design are epistemology and ontology. In terms of the epistemological orientations, they are assumptions of nature and the legitimacy of the knowledge in a given discipline (Bryman and Bell, 2003; Morgan and Smircich, 1980). The central questions are "whether the social world can be studied according to the same principles, procedures and ethos as the natural sciences" (Bryman and Bell, 2003: 13). There are two different epistemological orientations to address this central question, namely, positivism and interpretivism. The former advocates that the social reality can be understood and investigated by applying the methods of the natural sciences, such as generating knowledge from the measurable facts (Bryman and Bell, 2003; Burrel and Morgan, 2017). Alternatively, the latter argues that the subjects of the social sciences (i.e. individuals and their institutions) are inherently distinguishing from that of the

natural science, whereby the knowledge is bounded in the subjective meaning of individual actors in the social world (Bryman and Bell, 2003; Burrel and Morgan, 2017).

In terms of the ontological orientations, they are about the nature of reality (Bryman and Bell, 2003). The key question is whether there is a universal reality or multiple realities, resulting from social actors' different perceptions and actions (Bryman and Bell, 2003; Morgan and Smircich, 1980). Similar to the aforementioned epistemological orientations, there are also two different ontological orientations: objectivism and constructionism. Objectivism supports that the reality is independent of social actors' own perceptions, whereas constructionism argues that the reality is socially constructed by social actors' perceptions and activities (e.g. social interactions) (Bryman and Bell, 2003; Burrel and Morgan, 2017).

The current research will take the philosophical orientations of positivism and objectivism in light of the above epistemological and ontological orientations. This research argues that there is a universal principle of reality, which is detached from individuals' own perceptions. It is also applicable to use the natural science model to test the specific relationship based on the verifications of the measurable facts. Putting those philosophical orientations into the research context, the present research argues that there is a universal reality about SDMP when TMTs are making M&A decisions. Specifically, the development and application of TMT's SDMP will be detached from individual TMT's own perceptions and activities. Hence, the knowledge about TMT's SDMP is generated by testing particular relationships associated with particularly measurable facts.

7.1.2 Research Strategy: Quantitative Research

The research strategy is "a general orientation to the conduct of business research" (Bryman and Bell, 2003: 25). Two research strategies have been widely adopted by business scholars, namely, quantitative research and qualitative research. Those two research strategies have fundamental differences in some critical dimensions. Firstly, in terms of the principal orientation to the role of theory, quantitative research is taking a deductive approach. Based on this deductive approach, research deducts a hypothesis or hypotheses from what is known in a particular domain (i.e. theories). It collects data for the operationalised concepts that make up the hypothesis, aiming to test the hypotheses and revise the existing theory in a given domain (Bryman and Bell, 2003). Alternatively, qualitative research takes the inductive approach by

which the research intends to generate the theory in a given domain, drawing upon generalisable inferences out of observations (Bryamn and Bell, 2003). Secondly, quantitative and qualitative research strategies are drawn upon different epistemological and ontological orientations. The former is taking positivism and objectivism, whereas the latter is based on interpretivism and constructionism.

Arguments made in the previous section 7.1.1 have shown the philosophical orientations of the present research, positivism and objectivism. In addition, a deductive approach has been employed to treat the relevant theories in the literature. The current study is based on the upper echelon theory, dual-process theory and contingency theory. The double-layered contextual model of SDMP with hypotheses is developed based on the existing assumptions from those theories. After the data collection and analysis, the initial hypotheses are confirmed or rejected, enabling the current research to test those existing theories. Therefore, the philosophical orientations of positivism and objectivism and the deductive approach have indicated that the present research is taking a quantitative research strategy.

7.1.3 Research Design: Cross-Sectional Design

Research design is a framework that guides the research to collect and analyse the data (Bryman and Bell, 2003; Iacobucci and Churchill, 2010). The research design should align with the research questions and the research's philosophical orientations (Lee and Lings, 2008; Bryman and Bell, 2003). The prominent research designs used by business and management research are experimental design (e.g. Howell and Frosts, 1989; Ren et al., 2006), cross-sectional design (e.g. Homburg and Bucerius, 2006; Clark and Maggitti, 2012), longitudinal design (e.g. Dean and Sharfman, 1996; Boyce and Leppers, 2002) and case study design (Hofstede, 1984).

Those research designs have their advantages and disadvantages, and the following *Table 7.1* provides a summary.

Table 7.1: Summary of Research Design

Research Design	Advantages	Disadvantages
Experimental Design	• Enable researchers to undertake a quantitative comparison between the experimental and control groups as to the dependent variables by manipulating the independent variable (Lee and Lings, 2008) • "Engender considerable confidence in the robustness and trustworthiness of causal findings" (Bryman and Bell, 2003: 39)	• Not easy to include all the control variables • Not suitable for research that tries to investigate the relationships between more than one independent and dependant variables (Lee and Lings, 2008)
Cross-Sectional Design	• Allows the researchers to deal with time constraints of conducting the research and enables other future researchers to replicate the research (Bryman and Bell, 2003)	• Data collected at one specific point for a particular strategic decision-making endeavour that happened in the past would be erroneous due to the memory error of the informants (Elbanna, 2010)
Longitudinal Research Design	• Enables the management researchers to get data of a particular organisational phenomena overtime whereby the potential changes will be captured (Pettigrew, 1990) • Facilitate researchers' understanding of the nature of the causality between different constructs (Bowman et al., 2002; Van de Ven, 1992).	• High involvement of the time and cost (Bryman and Bell, 2003) • Potential difficulties in getting data from the same informant over time due to the possible turnover.
Case Study Design	• "Entails the detailed and intensive analysis of a single case" (Bryman and Bell, 2003: 53). • Can get in-depth elucidation of the case (e.g. single organisation and location) (Bryman and Bell, 2003).	• The difficulties associated with the choice of the particular case and the generalisability of the case study design has raised some concerns (e.g. Yin, 2017)

Considering the pros and cons of the above four main research design adopted by the business and management scholars, taking into account the research questions and the nature of the

current study, a cross-sectional design was chosen due to the following considerations. Firstly, as a doctoral research project, the PhD programme's appropriate data collection period would be 6-12 months. On the one hand, it is impractical to undertake longitudinal research due to the time constraints within the PhD programme. On the other hand, the potential changes or the realisation of M&A strategic decision are most likely to be unknown within 6-12 months. Hence, despite the advantages of longitudinal research design, the current study will not favour this research design.

Secondly, according to the conceptual model developed in the previous chapters, the double-layered contextual model of SDMP will investigate the causality between multiple independent variables and dependent variables by considering several factors' possible moderating effect. The inherent complexity of the current study's conceptual model would make it extremely difficult to design a robust experimental design by controlling all the possible control variables. Hence, the experimental design and implementation difficulties make it impractical for the current study to choose. Thirdly, the study aims to gain a generalisable understanding of TMT's SDMP by establishing and testing a comprehensive model of SDMP. Hence, restricting the focus on a particular organisation or industry would hinder the final findings' generalisability.

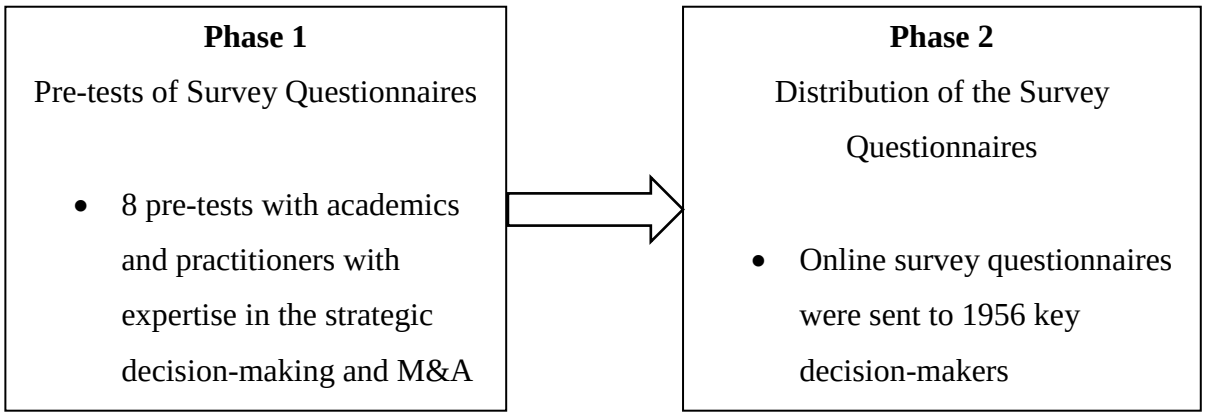
Thirdly, the cross-sectional research design "entails the collection of data on more than one case (usually quite a lot more than one) and at a single point in time in order to collect a body of quantitative or quantifiable data in connection with two or more variables (usually many more than two), which are then examined to detect patterns of association" (Bryman et al. 2003: 48). Green (1991) argues that cross-sectional research draws typically upon a large sample, which increases the research findings' representativeness. The cross-sectional research design has been widely used both in the strategic decision-making literature (e.g. Goll and Rasheed, 2005; Clark and Maggitti, 2012; Carmeli and Schaubroeck, 2006; Richard et al., 2019) and the M&A literature (e.g. Homburg and Bucerius, 2006; Bauer and Matzler, 2014; Dao et al., 2017). In the meantime, to mitigate the possible memory error of the information retrieval and the unrealistic realisation of the performance at the time of information collection, SDMP literature has a focus on recent SDMPs that the informants have actively engage in (e.g. Elbanna and Child, 2007; Papadakis et al., 1998). Similarly, M&A research has also tried to collect the data a few years (e.g. three years) after the M&A deal was announced to measure the real M&A performance (e.g. Bauer and Matzler, 2014; Homburg and Bucerius, 2005). As such, taking

the cross-sectional research design, the full data collection methods the current study has adopted will be explained in great detail in the next section.

7.2 Data Collection Procedure

The full details of the questionnaire and structure will be outlined in another section later in this chapter. Here, the general data collection procedure will be depicted first. Following the recommendation from Iacobucci and Churchill (2010), the first phase of the data collection was the two-step pre-tests (i.e. personal interview with pre-testers and the tabulation of responses from the pre-test). After conducting the first phase of the data collection, the main data collection was conducted through the online self-completion survey question. The data collection procedure is described in the following *Table 7.2*.

Table 7.2: Data collection Phases



7.3 Sampling Methods

Sampling has been seen as the crucial step in the whole research process as it plays a significant role in the integrity and the generalisation of the research (Bryman and Bell, 2003; Iacobucci and Churchill, 2010). Several considerations will need to be taken into account during the sampling process, such as the target population, sampling type and informants.

7.3.1 Target Population

The population is "the universe of units from which the sample is to be selected", whereas the sample is the "segment of the population that is selected for investigation" (Bryman and Bell, 2003). To select the research samples, the target population (i.e. all units in the population from which the sample will be chosen) will need to be identified first based on particular parameters (Iacobucci and Churchill, 2010).

Firstly, in the previous SDMP literature (e.g. Dean and Sharfman, 1996; Elbanna and Child, 2007; Goll and Rasheed, 1997) and the M&A literature (e.g. Dao et al., 2007; Bauer and Matzler, 2007; Schriber et al., 2019), manufacturing sectors (e.g. machinery engineering) have been widely used due to the nature of the longer life cycles (Schriber et al., 2019). However, some SDMP research has called for future research to pay attention to service sectors due to the scarcity of empirical evidence and their essential roles in contributing to the GDP and the necessity to enhance the generalisation of the research findings (Papakakis et al., 2010). As such, the target population will include companies in both the manufacturing and service sectors.

Secondly, past research also investigates the SDMP or M&A in different national contexts due to the possible effect of national culture in strategic decision-makers' behaviours (Elbanna et al., 2013), such as the western contexts (e.g. Eisenhardt, 1989; Fredrickson and Mitchell, 1984; Papadakis et al., 1998), middle-east contexts (e.g. Elbanna et al., 2013; Elbanna, 2015), the eastern contexts (e.g. Atuahene-Gima and Li, 2004; King et al., 2020) and the mixed national contexts (e.g. Bingham and Eisenhardt, 2011). Therefore, regarding the national context in which the current research is embedded, the target population will only include British acquiring companies due to the specific focus of the present study.

Thirdly, company size (i.e. numbers of employees) and the value of the acquisition deals are other crucial factors that could affect strategic decision-makers' behaviours and the SDMPs (e.g. Papadakis et al., 1998; Elbanna and Child, 2007; Fredrickson and Iaquinto, 1989; Brouthers et al., 1998; Bauer et al., 2018; Dao et al., 2017). In a conglomerate multi-divisional company, there could be the risk that top executives might not actively engage in all the processes when making the acquisition decision. Following the recommendations from past M&A research (e.g. Bauer et al., 2018; Dao et al., 2017), only British acquiring companies

with fewer than 2000 employees were chosen in the sample frame. In addition, companies with annual sales of more than one billion pounds were excluded as people in charge of the company might not have been actively involved in the acquisition deal. The impact of the M&A deal on the firm would be measurable (Bauer et al., 2018). Hence, it means that the target population of the present study only includes British acquiring companies with less than 2000 employees and annual sales with fewer than one billion pounds.

Fourthly, there could be potential errors for the strategic decision-makers to retrieve the key information of the past strategic decision. Measuring the ultimate acquisition performance might also not be feasible in a short period since the decision was made. As such, the "3-5-year rules" was applied. Namely, only British companies that have made acquisition decisions three to five years up to data collection time will be applicable. Some M&A research has argued for the legitimacy of this approach as it will make sure that the integration phase of the acquisition deal could either be in the final stage or the already finished (Bauer and Matzler, 2014; Ellis et al., 2009; Homburg and Bucerius, 2005). Additionally, this approach would also mitigate memory error for the strategic decision-makers to recall the acquisition deal's information (Reus and Lamont, 2009). Therefore, only British companies that made acquisition decisions between January 2014 and December 2018 were included in the target population.

Combined, British companies in both manufacturing and service sections, with the employee number of less than 2000 and annual sales of fewer than one billion pounds, made acquisition decisions between January 2014 and December 2018 have been included in the target population. To identify all the corresponding companies in the target population, the Zephyr database from Bureau van Dijk was used. This database has been seen as an accurate and comprehensive M&A database by many M&A studies (e.g. Bauer and Maztler, 2014; Dao et al., 2017; Bauer et al., 2019; Schriber et al., 2019). In light of the Zephyr database, a sample of 1771 active companies was identified given the parameters mentioned above.

7.3.2 Sampling Type

Selecting samples from the target population could be based on the probability sampling approach by which every unit in the targeted population has an equal chance to be selected (Bryman and Bell, 2003). Another sampling approach is non-probability sampling. Namely, the selection of samples is arbitrary in which some units are more likely to be selected than

other unities (ibid). Considering the difficulties of controlling the sampling error of non-probability sampling approach, the current study has chosen probability sampling.

There are three commonly used probability sampling types, simple random sampling, systematic sampling and stratified random sampling (Iacobucci and Churchill, 2010). The first type selects samples in an utterly random fashion based on the entire target population, whereas the second type is randomly taking cases based on a particular interval (Lee and Lings, 2008). The third probability sampling type (i.e. stratified random sampling) could be more precise. It selects the samples from certain strata, potentially reducing the sampling error of the random sampling and systematic sampling types (Iacobucci and Churchill, 2010). Therefore, stratified random sampling was adopted in the current research. The geographic nature of the acquisition deal will be used as strata for sampling. Namely, samples were randomly selected from three strata-British companies that have taken: UK deals, EU deals or global deals.

7.3.3 Informant

In light of the upper echelon theory (Hambrick and Mason, 1984), the top management team (i.e. TMT) has the full responsibility of making strategic decisions. In particular, CEOs, the most powerful individual in the TMT, has been widely researched by strategic decision-making studies (e.g. Fredrickson, 1984; Fredrickson and Mitchell, 1984; Bantel and Jackson, 1989; Baum and Wally, 2003). In addition to the investigation of the CEO, other TMT members have also been investigated by strategic decision-making scholars, such as CFOs, Directors and Chairmen, due to their significant influence in the SDMP (e.g. Calabretta et al., 2017; Elbanna and Child, 2007). Those TMT members have been seen as the most knowledgeable people who know important strategic and organisational issues (Elbanna, 2010; Bauer and Matzler, 2014; Ellis et al., 2011). In particular, in the M&A decision-making context, those people would be most knowledgeable about the acquisition decision's intention and the post-merger integration phase (Ellis et al., 2009). As such, CEOs, Chief Financial Officers, Managing Directors, Head of Strategy Department, Head of Corporate Developments from the targeted British acquiring companies have been chosen as the informants.

Contact details of those potential informants were identified by the Orbis database from Bureau van Dijk and Financial Access Made Easy (FAME) database. Both of the databases have been widely used in management research (e.g. Dala and Fogg, 2016; Dao et al., 2017; Harris and

Ogbonna, 2001; Shepherd et al., 2019). In particular, the FAME database includes descriptive information and contact details for the key persons (e.g. CEOs, CFOs and Managing Directors) for over 10 million UK companies (Shepherd et al., 2019). It has been seen as the "most accurate and popular database of U.K. firms (Souitaris and Maestro, 2009: 661). As such, the combination of the use of Orbis and FAME databases would give the current research more detailed and accurate information about the informants.

The adoption of single informants is not uncommon in the SDMP literature (e.g. Elbanna and Child, 2007; Mitchell et al., 2011; Atuahene-Gima and Li, 2004) and the M&A literature (e.g. Bauer and Matzler, 2014; Dao et al., 2017; Bauer et al., 2018; Bauer et al., 2018) due to the feasibility of surveying the most senior people in the company and the managerial turnover concerns (Homburg and Bucerius, 2005). To avoid the initial risks of key informant bias (Kumar et al., 1993), multiple key informants per firm were selected in the target population where contact details were possible. Combining Zephyr, Orbis and FAME databases, 966 out of 1771 active firms based on the parameters as mentioned above provided 1956 contact details for the potential informants.

7.3.4 Summary of Sampling

In light of the above discussions, the current research sample includes 1771 British organisations that made an acquisition decision between January 2014 and December 2018. Those companies were based in both manufacturing and services sectors in the UK, and they had employee numbers fewer than 2000 and annual sales of less than one billion pounds. TMT members (i.e. CEOs, CFOs, Managing Directors and Chairmen etc.) were the informants of the target sample. Combining Zephyr, Orbis and FAME databases, 1956 contact details for the potential informants were provided.

7.4 Measurement Development

The following sections will provide detailed descriptions of the measurement development of the constructs in the current study. The measurement scales were adapted and modified from the literature to fit the present study's research interests. Bryman and Bell (2003) argue that relying on the existing scales makes it possible for researchers to use the established scales

with proven reliability and validity; it makes it easy to compare research results with previous studies in the literature.

The constructs the following sections are going to discuss are depicted in *Table 7.3* as follows:

Table 7.3: Summary of Constructs

Group of Constructs	Constructs	Measures
TMT Social Psychological Characteristics	• TMT Cohesion • TMT Behavioural Integration • TMT Transactive Memory System (TMS)	Ensley et al. (2002) Simsek et al. (2005) Lewis (2003)
SDMPs	• Collective Intuition • Procedural Rationality	Dean and Sharfman (1996) Samba (2016)
Upstream Layer I (Organisational Contexts)	• Organisational Structure • Board Strategic Involvement	Covin and Slevin (1988) Knockaert et al. (2015)
Downstream Layer II (Decision-Making Contexts)	• Environment Dynamism • The Importance of Strategic Decision	Atuahene-Gima and Li (2004) Papadakis et al. (1998)
M&A Performance	• Subjective Performance • Objective Performance	Bauer and Matzler (2014) Bauer et al. (2018)
Control Variables	• Degree of Integration • Integration Speed • Politics • Organisation Slack • Firm Size • Comparative Size with the Target Firm • Average Industry Growth	Cording et al. (2008) King et al. (2020) Dean and Sharfman (1996) Bauer et al. (2018) Miller and Frisen (1982) Fredrickson (1984) Bauer et al. (2018)

Except for the collective intuition, the existing measurements for all the other constructs are published in a top peer-reviewed journal (4 or 4*) based on the ABS (Association of Business Schools) journal ranking guide. The existing scales to measure collective intuition do not exist in any peer-reviewed journal. Therefore, the scales were adopted and modified based on a

doctoral thesis with a particular research objective to develop the measurement scales of collective intuition (Samba, 2016). Based on the whole rigorous processes and empirical evidence, the final scales in the doctoral thesis have shown good reliability and validity. Importantly, after directly contacting the author of the doctoral thesis, the present research was allowed to use the measurement of collective intuition. In addition, the rating scales for the measurement were all used by 7-point Likert-type scale even if the 5-point scale was initially adopted as the 7-point scale would allow respondents to derive a more differentiated evaluation (Pedhazur et al., 2013; Schwarz, 2010).

7.4.1 TMT Social Psychological Characteristics

The present research adopts three TMT social psychological characteristics: TMT cohesion, TMT behavioural integration and TMT transactive memory system. Those constructs were not originally from the strategic decision-making research stream but rather from the small group research or organisational behaviour field. Due to the profound empirical evidence regarding those constructs, they have been widely adopted by upper echelon researcher in the past decade (Ensley et al., 2002; Ferguson et al., 2019; Ling et al., 2008; Lubatkin et al., 2006; Heavey and Simsek, 2015; 2017). However, some of those crucial constructs have only been investigated by a handful of SDMP scholars (e.g. Shepherd et al., 2019). As such, those three TMT social psychological characteristics' measurements were adapted and modified to the TMT contexts and the M&A decision-making contexts.

For the measurement of TMT cohesion, the scales developed by Chin et al. (1999) in the context of the small group were used and modified. This measurement has been successfully adopted in the TMT context in which the reliability and validity of the measurements have been proven (e.g. Ensley et al., 2002; Bjornali et al., 2016). Based on the 7-point Likert-type scale, respondents were asked to indicate to what extent they agree with the statement as to their TMT (1= strongly disagree to 7= strongly agree). There were six items to measure the TMT cohesion (sample item: In the TMT, we have a good sense of belonging between members).

For the measurement of TMT behavioural integration, measurement scales introduced by Simsek et al. (2005) in the TMT context were adopted. Similar to TMT cohesion, this measurement of TMT behavioural integration has been widely used by upper echelon and

strategic decision-making scholars (e.g. Lubatkin et al., 2006; Carmeli, 2008; Chen et al., 2010; Shepherd et al., 2019). In particular, TMT behavioural integration is a second-order construct consisting of collective behaviour (measured with three items), joint decision-making (measured with three items) and information exchange (measured with three items). 7-point scales were used, ranging from 1 (strongly disagree) to 7 (strongly agree).

For the measurement of the TMT transactive memory system, scales developed by Lewis (2003) in the context of consulting teams were used by the present research. This measurement has been widely used by team scholars (e.g. Choi et al., 2010; Zhang et al., 2007). With constant attention to the transactive memory system in the TMT context in the past few years, the reliability and validity have also been proven by TMT scholars (e.g. Heavey and Simsek, 2014; 2015). As a second-order construct, TMT transactive memory system has three subdimensions: specialisation (measured with five items), credibility (measured with five items) and coordination (measured with five items). 7-point scales were used, ranging from 1 (strongly disagree) to 7 (strongly agree).

The measurement of three TMT social psychological characteristics are summarised in the following Table *7.4*. The full detail of the measurement can be found in *Appendix 2*.

Table 7.4: Measurement Summary of TMT social psychological characteristics

Construct	Items Summary	Sources	Journals
TMT Cohesion	1: Sense of belonging in TMT 2: Being a member of the TMT 3: Do not see as being part of the TMT (reversed item) 4: Not enthusiastic about the TMT (reversed item) 5: Happy to be part of the TMT 6: Content to be part of the TMT	Ensley et al. (2002) /Bjornali et al. (2016)	Journal of Business Venturing /Long Range Planning
TMT Behavioural Integration	1: Volunteering to manage others' workload 2: Flexibility of switching responsibilities 3: Helping each other complete job 4: Letting others know when their own actions affecting others 5: Clear understanding of joint problems and needs	Simsek et al. (2005)	Academy of Management Journal

	6: Discussing expectations of each other 7: Quality of ideas 8: Quality of solutions 9: Level of creativity and innovation		
TMT Transactive Memory System	1: Knowledge of others' expertise 2: Have unique knowledge others do not have 3: Different responsibilities in the team 4: Need combinations of different specialised knowledge to complete team task 5: Knowing others' expertise 6: Being comfortable accepting others' suggestions 7: Trust others' knowledge 8: Being confident about relying on others' information 9: Doubled-check other given information (reverse item) 10: Did not have much faith in others (reverse item) 11: Working in a well-coordinated fashion 12: Few misunderstandings about what to do 13: Need to backtrack and start over (reverse item) 14: Accomplished the task smoothly 15: Much confusion as to achieving the team task (reverse item)	Lewis (2003)	Journal of Applied Psychology

7.4.2 Strategic Decision-Making Process (SDMPs)

In light of the present research's conceptual model, two SDMPs have been investigated based on the dual-process theory, namely, procedural rationality and collective intuition. The concept of procedural rationality was introduced and measured by Dean and Sharfman (1993; 1996), conceptualising and measuring the rational aspect of strategic decision-making at the decision level. There are other measurements in the strategic decision-making literature to capture the rational aspect of strategic decision-making, such as the scales developed for measuring comprehensiveness (Miller et al., 1998; Fredrickson and Mitchell, 1984). Due to the particular theoretical focus of the rational aspect of SDMP and the level of investigating (i.e. decision level), measurement of procedural rationality developed by Dean and Sharman (1996) is used and modified to suit the M&A decision-making context in the current research. Based on the

7-point Likert-type scale, respondents were asked to indicate to what extent they agree with the statement as to their TMT (1= strongly disagree to 7= strongly agree). There were five items to measure procedural rationality (sample item: In the pre-merger phase, the TMT looked into the information in-depth, such as accounting standards).

In terms of the measurement for collective intuition, there are no appropriate measurements in the peer-reviewed journals due to the scarcity of the relevant construct. A handful of studies in the decision-making literature are trying to measure the team-level intuition (e.g. Dayan and Elbanna, 2011; Kaufmann et al., 2014). However, their measurements simply aggregate individuals' intuition into the team level, which contradicts the fundamental assumptions of the collective intuition (i.e. a team-level decision-making phenomenon) in the present research. Taking to account this lack of appropriate measurements in published journals, the present study uses the measurement developed by Samba (2016). It is a doctoral thesis that aims to develop a measurement of collective intuition in which the theoretical assumptions of the construct were in line with the present study. In particular, after the rigorous scales development and empirical testing processes, the items used in Samba (2016) have met the statistical requirement to guarantee the measurement's reliability and validity. Using a 7-point Likert-type scale rather than the initial 5-point Likert-type scale, respondents were asked to indicate to what extent they agree with the statement (1= strongly disagree to 7= strongly agree). There were five items to measure collective intuition (sample item: In the target selection phase, the TMT had enough team expertise, which allowed us to recognise the potential target firm immediately).

The measurement of those two SDMPs is summarised in the following *Table 7.5*. The full detail of the measurement can be found in *Appendix 2*.

Table 7.5: Measurement Summary of SDMP

Construct	Items Summary	Sources	Journals
Procedural Rationality	1: Looked into information in depth 2: Used other sources outside layers, banker and accountants 3: Analysed relevant information in-depth 4: Relied on quantitative analytical techniques 5: Had attention to crucial information but ignore irrelevant information	Dean and Sharfman (1996)	Academy of Management Journal
Collective Intuition	1: Had enough team expertise 2: Were knowledgeable about possible problems 3: Quickly understood possible problems 4: Automatically had a sense of possible problems 5: Were familiar with possible solutions for potential problems	Samba (2016)	Doctoral Thesis

7.4.3 Layer I (Upstream): Organisational Contexts

Two critical organisational contexts have been investigated in the present research to understand the contexts in which the development of TMT's SDMP is embedded in organisational structure and board strategic involvement. In particular, in light of the development of relevant hypotheses in Chapter 5, the present research only focuses on the moderating effect of mechanistic organisational structure (Covin et al., 2001).

Covin et al. (2001) have developed scales to measure organisational structure (i.e. mechanistic and organic structures). Many organisational studies that try to understand the influence of organisational structure with various research foci have proven the reliability and validity of that measurement (e.g. Dai et al., 2016). Those measurements consist of 7 items to measure the organisational structure (mechanistic or organic structure). However, the complexity of the wording of the measurement from Covin et al. (2001) might affect the response rate and the comments from the pre-tests (more details as to the pre-tests will be outlined in the following survey design sections) have expressed the relevant concern. As such, a 5-items measurement from Covin and Slevin (1988) is used and simplified. M&A scholars have successfully used this simple version of the measurement with good reliability and validity (e.g. King et al., 2020). Based on the 7-point Likert-type scale, respondents were asked to indicate to what extent they agree with the statement as to their organisational structure (1= strongly disagree to 7= strongly agree). Five items are used to measure the mechanistic structure (sample item: In our organisation, we have a strong emphasis on tight formal control through sophisticated control and information system).

To measure the board strategic involvement, measurement of board service involvement from Knockaert et al. (2015) has been used and simplified. The conceptualisation of the term, board service involvement, is fully in line with the construct of board strategic involvement, whereby the adoption of the constructs is applicable. 7-point Likert-type scales were used (1= strongly disagree to 7= strongly agree), and six items are adopted to ask respondents to indicate to what extent they agree with the statement as to their organisational structure (sample item: The board of directors in the organisation is actively involved in work related to long-term strategies and overall goals).

The measurements of organisational contexts are summarised in the following *Table 7.6*. The full detail of the measurement can be found in *Appendix 2*.

Table 7.6: Measurement Summary of Organisational Context

Construct	Items Summary	Sources	Journals
Mechanistic Structure	1: Tight formal control 2: Formally laid down procedures 3: Fast-to-true and tried management principles 4: Uniform managerial style 5: Adhere closely to formal job descriptions	Covin and Slevin (1988)	Journal of Management Studies
Board Strategic Involvement	1: Contribute to TMT's network building 2: Contributes to lobbying the legitimising 3: Giving TMT advice 4: Functions as mentors 5: Active involvement in strategies 6: Adequate time for board task	Knockaert et al. (2015)	Journal of Business Venturing

7.4.4 Layer II (Downstream): Decision-Making Contexts

Two crucial decision-making context of SDMP identified by the present research are environmental dynamism and the importance of the strategic decision. Their saliency has also been identified in the SDMP literature (e.g. Hough and White, 2003; Elbanna and Child, 2007).

In order to measure environmental dynamism, measurement introduced by Atuahene-Gima and Li (2004) was adopted and simplified. For the current research, the foci of environmental dynamism are technological dynamism and market dynamism. Atuahene-Gima and Li (2004) introduce the measurement to measure those two types of dynamism (referred to as technology uncertainty and demand uncertainty). This research uses four items to measure technology

dynamism (sample item: The industry was changing quite rapidly) and three terms to measure market dynamism (sample item: The market in our industry was having a rapidly changing customer demand). 7-point Likert scales were used, ranging from 1 (strongly disagree) to 7 (strongly agree).

In terms of the measurement for the importance of the strategic decision, the measurement used by Papadakis et al. (1998) is adopted and modified. In the original measurement, the respondent will be asked to use 5-point Likert-type scales to measure the impact of strategic decision on eight organisational areas, such as profit, quality of products/services, total production and market share. Taking into account the specific research context of M&A decision-making, some items have been modified to be more M&A specific, such as increasing market power and increasing innovation capability. Meanwhile, 7-point Likert scales were used, ranging from 1 (strongly disagree) to 7 (strongly agree).

The measurements of decision-making contexts are summarised in the following *Table 7.7*. The full detail of the measurement can be found in *Appendix 2*.

Table 7.7: Measurement Summary of Decision-Making Contexts

Construct	Items Summary	Sources	Journals
Technology Dynamism	1: Technology is changing rapidly 2: Technological changes provide opportunities 3: Technological breakthrough for product ideas 4: Major technological breakthrough in the industry	Atuahene-Gima and Li (2004)	Academy of Management Journal
Market Dynamism	1: Customer demands change rapidly 2: Customers tend to buy new products 3: Witnessing demand from new customers	Atuahene-Gima and Li (2004)	Academy of Management Journal
The Importance of Strategic Decision	1: Increasing profits 2: Increasing quality 3: Increasing efficiency 4: Reducing the cost 5: Increasing sales 6: Increasing market share 7: Increasing innovation capability 8: Increasing market power	Papadakis et al. (1998)	Strategic Management Journal

7.4.5 M&A Performance

To measure the final dependent variable in the conceptual model, M&A performance, a managerial self-assessment of M&A performance was adopted given the empirical evidence and recommendations in the M&A literature (e.g. Bauer and Matzler, 2014; Bauer et al., 2018).

There has been inconsistency in measuring the M&A performance in the literature (Gates and Very, 2003). Some of the most commonly used measures are based on the stock market share price (Cording, 2008). Other measuring approaches include accounting-oriented and survey-based measures (Cording, 2010). However, those approaches might have potential drawbacks,

such as ignoring other related aspects of M&A performance (King et al., 2004), an unclear financial indication of M&A event in a short period of time due to the duration of the post-merger integration (Homburg and Bucerius, 2006) and the possible different accounting standard to judge the financial performance of the company after the acquisition (Weetman and Gray, 1991). In particular, not all the companies in the target population were listed in the stock market, making it unrealistic for the present research to rely on the stock-market-based measurement. As such, undertaking a managerial self-reported M&A assessment of M&A performance would be applicable and promising to get a realistic picture of the M&A performance. Based on the management literature's further recommendation, the combination of objective and subjective dimensions of the self-reported measurement would be more promising and accurate (Reinartz et al., 2004). Particularly, past M&A literature has indicated the strong correlation between the objective and self-reported measurement of the M&A performance (Datta, 1991; Homburg and Bucerius, 2005).

Combined, the self-reported objective and subjective measurement of M&A were adopted from Becker (2005), which has been widely used by M&A studies (e.g. Bauer and Matzler, 2014; Bauer and Matzler, 2018). For the objective measurement, participants were asked to indicate to which extent they think the company has changed after the acquisition in terms of different sub-dimensions (e.g. return on investment and return on equity). 7-point Likert scales were used, ranging from 1 (extremely negatively development) to 7 (extremely positive development). For the subjective measurement, participants were asked to indicate to which extent they agree with the statements (sample item: set goals were reached). 7-point Likert scales were used, ranging from 1 (strongly disagree) to 7 (strongly agree).

The measurements of self-reported M&A performance are summarised in the following *Table 7.8*. The full detail of the measurement can be found in *Appendix 2*.

Table 7.8: Measurement Summary of M&A Performance

Construct	Items Summary	Sources	Journals
Objective M&A Performance	1: Return on Investment 2: Return on Equity 3: Return on Sales 4: Relative Firm Value	Becker (2005); Bauer and Matzler (2014); Bauer et al. (2018)	Strategic Management Journal; Long Range Planning
Subjective M&A Performance	1: Set goals were reached 2: Right strategic decision 3: The firm is better than better 4: Overall, the acquisition was successful	Bauer and Matzler (2014); Bauer et al. (2018)	Strategic Management Journal; Long Range Planning

7.4.6 Control Variables

In order to take into account the possible influence of other factors on the final dependent variable (i.e. M&A performance), in addition to the constructs included in the conceptual model, a number of control variables were used. The degree of integration and integration speed has been used as the first two control variables since a bulk of M&A studies have proven their effect on M&A performance (e.g. Angwin, 2004; Bauer and Matzler, 2014; Bauer et al., 2016; 2018). In light of the measurement introduced by cording (2008), King et al. (2020) and Zaheer et al. (2013), those first two control variables were measured with a single item to reduce the length and the complexity of the entire survey questionnaire. Respondents were asked to indicate to which extent the target firm was integrated, ranging from 1 (not at all) to 7 (fully integrated); how long did it take to integrate the target firm, ranging from 1(less than 5 months) to 7 (more than 24 months).

Politics during the SDMP has been used as the third control variable. In the SDMP literature, many studies have shown it significant influence on decision-making outcomes (e.g. Dean and Sharfman, 1996; Elbanna and Child, 2007; Papadakis et al., 1998; Shepherd et al., 2019). To measure the politics during TMT's SDMP, measurements introduced by Dean and Sharfman (1996) have been adopted and simplified. These measurement scales have been widely used by SDM studies (e.g. Elbanna and Child, 2007; Shepherd et al., 2019). The respondents were asked to indicate to which extent they agree with the statements (sample item: TMT members opened up to each other about their interests and preferences). 7-point Likert scales were used, ranging from 1 (strongly disagree) to 7 (strongly agree). Other control variables include organisational slack, firm size, comparative size with the target and average industry growth as they would all exert potential influence on the M&A performance based on the relevant studies in the literature.

The measurements of all the control variables are summarised in the following *Table 7.9*. The full detail of the measurement can be found in *Appendix 2*.

Table 7.9: Measurement Summary of Control Variables

Construct	Items Summary	Sources	Journals
Degree of integration	To which extent was the target firm integrated?	The idea expressed by: Cording et al. (2008); Zaheer et al. (2013)	Academy of Management Journal; Journal of Management
Integration speed	How long did it take to integrate the target firm?	King et al. (2020)	Human Resource Management
Politics	TMT has a common understanding about: 1: the best way to maximise profitability 2: organisation's goal priorities 3: the best way to ensure the survival 4: most important objective	Dean and Sharfman (1996)	Academy of Management Journal
Comparative size with the target	Please indicate the relative size of the target firm compared to the acquirer with regards to annual sales.	Bauer et al. (2018)	Long Range Planning
Organisational slack	Our organisation has sufficient: 1: capital 2: skilled labour 3: material suppliers 4: material talent	Miller and Frisen (1982)	Strategic Management Journal
Firm size	Please indicate the approximate number of full-time employees in the year of making this M&A decision in the organisation.	Fredrickson (1984)	Academy of Management Journal
Average industry growth	Please indicate the average industry growth three years prior to the acquisition.	Bauer et al. (2018)	Long Range Planning

7.5 Survey Questionnaire Design

In light of the previous illustrations, the present research collected the primary data of TMTs' M&A decision-making processes through cross-sectional survey questionnaires. In the following sections, the essential considerations of the questionnaire design for the present research will be outlined.

7.5.1 Degree of Structure and Administration Techniques

The first important consideration of the questionnaire design is the extent to which the questionnaire has a standard design, which is referred to as the degree of the structure by Iacobucci and Churchill (2010). Simply, it means that structured questionnaires consist of the predetermined questionnaire and existent answers in which respondents only need to make their judgement based on these answers. The Likert-scale-based questionnaires are the typical questionnaires, and respondents only need to give their answers in light of the scales. However, an unstructured questionnaire requires the respondents to answer the questions in their own ways, such as a short sentence. In this case, open-ended questions will dominate the unstructured questionnaires (Bryman and Bell, 2003). In the strategic decision-making literature, the structured questionnaires have been widely used (e.g. Papadakis et al., 1998; Elbanna and Child, 2007: Atuahene-Gima and Li, 2004) due to a number of key reasons, such as the high reliability of the structured questions, mitigation of the interviewers' effects and feasibility of standard data analysis (Iacobucci and Churchill, 2010). As such, the questionnaires used by the current research will be dominated by structured questions (e.g. Likert-scale questions).

There are several options to administrate the questionnaire, such as self-completion (e.g. internet-based and mail questionnaires), personal and telephone interviews and mixed-mode questionnaires (Iacobucci and Churchill, 2010; Bryman and Bell, 2003; Dillman, 2009). Taking into account the advantages and disadvantages of each option, the internet-based self-completion option was chosen to implement the survey questionnaires. The main reasons are as follows: (1) easy for access; (2) fast speed for questionnaire distribution and collection; (3) extremely low costs; (4) mitigation of interviewer error; (5) more genuine questions due to the true anonymity; (6) the Covid-19 lockdown during the data collection stage made the internet-based questionnaire administration a more effective option. Accordingly, the internet-based

self-completion approach was adopted in the current research when administrating the survey questionnaires to the possible respondents.

7.5.2 Pre-Tests of the Draft Questionnaire

7.5.2.1 Two-Step Pre-tests

Undertaking effective pre-tests before distributing the survey questionnaire to the actual target sample is pivotal to ensure the practicality of the questionnaires and detect any potential mistakes in the questionnaire (Iacobucci and Churchill, 2010). Dillman (2009: 219) refers the pretesting as "delivering a questionnaire to individuals with special knowledge of the topic or members of the survey population and asking them to complete it and report any problems they experienced".

Further followed by the recommendations of the two-step pre-tests of the draft questionnaire (Iacobucci and Churchill, 2010), eight interviews (i.e. through MS Teams) were conducted during the first step, conducted with academics and practitioners who have expertise in strategic decision-making and M&A. The aims of conducting those pretesting interviews include checking the clarification of the questions and possible wording issue, confirming question orders, navigation issues, the length of the questionnaire and the pre-testers' engagement with the questionnaire (Dillman, 2009). On average, each pretesting interview lasted for 40 minutes, by which pre-testers' comments and feedback were taken to the second step of the pre-tests.

During the second step of the pre-tests, all the pretesting interviews' comments were coded and tabulated. Based on the analysis of those comments, the draft questionnaire was modified in order to deal with a number of possible drawbacks raised by the pre-testers. The following *Table 7.10* depicts some of the comments from the pretesting interviews in step one.

Table 7.10: Pre-test Interview Excerpts

Comment	Pre-tester
"In general, the survey questionnaire structure makes sense, and the length of several questions could have been shorter. It would be better if you could simplify those questions to avoid immediate drop-out."	Senior academics in strategy and M&A
"Good questionnaire, overall. Some of the questions make sense themselves, but I was a bit confused when trying to think about it in the M&A contexts. You should make them more M&A specific."	A senior manager who was involved in M&A in the past
"The questionnaire flows well, and I understood the main storyline of the whole questionnaire. It would make more sense if you could reorder some of your sections as it was a bit hard for me to get my head around when filling out some complex questions at the beginning."	Doctoral researcher in M&A

7.5.2.2 Modifications Made after the Pre-Tests

Several modifications were made in light of the two-step pre-tests of the draft questionnaires before distributing them to the sample. The modifications made to the draft questions are threefold: restructuring the orders for some sections, simplifying wording for some questions and adapting original items to better fit in the M&A decision-making context.

Firstly, in light of the common comments made by a number of pre-testers who suggested that the sections as to the organisational structure and board of director should be placed at the later stage of the questionnaires. This recommendation is also in line with the questionnaire's design and structure suggested by Dillman (2009). The underlying reason is attributed to the incremental trust of filling up the questionnaire when the participants get more information from the survey. The questions of the organisational structure and board of directors would require the participants to have a high level of trust in the survey at the beginning. This could be risky and might lead to immediate drop-out. As such, after "Section B: Your Organisation's

Operating Environment", the section "The Nature of the M&A Decision" was used. This modification would also reinforce participants' thought about the core research question (i.e. M&A decision-making) from the early stage of completing the questionnaire.

Secondly, some pre-testers indicated that some questionnaire questions were too complicated and too wordy, whereby they could easily lose their focus on the questionnaire. For example, in the draft questionnaire, to measure organisational structure, the 7-item measurement from Covin et al. (2001) was used. The pre-testers particularly raised issues regarding the complexity and wording of this question. Hence, a simpler measurement to measure organisational structure was used and simplified from Covin and Slevin (1998). Similarly, the original measurement for TMT behavioural integration and TMT transactive memory system has 9 items and 15 items, respectively, with relatively long statements, which have caused difficulties for our pre-testers to keep their focus. Based on the original items, common guiding statements were used to reduce each item question's length.

Thirdly, all the questions to measure SDMPs (i.e. procedural rationality and collective intuition) are derived from the SDMP literature without a specific focus on M&A decision making. Therefore, the original items have caused many confusions to our M&A academics and practitioners. For example, the original items of measuring procedural rationality from Dean and Sharfman (1996) uses the item ("How extensively did the group look for information in making this decision" ranging from 1= not at all to 7= extensively). However, this general strategic decision-making item question has caused confusions as to whether the question is asking the "scope" or the "depth" of the information searching activities. Those have been the key M&A concepts, and the pre-testers were not sure which aspect of the decision-making process they should focus on. In addition, taking the process school of M&A research, the whole M&A processes have two main phases (i.e. pre-merger and post-merger phase) (Bauer and Matzler, 2014). Our pre-testers have also shown confusion about which phase of M&A is the question asking. Therefore, drawing up the original item from Dean and Sharfman (1996), the item has been modified into "In the pre-merger phase, the TMT looked into information in-depth (e.g. accounting standards); used other sources outside of layers, bankers and accountants".

The same principle has been applied to modify some other original items to better fit the M&A context. For example, the measurement of the importance of strategic decision (Papadakis et

al., 1998) has been modified to be more M&A-related after receiving comments from our pre-tester indicating that specific dimensions do not make sense in the M&A context (e.g. “call for change in the existing programme”). As such, this item has been replaced with “increasing market power”, which is one of the key considerations of undertaking the acquisition decision (Gomes et al., 2013).

7.6 Data Collection

After conducting the pre-tests of the draft questionnaire and making modifications in light of pre-testers comments followed by the two-step pre-tests recommended by Dillman (2010), the modified survey questionnaires were distributed to informants in the target sample.

7.6.1 Target Sample and Sample Size

In light of the illustrations in the previous 7.4 Sampling Method, British companies in both manufacturing and service sections, with the employee number of less than 2000 and annual sales fewer than one billion pounds, that made acquisition decisions between January 2014 and December 2018, have been included in the target population. In light of the Zephyr database, a sample of 1771 active companies was identified given the parameters mentioned above. Based on the information from the Orbis and FAME databases, 966 out of 1771 active firms have provided 1956 contact details for the potential informants (CEOs, Chief Financial Officers, Managing Directors, Head of Strategy Department, Head of Corporate Developments).

It is worth noting that in the past SDMP literature, research is taking strategic decisions as the level of research. They regard the numbers of the actual strategic decision the research is drawn upon as the sample size, such as 52 strategic decisions in Dean and Sharman (1996), 169 strategic decisions in Elbanna and Child (2007) and 70 strategic decision in Papadakis et al. (1998). Those strategic decisions have all met the criteria to be defined as the strategic decision, such as the involvement of the substantial resources and being complex and ill-structured with high risk and uncertainty (Papadakis and Barwise, 1997), but they are not restricted at a particular type of strategic decision. However, for the current research, the number of strategic decisions for further data analysis will also be seen as sample size, but only M&A decisions

were investigated. After finishing the whole survey questionnaire distribution process, 109 useable M&A decisions were collected for further data analysis.

7.6.2 Questionnaire Administration Processes

In order to describe the detailed questionnaire administration processes, the following *Table 7.11* is depicted:

Table 7.11: Questionnaire Administration Process

Step	Techniques
1: Pre-tests of the questionnaire	• Following the recommendations by Iacobucci and Churchill (2010), two-step pre-tests were taken in May 2020. Eight pre-tests interviews were carried with academics and practitioners with expertise in strategic decision-making and M&A. • Changes were being made after coding and tabulating the respondents from the pre-tests.
2: Questionnaires distributed	• After identifying the targeted acquisition deals (i.e. 2561 deals) and the corresponding British acquiring firms (i.e. 1771 active firms) from the Zephyr database, Orbis and FAME databases provide 966 firms with 1965 contact details of our informants. • Questionnaires (i.e. a link to accessing the questionnaire through Qualtrics) were emailed to all the 1965 potential participants. The research overview, introductory letter on the LUMS headed paper, and the instructions were all included in the "M&A research invitation" email. • All the research invitation emails were distributed on the first of June.
3: First-round reminder emails	• Two weeks after distributing the questionnaires, reminder emails were sent to all non-respondents on the 15th of June.
4: Second-round reminder emails	• Three weeks after distributing the questionnaires, reminder emails were sent to all non-respondents on June 22nd.
5: Third-round of reminder emails with replacement questionnaire links	• Four weeks after distributing the questionnaires, reminder emails were sent to all non-respondents on the 29th of June. • In order to avoid the invalidity of the previous questionnaire link, replacement questionnaire links were attached in the reminder emails.

6: Final-round of reminder emails with replacement questionnaire links	• Five weeks after the questionnaire distribution, the last round of reminder emails was sent to all non-respondents on the 6th of July. • In order to avoid the invalidity of the previous questionnaire link, replacement questionnaire links were attached in the reminder emails.
7: Letter of Thanks sent	• At the end of the fifth week of the research questionnaire distribution, emails including the letters of thanks for participation were automatically sent to all the participants who have completed the survey questionnaire through Qualtrics on 10th July.
8: Number of responses	• At the end of the data collection period, 149 responses were received with 109 useable survey questionnaires.

7.6.3 Response Rate

Due to the nature of the SDMP research, in general, the response rate for the past research is relatively low, such as 8.7% in Olson et al. (2007a), 6 % in Simons et al. (1999), 25% in Goll and Rasheed (1997). Only a handful of SDMP had a relatively high response rate, such as 42% in Elbanna and Child (2007) and 43% in Papakakis et al. (1998) as a result of using special questionnaire collection techniques (e.g. dropping-off and collecting). In the M&A research, the response rate is also relatively low, such as 15.42% in Bauer et al. (2018), 20.23% in Bauer and Matzler (2014) and 17.8% in Homburg and Bucerius (2005).

In order to increase the initial response rate of the data collection, based on the suggestions from a variety of resources (Dillman, 2009; Bryman and Bell, 2003; Iacobucci and Churchill, 2010), a number of approaches have been taken. Firstly, to establish the initial trust of the survey questionnaire and help the respondents ensure the ingenuity of the research invite, invitation emails were sent through the official Lancaster University email account, together with the research invitation letter with the official LUMS heading. The survey link is based on Qualtrics, a professional survey distribution platform with the official logo and heading of Lancaster University. Secondly, all the participants were offered a management summary of the current survey and a brief report for the present research findings to increase their upfront incentive. At the end of the questionnaire, there is a separate section in which the participants

could fill out their contact details if they are interested in receiving further summary and report. This section was utterly separate from the data analysis, which ensures the participants' anonymity. Thirdly, followed by Dillman's (2009) suggestions, reminder emails with personalised reminder letters (see *Appendix 7*) were sent out to the nonrespondents in the third, fourth, fifth and sixth weeks since the initial survey distribution.

After undertaking all the possible approaches to boost the response rate of the survey questionnaire, a total of 149 questionnaires were received back. However, only 109 were usable due to the missing items, or the confidence to answer the questionnaire was below "4" based on the last question in the questionnaire (1= not all confident to 7= very confident). However, the data collection did not receive any questionnaire completed by the second informants in the target sample. Hence, out of the 1956 emails distributed to all the possible informants in the target sample, 313 email did not reach the corresponding receivers due to the possible email changes or turnover, resulting in a response rate of 6.6%. This response rate could be relatively lower than the SDMP and M&A research in the literature. However, due to the unprecedented Covid-19 crisis and the UK's national lockdown during the data collection period, the relatively low response rate would be understandable and reasonable under the circumstances.

7.6.4 Non- or Late-Response Bias

Non- or late-response bias have been seen as an essential bias that might affect the confidence of the generalisation of the research findings due to the non-response error between the respondents and the non-respondents (Iacobucci and Churchill, 2010). Armstrong and Overton (1977) argue for the commonality between the non-respondents and late respondents. Comparing the early and late respondents would be an appropriate estimation of the possible non-response bias (ibid). Hence, undertaking the comparisons between early and late respondents was the first approach to test the potential non- and late-response bias. In particular, the Mann-Whitney U-Test has been used to test the possible differences in respondents before and after the second reminder emails. After testing the early and late respondents, no significant differences were found, suggesting that the non-response bias is unlikely to be a serious consideration (Armstrong and Overton, 1977).

The second approach to test the possible non or late-response bias was to check the data gathered in the present research against a random sample of the population regarding annual

sales and relative size (Bauer et al., 2019; Zaheer et al., 2013; Schriber et al., 2019). The comparisons did not show any statistically significant difference. The second approach further confirms that the non- or late-response bias should not be a primary issue for the present research. The descriptive data of the sample will be depicted in the next chapter.

7.7 Data Analysis Methods

7.7.1 Structural Equation Modelling (SEM)

To test all the hypotheses associated with the double-layered contextual model of SDMP in the present research, structural equation modelling (SEM) has been used. In the SDMP literature, studies have adopted SEM to test complex integrative SDMP models (e.g. Papakadis et al., 1998). SEM enables the researcher to estimate the relationships between different constructs simultaneously through "incorporating unobservable variables measured indirectly by indicator variables" (Hair et al., 2017: 4). It also facilitates assessing the measurement error in observed variables (Chin, 1998). SEM has shown its particular role in helping the process of developing and testing theories, which has become a prevailing approach in the research (e.g. Ringle et al., 2012; Hair et al., 2012).

In addition to SEM, in the past SDMP literature, multiple regression analysis has also been widely used (e.g. Elbanna and Child, 2007; Miller, 2008; Goll and Rasheed, 2005). Two essential reasons as to why the current research has chosen to use SEM rather than the multiple regression analysis. Firstly, it is impossible to detect any potential interfering effects between independent variables using the multiple regression analysis regardless of undertaking standard, hierarchical or stepwise SEM approaches (Tabachnick et al., 2007). It would be interesting for the current study to gain additional information regarding the possible interfering effects between independent variables, particularly for Model II (Application of SDMP). The testing of interfering effects of the two interdependent variables in this model (procedural rationality and collective intuition) would provide empirical evidence of how Type 1 and Type 2 of SDMP would interplay with each other, drawing upon the upper echelon theory (Evan, 2003). As such, SEM would make it feasible for the present study to achieve this endeavour (Hair et al., 2017). Secondly, Bollen and Lennox (1991) argue that SEM is particularly suitable for research that tries to investigate latent variables, which is in line with Hair et al. (2012). For the present study,

all the variables in the double-layered contextual model of SDMPs are latent variables, making it a perfect fit to take SEM as the data analysis approach.

7.7.2 Partial Least Square (PLS) SEM

In line with the previous section, SEM has been chosen to use to analyse the data and test hypotheses. However, there have two widely applied SEM approaches, namely, covariance-based SEM (i.e. CB SEM) and variance-based SEM, and the PLS-SEM is regarded as a variance-based approach (Hair et al., 2012; Hair et al., 2017). PLS-SEM was selected for the current research due to some important reasons. Firstly, PLS-SEM is particularly appropriate for researchers to test complex research models with better performance (Haenlein and Kaplan, 2004; Hair et al., 2012). Hair et al. (2012) review the use of PLS-SEM in strategic management research for the past three decades at the time. They find that the average number of latent variables in the research is 7.5. There are ten latent variables within the double-layered contextual model of SDMP for the current study, which has indicated the complexity of the research model. Hence, PLS-SEM would be perfectly suitable for the present research in this regard.

Secondly, PLS-SEM is applicable for small to medium sample sizes (Chin et al., 2003; Haenlein and Kaplan, 2004; Hair et al., 2012; Hair et al., 2017; Reinartz et al., 2009). Hair et al. (2012) review the use of PLS-SEM in strategic management studies, and they find the average sample size of 154.9 compared to 246.4 in CB-SEM studies (Shah and Goldstein, 2006) This fact is in line with Henseler et al. (2014), indicating that PLS-SEM makes it possible to achieve a high level of predicting power with small sample sizes. In particular, in the strategic management and M&A research fields, studies have successfully used the PLS-SEM to access the research with small to medium sample sizes, such as 101 in Dao et al. (2018), 106 in Bauer and Matzler (2014) and 116 in Bauer et al. (2019). The sample size in the present research is relatively small (n=109), which is similar to the previous M&A research. As such, using PLS-SEM to deal with the small sample size in the present study will be promising and applicable.

Thirdly, PLS-SEM is a highly prediction-oriented approach to maximise dependent variables' explained variance (Hair et al., 2012). Alternatively, CB SEM has a strong focus on overall model fit (Barroso et al., 2010). In particular, Hair et al. (2012: 312) argue that “CB-SEM is a confirmatory approach that focuses on the model’s theoretically established relationships”. For

the present research, even though there have been theoretical arguments as to why relationships in the double-layered contextual model of SDMP are hypothesised to be held in certain ways, there are no strong existing theories behind every hypothesising relationship. In addition, the ultimate aim of the current research is to explain TMT's two SDMPs (i.e. procedural rationality and collective intuition) and then the final M&A performance. As such, using this prediction-oriented approach (i.e. PLS-SEM) is suitable for the nature of the research objectives. Other reasons for using PLS-SEM for the present research include no requirement for distributional assumptions (Chin et al., 2003) and the prevalence in strategic management research (e.g. Doz, et al., 2000; Sarkar et al., 2001) and M&A research (e.g. Junni et al., 2015; Bauer and Matzler, 2014; King et al., 2020).

The software package SmarPLS was used in the current research. In particular, bootstrapping is the technique used by PLS-SEM when testing the significance of a particular path. In line with the suggestions from Hair et al. (2012) and Hair et al. (2017), the options of 5000 bootstraps were selected. In addition, the sign change option was set to individual-level sign changes in light of the recommendation of Henseler et al. (2009: 307).

Hair et al. (2012: 315) has raised the consideration of "estimating constructs measures at several dimensions of abstraction". This has been referred to as the estimation of second-order constructs in Bauer and Matzler (2014). They use the hierarchical components approach suggested by Lohmoller (1989) rather than the two-step approach (Argawal and Karahanna, 2000) or the hybrid approach. This hierarchical component approach has become a prevailing approach for the researcher to model complex construct, as this approach "allows for a more parsimonious set-up of the structural model" (Hair et al., 2012: 315). The underlying reason for not choosing the two-step approach is the possible confusing interpretations as this approach adopts two independent approximations (Bauer and Matzler, 2014; Burt, 1973; Fornell and Yi, 1992). In addition, there have not been any guidelines for using the hybrid approach in the literature (Bauer and Matzler, 2014), making it inapplicable for the present study to consider. Combined, the hierarchical components approach was used to assess the three second-order constructs in the present research (i.e. TMT behavioural integration; TMT transactive memory system; M&A performance) following the guidelines developed by Wetzels et al. (2009).

7.8 Summary of Research Approach

This chapter has outlined the key methodological considerations for the present research: philosophical orientations, research strategy and design, data collection procedure, sampling, survey questionnaire design and data analysis method.

The present research has taken objectivism and positivism as the ontological and epistemological orientation and a quantitative research strategy through a cross-sectional research design. For the data collection, 1956 initial invitation emails (1643 were sent successfully) with the survey questionnaire were sent to a sample of 966 British companies. They were operating in both manufacturing and service sections, with an employee number of less than 2000 and annual sales of fewer than one billion pounds. They made acquisition decisions between January 2014 and December 2018. A total of 109 useable questionnaires were received, making the response rate of 6.6%. To analyse the data, PLS-SEM was adopted by the present research.

The next chapter, chapter 8, will discuss the results of the research.

Chapter 8: Results and Hypotheses Testing

In light of the detailed descriptions of the present research's methodological choices in the previous chapter, this chapter will report the results of the SmartPLS to test all the hypotheses in the double-layered contexts model of SDMP. Before reporting the hypotheses testing, descriptive statistics of the study, consideration of the common method bias and the reliability and the validity of the adopted measurements will be outlined first.

8.1 Descriptive statistics

8.1.1 Respondents Information

The following *Table 8.1* describes the positions of the respondents in the present research.

Table 8.1: Positions of Respondents

Information of respondents	
Position	**%**
CEO	30.8
CFO	19.6
Managing Director	15.0
Chairman	14.0
Head of Strategy	0.9
Head of Corporation Development	2.8
n/a	16.8

Those respondents all had significant involvement in making at least one M&A decisions within the given timeframe (i.e. January 2014 to December 2018). Most of the respondents are CEO and CFO, accounting for 30.8 % and 19.6%, respectively. In the current research, as opposed to only targeting CEOs, a wide range of TMT members was targeted, which is in line with previous SDMP research (e.g. Elbanna and Child, 2007; Goll and Rasheed, 2005) and M&A research (e.g. Bauer and Matzler, 2014; Dao et al., 2017). Only a few respondents are the heads of strategy (0.9%) and the heads of corporation development (2.8%). In particular, Kumer et al. (1993) state that respondents from different hierarchical level and organisational roles in the organisation could potentially result in systematically divergent views on the same organisational event. Accordingly, the nonparametric Kruskal–Wallis test was conducted to compare all the main constructs and the control variables among groups of respondents with

different positions in the organisation. In light of the nonparametric test results, all the p-value is above 0.05, which indicates no significant differences in sample distribution across groups of respondents with different respondents.

8.1.2 Sample Description

The following *Table 8.2* displays the descriptive data for the sample in the present research.

Table 8.2: Descriptive Data of the Sample

Sample Description					
Average industry Growth	%	**Relative size**	%	**Annual sales of the combined business in £**	%
>-15%	0.9	<25%	58.7	< 25 million £	20.6
-15% to -5%	3.7	25% to 49 %	15.6	25-49 million £	11.2
-4% to 0%	3.7	50% to 74%	5.5	50-99 million £	19.6
1% to 5%	56.0	75% to 100%	3.7	100-249 million £	19.6
6% to 10%	24.8	>100%	2.8	250-499 million £	15
11% to 15%	6.4	n/a	13.8	500-1000 million £	7.5
> 15%	4.6			> 1000 million £	6.5
M&A transaction type	%	**M&A transaction geographic nature**	%	**Industry**	%
Horizontal	50.5	UK-UK	57.9	Manufacturing	32.1
Vertical	25.7	UK-EU	12.1	Service	30.2
Conglomerate	10.1	UK-Global	6.5	Others	11.9
n/a	13.8	Other	10.3	n/a	25.7
		n/a	13.1		
Number of employees	%				
0-100	5.5				
101-200	22.0				
201-300	12.8				
301-400	9.2				
401-500	8.3				
500-2000	42.2				

Firstly, as discussed in the previous Chapter 7, one of the limitations in the past SDMP literature is that studies only focus on the manufacturing industry. To address this limitation, both manufacturing and service industries were included in the sample. The manufacturing industry accounts for 32.1 per cent of the total sample, and sectors are chemical, electrical equipment, food and beverage, furniture and wood products, metals and engineering, textiles

and clothing, transport equipment. The service industry accounts for 30.2 per cent of the total sample, and sectors are professional services, retail and wholesale, financial services, engineering, residential care, scientific research and development, repair and installation of machinery and travel agency. Those sectors included in the present research are in line with the relevant strategic decision-making studies and M&A studies in the literature (e.g. Elbanna and Child, 2007; 2010; Goll and Rasheed, 1997; Dao et al., 2007; Bauer and Matzler, 2007; Schriber et al., 2019). The sample also incorporates Telecommunications, IT and high-tech sector, categorised in "others" with 11.9 per cent. Hence, the combination of the manufacturing and services industries in the UK would increase the present research findings' generalisability.

Secondly, in light of the descriptions in the previous Chapter 7, the present research restricts the firm size to be fewer than 2000 to eliminate the conglomerate multi-divisional firms in which top executives might not actively engage in all the processes when making M&A decisions (e.g. Bauer et al., 2018; Dao et al., 2017). In the current research sample, 42.2 per cent of the firms have 500-2000 employees. To test whether there would be significant differences in the sample distribution across the firms with different sizes, the nonparametric Kruskal–Wallis test was conducted. The testing results show that the distribution of all the independent, dependent, moderating and control variables in the present research does not show any significant difference as the p-value is all above 0.05. The comparability of the findings in the current research is applicable. In the past SDMP literature, many studies have sampled relatively big firms with more than 300 employees in Papadakis et al. (1998) and range from 50 to 6600 in Dean and Sharfman (1996).

Thirdly, as opposed to the previous SDMP studies that focus on a combination of strategic decisions (e.g. Elbanna and Child, 2007; Papadakis et al., 1998; Shepherd et al., 2019), the present research only focuses on the rare strategic decisions, M&A decision (Zollo, 2009). In the sample, 58.7 per cent of the target firms are less than 25 per cent of the acquiring firm's size. The vast majority of the acquiring firms made their decisions to acquire their potential competitors in the same industry (i.e. 50.5 per cent are horizontal acquisitions) or acquire the firms in the same supply chain (i.e. 25.7 per cent are vertical integration). Hence, over 75 per cent of the acquisition decisions in the sample can be seen as related. As to the geographic nature of the M&A decisions, all the acquiring firms are UK-based, and 57.9 per cent of them acquired a British target. After taking the acquisition decisions, the annual sale of the combined

business in our sample was relatively equally distributed at "< 25 million £" (20.6 %), "50-59 million £" (19.6%) and "100-249 million £" (19.6%).

8.2 Common Method Bias

Relying on the self-reported data from a single respondent at a single point in time could raise the concern of common method bias due to consistency motives or the social desirability (Podsakoff and Organ, 1986; Podsakoff et al., 2003). Some studies regard the common method bias as an "urban legend" (Spector, 2006), suggesting an overestimation of its importance. However, some studies urge scholars to take common method bias as a serious concern, given its potential negative effect on internal validity. Hence, it must be controlled (Podsakoff et al., 2003; Podsakoff et al., 2012). For the present research, common method bias was taken as an essential consideration before testing the structural model. Following the guidelines from Richardson et al. (2009), the present research took various "a priori" measures to mitigate common method bias and then conducted a "post hoc" analysis to assess its possible presence.

In the first step of the "a priori", the present research informants were well-educated TMT members who would be able to address the questions in the survey accurately. This assumption could deal with the possibilities of identical answers (Krosnick, 1999) and the tendency of agreement (Baumgartner and Steenkamp, 2001) due to the limited cognitive compacity of the informants. In addition, the anonymity and confidentiality of the respondents were guaranteed (Podsakoff et al., 2012). The survey's participation was entirely attributed to the respondents' interests and will so that the TMT members did not need to provide respondents to satisfy others (Krosnick, 1999). Furthermore, the unsuccessful acquisition is not uncommon (Christensen et al., 2011). Therefore, social desirability should not be a serious issue for the present research data (Podsakoff et al., 2012). Finally, all the measurements of the latent variables were adopted and modified from the existing research in the literature, measured by multiple items (Harrison et al., 1996). Two-step pre-tests were conducted before distributing the surveys to all the informants to avoid complex and unclear questions and increase the survey questions' clarity (Doty and Glick, 1998). In particular, all the questions of latent variables were separated in the questionnaire to avoid the answering patterns (Podsakoff et al., 2012). However, reversed items were also adopted to mitigate further the response pattern (e.g. items of politics).

To further observe whether the common method is a serious concern in the current research, two "post hoc" analyses were adopted. Firstly, Harman's single factor test was conducted through the principal component factor analysis (Podsakoff and Organ, 1986). The results indicate that there are 25 distinct factors with a single factor explaining 18.097 per cent of the total variance. Secondly, the present research further investigated the possible common method bias issue by taking a so-called ad-hoc approach (Podsakoff et al., 2003) following the guidelines developed by Liang et al. (2007) to perform the analysis in PLS. Simply, it means that a common method factor was introduced in the structural model (Podsakoff et al., 2003; Williams et al., 2003). The possible common method bias was investigated by comparing the loading on the common method factors and the loading on the corresponding latent variables. The average item loading on the common method factor is 0.012 compared to 0.627 on the corresponding latent variables. Hence, the ratio of substantive variance to method variance is 52:1(see the table in *Appendix 1* for detailed information). Therefore, common method bias is not a serious issue for the data in the present research.

Combined, the "a priori" measures and the two "post hoc" analyses indicate that common method bias should not be a serious issue for the data at hand. Thus, the next chapter will outline the assessment of the measurement models before the hypotheses are investigated.

8.3 Assessment of Measurement Models

In order to assess the double-layered contextual model of SDMP in the present research, a two-step approach was applied, following the guidelines of Hulland (1999) and Henseler et al. (2012). Guidelines developed by Wetzels et al. (2009) were also followed when assessing the higher-order constructs.

Firstly, the reliability and validity of the measurement models were investigated. All the second-order constructs of the double-layered contextual model of SDMP (i.e. TMT behavioural integration; TMT transactive memory system and M&A performance) were evaluated first to guarantee the indicator reliability. Based on the evaluation in *Table 8.3*, all manifest indicators of the first order constructs have exceeded the threshold loading of 0.7. Hence, the indicator reliability of the second-order constructs was confirmed.

Table 8.3: Overview of Second-Order Constructs

	TMT Behavioural Integration	TMT Transactive Memory System	M&A Performance	Recommended Value
Composite reliability	0.905	0.906	0.929	>0.6
Cronbach's alpha	0.882	0.886	0.913	>0.6
AVE (Average variance extracted)	0.517	0.449	0.623	>0.5
Cross loading				—
Fornell-Larcker criterion				—
Collective behaviour	0.814***	—	—	Loadings of first order constructs
Joint decision making	0.852***	—	—	
Information exchange	0.870***	—	—	
Specialisation	—	0.814***	—	
Credibility	—	0.921***	—	
Coordination	—	0.862***	—	
Subjective performance	—	—	0.930***	
Objective performance	—	—	0.924***	

*p <0.05; **p <0.01; ***p < 0.001.

To investigate the construct reliability, the factor loading, composite reliability and Cronbach's alpha were assessed for all the first and second-order constructs. To investigate the construct validity, the average variance extracted (AVE) was assessed. The following *Table 8.4* describes a brief overview of the construct reliabilities and validity, and full details can be found in *Appendix 2*. Except for two constructs (i.e. procedural rationality and the importance of strategic decision), the Cronbach´s Alpha and AVE for all the other constructs have exceeded the level of 0.7 and 0.5, respectively. In terms of the factor loading, the vast majority of the indicators have crossed the threshold level of 0.6. Four indicators were eliminated due to the low initial loading: indicator 5 of procedural rationality provided an initial loading of 0.345 (i.e. TMT focused its attention on crucial information and ignoring the irrelevant information); indicator 5 of mechanistic structure gave an initial loading of 0.358 (i.e. The organisation has a strong emphasis on getting staff personnel to adhere closely to formal job

descriptions); the indicator 3 of specialisation resulted in the initial loading of 0.450 (i.e. We are responsible for our expertise in a different area); the indicator 4 of credibility gave the initial loading of 0.339 (i.e. We need to double-check the information provided by others).

Importantly, the initial loading of the eight indicators of the construct (i.e. the importance of the M&A decision) has indicated the possibility of different components within the same construct. In order to further investigate this possibility, a principal component factor analysis was conduct for this construct. Based on the rotated component matrix, three components were identified: indicators (1;3;4;8); indicators (1;2;7); indicators (5 and 6). After checking each component's loadings, indicator 3, indicator 4 and indicator 8 were used for further data analysis with the loading of 0.8241, 0.75 and 0.403. It simply means that a handful of indicators or constructs were slightly below the factor loading threshold, Cronbach´s Alpha and Average Variance Extracted (AVE). However, all the loadings (with the lowest loading of 0.403) have still exceeded the threshold value of 0.4. The two constructs' slightly low AVE and Cronbach´s Alpha could still be acceptable given the present research's early stage (Hulland, 1999).

Table 8.4: Brief Summary of Construct Reliabilities and Validity

Construct	Cronbach´s Alpha	Composite Reliability	Average Variance Extracted (AVE)
Cohesion	0.916	0.934	0.703
Collective Behaviour	0.817	0.891	0.731
Joint Decision Making	0.737	0.851	0.655
Information Exchange	0.865	0.917	0.787
Specialisation	0.752	0.844	0.579
Credibility	0.812	0.877	0.642
Coordination	0.772	0.846	0.526
Procedural Rationality	0.613	0.771	0.459
Collective Intuition	0.839	0.886	0.609
Mechanistic Structure	0.733	0.806	0.521
Board Strategic Involvement	0.862	0.905	0.517
Market Dynamism	0.812	0.877	0.711
Technology Dynamism	0.928	0.932	0.775
The Importance of Strategic Decision	0.645	0.711	0.469
Subjective Performance	0.875	0.915	0.729
Objective Performance	0.873	0.913	0.723

The discriminant validity of all the constructs was assessed with the Fornell-Lacker criterion (Fornell and Larcker, 1981) and the cross loadings at the indicator level. The table in *Appendix 3* outlines the correlations of all the constructs in the double-layered contextual model of SDMP and the square root of the AVE in bold and italics on the diagonal. All the correlations are below the corresponding square root of the AVE. The table in *Appendix 4* shows that all the indicators display higher loadings against their corresponding constructs than with other constructs for the cross loadings of all the indicators. Therefore, it is confident to draw a conclusion that the discriminant validity of all the constructs is proved.

The table in *Appendix 5* displays the means, standards deviations and correlations of all the variables in the double-layered contextual model of SDMP. Following the suggestions from Gujarati (1995), if correlations between two variables are above the threshold of 0.8, there will be the possibilities of the multicollinearity issue. There is only one pair of variables that have a significantly positive correlation above 0.8. Namely, the procedural rationality and the importance of strategic decision are highly correlated with the coefficient of 0.805 ($p<0.01$). The previous discriminant validity tests have revealed that the two constructs are two distinctive constructs in which the cross loadings are very low. A further explorative factor analysis was conducted. The results show that the two constructs have the eigenvalue of 2.010 and 1.666, which has crossed the threshold level of 1.0. Hence, the multicollinearity issue between the two highly correlated constructs can be rolled out. In addition, to further test any possible multicollinearity issue in the model, the variance inflation factor (VIF) was calculated. All the VIFs in the model range from 1.000 to 4.607, which are far below the recommended threshold of 10 (O'Brien, 2007). Therefore, it is confident to conclude that the multicollinearity issue should not be a serious issue in the double-layered contextual model of SDMP.

8.4 Assessment of Structural Models (Hypotheses Testing)

8.4.1 Goodness-of-fit (GoF)

Following Hulland (1999) guidelines, the structural models were assessed after assessing the measurement models. Before testing all the hypotheses in the structural model, a global criterion of goodness-of-fit (GoF) proposed by Tenenhaus et al. (2005) has been recommended to assess the model fit. GoF is "the geometric mean of the average communality and the average R^2" (Tenenhaus et al., 2005: 173).

$$\text{GoF} = \sqrt{\overline{\text{communality}} \times \overline{R^2}}.$$

Wetzels et al. (2009) state that communality equals AVE in the PLS modelling approach, so the equation to define the GoF for the PLS approach is as follows:

$$GoF = \sqrt{\overline{AVE} * \overline{R^2}}$$

They also suggest the baseline values for validating the fit of the PLS models, namely, *GoFsmall*=0.1, *GoFmedium*=0.25, and *GoFlarge*=0.36. After the calculations, the GoF value

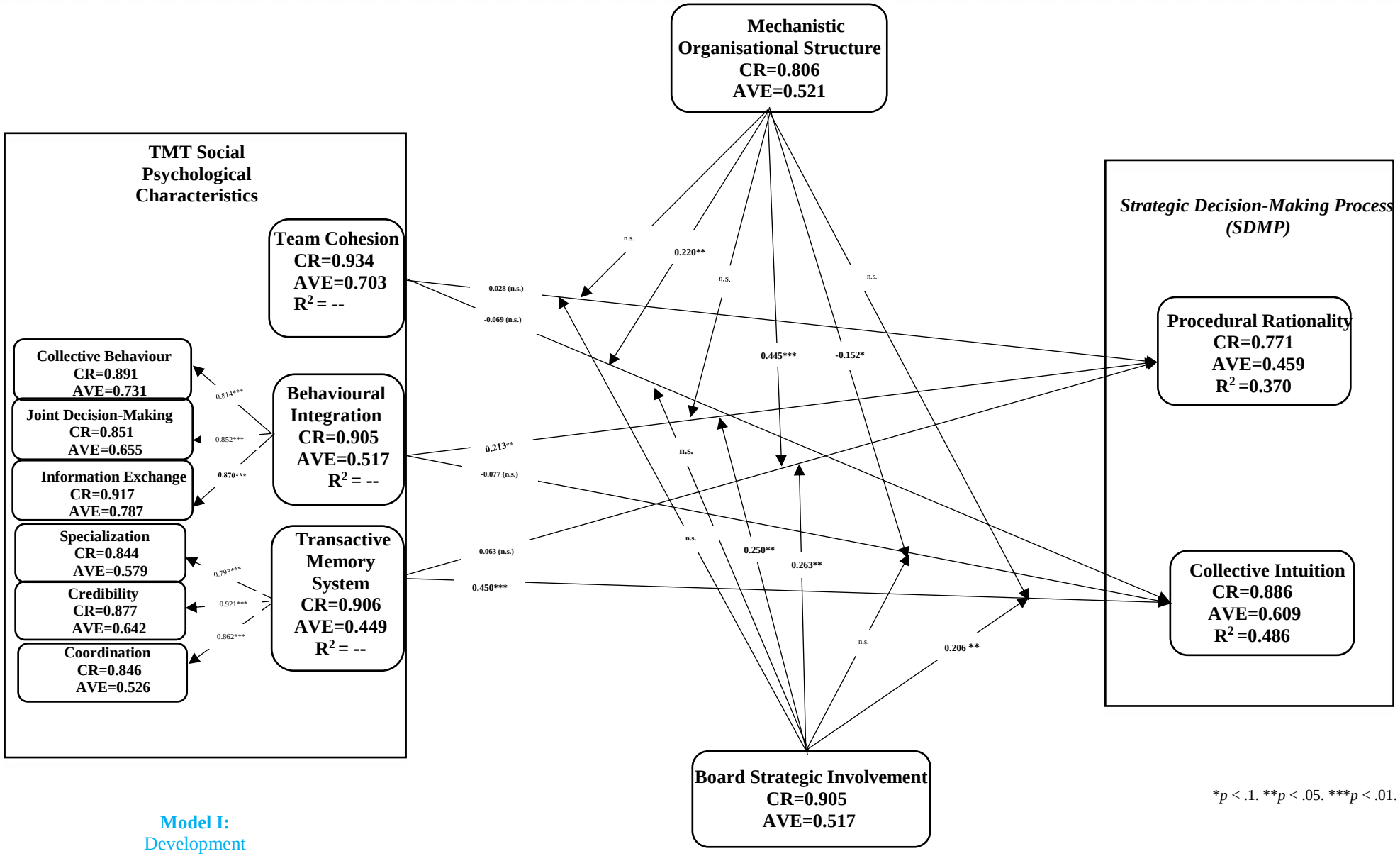
for the double-layered contextual model of SDMP in the present research is 0.534, indicating a substantial model fit (Wetzels et al., 2009).

In addition to the above GoF index, standard root mean square residual (SRMR) has also been introduced as a goodness of fit measure for PLS-SEM, using to avoid model misspecification (Henseler et al., 2014). An SRMR value of less than 0.10 can indicate a good model fit (Hu and Bentler, 1999). Based on the output from SmartPLS, the SRMR for the model is 0.089, indicating an acceptable model fit (Hu and Bentler, 1999).

8.4.2 The Hypotheses of Model I (Development of SDMP)

Due to the large numbers of hypotheses in the double-layered contextual model of SDMP, the results of all the hypotheses from the same corresponding sub-model will be reported together in light of the outline in the previous Chapter 5. At the end of the section, the results of the hypotheses as to all the control variables will be reported. The approach adopted by the present research follows the previous research that has used PLS-SEM for hypotheses testing in the M&A literature (e.g. Bauer and Matzler, 2014; Bauer et al., 2018; King et al., 2020). In particular, path-coefficients, p-values, and the effect sizes (f^2) will be reported for each hypothesis. The following *Figure 8.1* describes the PLS estimation of Model I (Development of SDMP).

Figure 8.1-PLS Estimation of Model I (Development of SDMP)



Model I: Development of SDMP

Hypotheses 1 (a and b)-3(a and b) investigate the baseline relationships between TMT social psychological characteristics (i.e. TMT cohesion; TMT behavioural integration; TMT transactive memory system) and SDMPs (i.e. procedural rationality and collective intuition) in Model 1 (Development of SDMP).

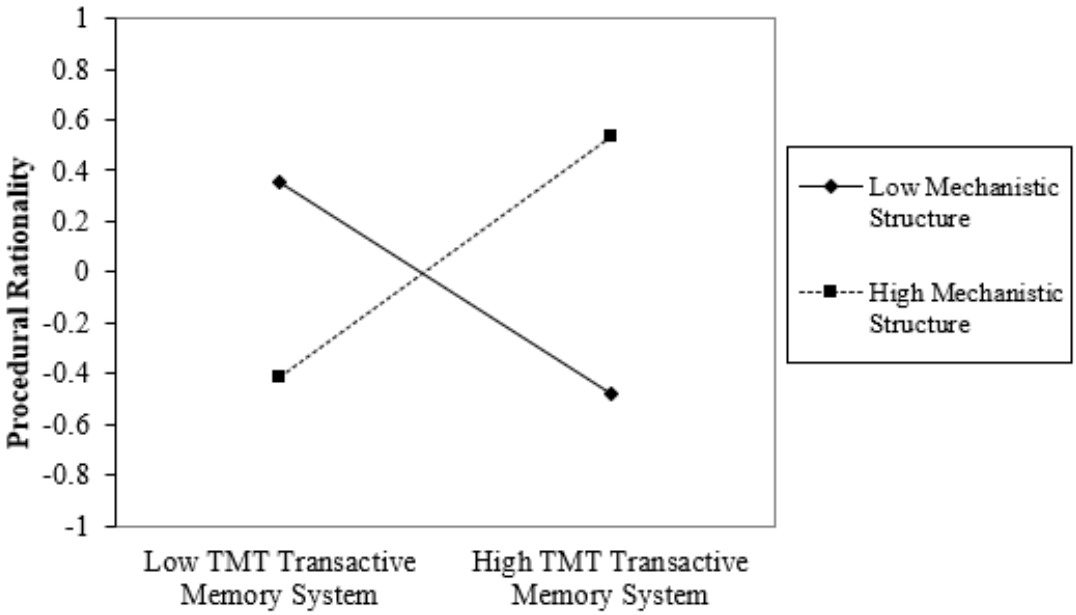
Hypotheses 1 state that **when cohesion is high, TMTs are likely to develop procedural rationality (1a) and collective intuition (1b) during the SDMP**. However, the current research does not find any statistical support for H1a (ß=0.028; p=0.398; f^2=0.001) and H1b (ß=-0.069; p=0.166; f^2=0.004) due to the insignificant path-coefficients respectively. Hence, H1a and H1b are not supported. **Hypotheses 2** state that **when behavioural integration is high, TMTs are likely to develop procedural rationality (2a) and collective intuition (2b) during the SDMP**. H2a is supported as the path-coefficient was positive and significant (ß= 0.213; p=0.049; f^2 =0.034). H2b is not supported due to the corresponding path-coefficients (ß=-0.077; p=0.211; f^2=0.006). **Hypotheses 3** states that **when the transactive memory system is high, TMTs are likely to develop procedural rationality (3a) and collective intuition (3b) during the SDMP**. There is no empirical support for H3a as the path-coefficient was insignificant (ß=-0.063; p=0.283; f^2*=0.002*). But, there is empirically strong evidence to support H3b (ß=0.450; p=0.001; f^2*=0.147*). Simply, it means that the TMT transactive memory system has a significantly positive direct relationship with collective intuition during the SDMP.

Hypotheses 4 (a and b)-6 (a and b) investigate the moderating role of mechanistic structure on the relationships between TMT social psychological characteristics (i.e. TMT cohesion, TMT behavioural integration, TMT transactive memory system) and procedural rationality and collective intuition in Model I (Development of SDMP).

H4a-6a state that **mechanistic organisational structure will foster the positive effect of team cohesion (H4a), behavioural integration (H5a) and transactive memory system (H6a) on the development of procedural rationality**. For H4a, the present research did not find any significant moderating role of the mechanistic structure due to insignificant path-coefficients (ß=-0.051; p=0.315; f^2=0.002). For H5a, the present research did not find any significant evidence to support its negative moderating effect (ß=-0.130; p=0.123; f^2=0.013). For H6a, there has been strong empirical support for the positive moderating role of mechanistic structure (ß=0.445; p=0.002; f^2=0.163). Hence, H4a and H5a are not supported; H6a is strongly

supported. The following *Figure 8.2* describes this significant interaction between mechanistic structure and TMT transactive memory system (TMS).

Figure 8.2: Mechanistic Structure-TMT TMS Interaction



H4b-6b state that **mechanistic organisational structure will hinder the positive effect of team cohesion (H4b), behavioural integration (H5b) and transactive memory system (H6b) on the development of collective intuition**. For H4b, as opposed to the initial hypothesis, the results indicate a positive moderating role of mechanistic structure given the significant path-coefficients (ß=0.220; p=0.028; f^2=0.045). For H5b, a significant negative moderating effect of the mechanistic structure has been found based on the path-coefficients (ß=-0.152; p=0.069; f^2=0.028). This empirical evidence is in line with the initial hypothesis. For H6b, the present research did not find any significant support for the initial hypothesis given the insignificant coefficients (ß=0.135; p=0.124; f^2=0.025). Hence, H4b and H6b are rejected, but H5b is supported. The following *Figure 8.3* and *Figure 8.4* describe those significant interactions between mechanistic structure and TMT cohesion and TMT behavioural integration, respectively.

Figure 8.3: Mechanistic Structure-TMT Cohesion Interaction

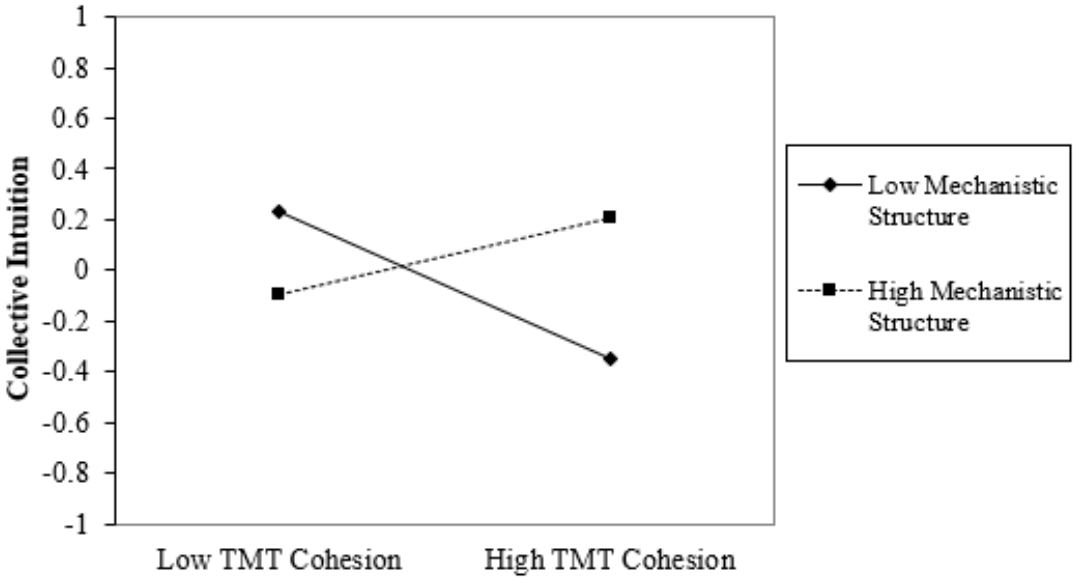
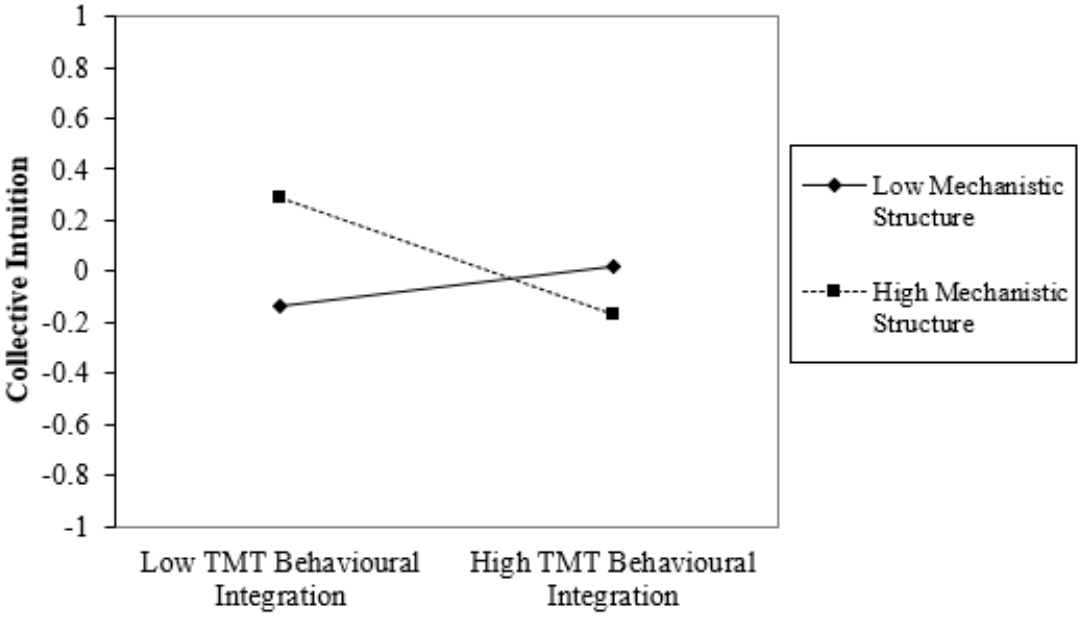


Figure 8.4: Mechanistic Structure-TMT Behavioural Integration Interaction



Hypotheses 7 (a and b)- 9 (a and b) investigate the moderating role of board strategic involvement on the relationships between TMT social psychological characteristics (i.e. TMT cohesion; TMT behavioural integration; TMT transactive memory system) and procedural rationality and collective intuition in Model I (Development of SDMP).

H7a-9a state that **board strategic involvement will foster the positive effect of team cohesion (H7a), behavioural integration (H8a) and transactive memory system (H9a) on the development of procedural rationality**. For H7a, the present research did not find any significant evidence to support the initial hypotheses given the insignificant path-coefficients (ß=-0.110; p=0.198; f^2=0.014). H8a was confirmed as the path-coefficients are positive and significant (ß=0.250; p=0.021; f^2=0.084). H9a was also confirmed due to the significant and positive path-coefficients (ß=0.263; p=0.031; f^2=0.060). The following *Figure 8.5* and *Figure 8.6* describe those significant interactions between board strategic involvement and TMT behavioural integration and TMT transactive memory system (TMS), respectively.

Figure 8.5: Board Strategic Involvement-TMT Behavioural Integration Interaction

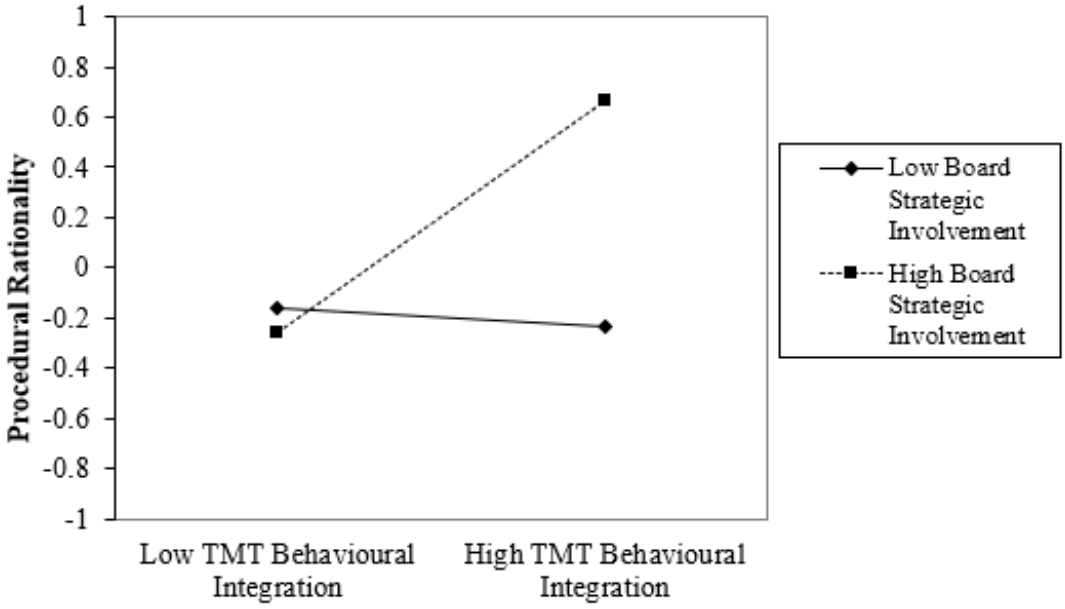
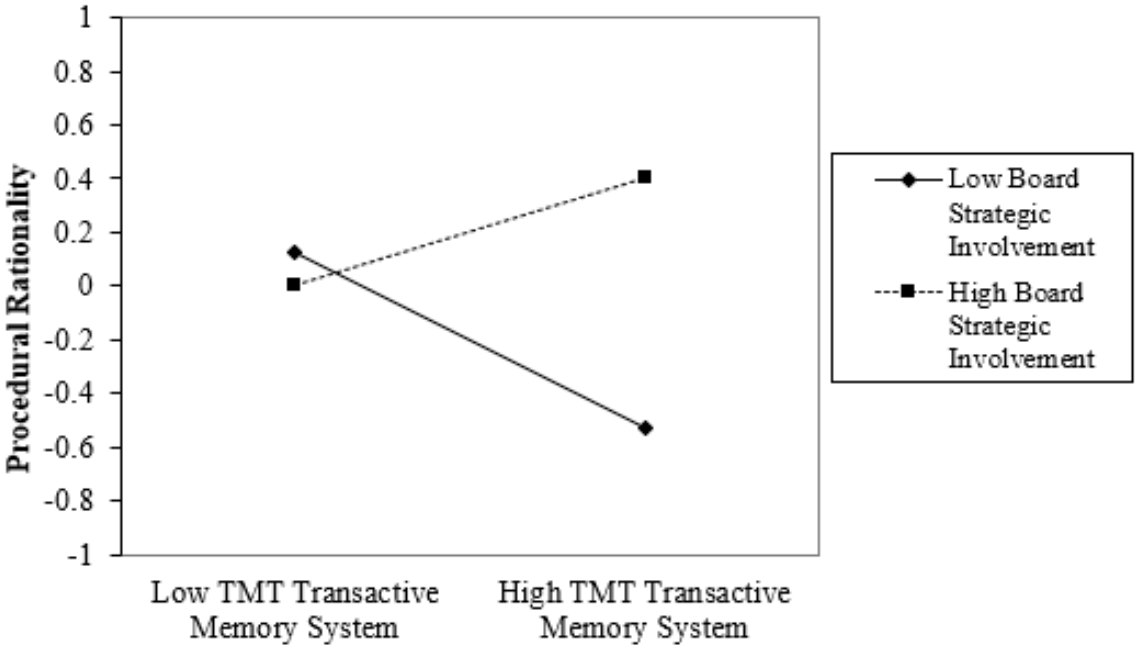
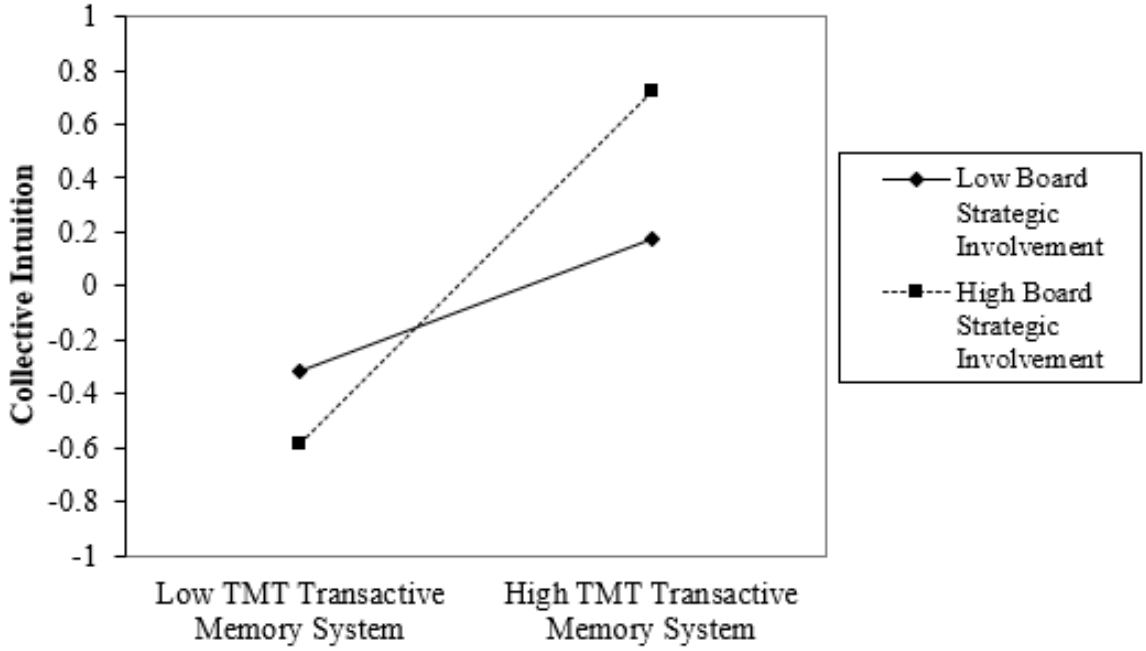


Figure 8.6: Board Strategic Involvement-TMT TMS



H7b-9b state that **board strategic involvement will hinder the positive effect of team cohesion (H7b), behavioural integration (H8b) and transactive memory system (H9b) on the development of collective intuition**. For H7b, the present research did not find any significant evidence to support the initial hypotheses given the insignificant path-coefficients (ß=-0.065; p=0.236; f^2=0.005). For H8b, the present research did not find any significant evidence to support the initial hypotheses given the insignificant path-coefficients (ß=0.109; p=0.138; f^2=0.018). For H9b, in contrast with the initial hypothesis, there is significant evidence for the positive moderating role of board strategic involvement given the path-coefficients (ß=0.206; p=0.050; f^2=0.077). Hence, H7b, H8b and H9b are not supported. The following *Figure 8.7* describes this significant interaction between board strategic involvement and TMT transactive memory system (TMS).

Figure 8.7: Board Strategic Involvement-TMT TMS



The above 8.4.2 has provided evidence for all the proposed hypotheses in Model I (Development of SDMP). *Table 8.5* will summarise key coefficients for all the hypotheses with the results of whether to accept or reject the initial hypothesis.

Table 8.5: Results of Hypotheses of Model I (Development of SDMP)

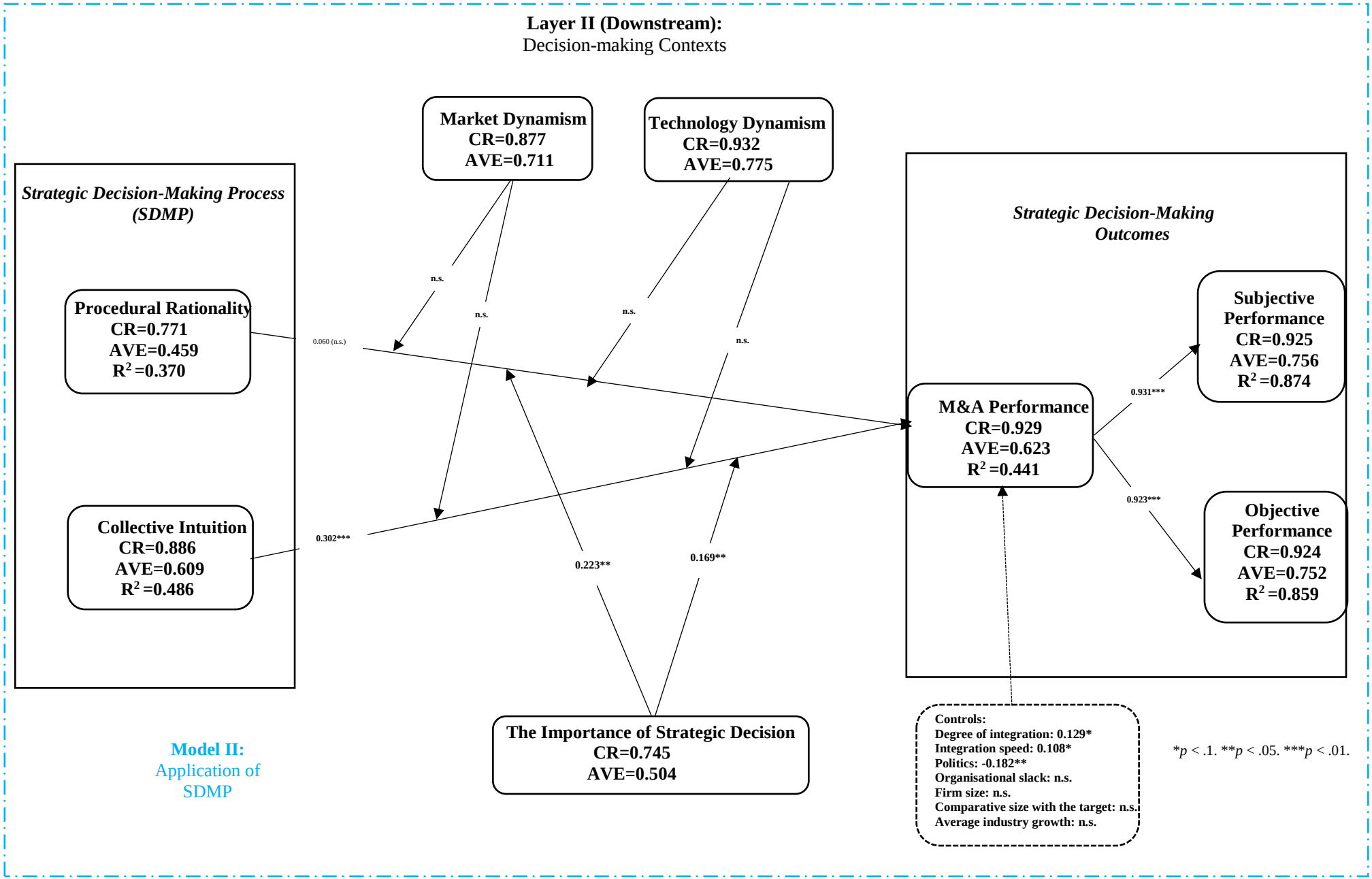
	Description	ß	P-Value	f^2	Results
H1a	Cohesion ⟶ Procedural Rationality	0.028	n.s.	0.001	Rejected
H1b	Cohesion ⟶ Collective Intuition	-0.069	n.s.	0.004	Rejected
H2a	Behavioural Integration ⟶ Procedural Rationality	0.213	**	0.034	**Supported**
H2b	Behavioural Integration ⟶ Collective Intuition	-0.077	n.s.	0.006	Rejected
H3a	Transactive Memory System ⟶ Procedural Rationality	-0.063	n.s.	0.002	Rejected
H3b	Transactive Memory System ⟶ Collective Intuition	0.450	***	0.147	**Supported**
H4a	Moderation: mechanistic structure, cohesion Procedural Rationality ⟶	-0.051	n.s.	0.002	Rejected
H4b	Moderation: mechanistic structure, cohesion Collective Intuition ⟶	0.220	**	0.045	Rejected
H5a	Moderation: mechanistic structure, behavioural integration ⟶ Procedural Rationality	-0.130	n.s.	0.013	Rejected
H5b	Moderation: mechanistic structure, behavioural integration ⟶ Collective Intuition	-0.152	*	0.028	**Supported**
H6a	Moderation: mechanistic structure, transactive memory system ⟶ Procedural Rationality	0.445	***	0.163	**Supported**
H6b	Moderation: mechanistic structure, transactive memory system ⟶ Collective Intuition	0.135	n.s.	0.025	Rejected
H7a	Moderation: board strategic involvement, cohesion ⟶ Procedural Rationality	-0.110	n.s.	0.014	Rejected
H7b	Moderation: board strategic involvement, cohesion ⟶ Collective Intuition	-0.065	n.s.	0.005	Rejected
H8a	Moderation: board strategic involvement, behavioural integration ⟶ Procedural Rationality	0.250	**	0.084	**Supported**
H8b	Moderation: board strategic involvement, behavioural integration ⟶ Collective Intuition	0.109	n.s.	0.018	Rejected
H9a	Moderation: board strategic involvement, transactive memory system ⟶ Procedural Rationality	0.263	**	0.060	**Supported**
H9b	Moderation: board strategic involvement transactive memory system ⟶ Collective Intuition	0.206	**	0.077	Rejected

*$p < .1$. **$p < .05$. ***$p < .01$.

8.4.3 The Hypotheses of Model II (Application of SDMP)

The following *Figure 8.8* describes the PLS estimation for Model II (Application of SDMP).

Figure 8.8-PLS Estimation of Model II (Development of SDMP)


Layer II (Downstream):
Decision-making Contexts
Market Dynamism
CR=0.877
AVE=0.711
Technology Dynamism
CR=0.932
AVE=0.775
Strategic Decision-Making Process (SDMP)
Procedural Rationality
CR=0.771
AVE=0.459
R2 =0.370
Collective Intuition
CR=0.886
AVE=0.609
R2 =0.486
n.s.
n.s.
n.s.
n.s.
0.060 (n.s.)
0.302***
0.223**
0.169**
Strategic Decision-Making Outcomes
M&A Performance
CR=0.929
AVE=0.623
R2 =0.441
0.931***
0.923***
Subjective Performance
CR=0.925
AVE=0.756
R2 =0.874
Objective Performance
CR=0.924
AVE=0.752
R2 =0.859
The Importance of Strategic Decision
CR=0.745
AVE=0.504
Controls:
Degree of integration: 0.129*
Integration speed: 0.108*
Politics: -0.182**
Organisational slack: n.s.
Firm size: n.s.
Comparative size with the target: n.s.
Average industry growth: n.s.
*p < .1. **p < .05. ***p < .01.
Model II:
Application of SDMP

Hypotheses 10 (a and b) examine the baseline relationships between SDMPs (i.e. procedural rationality and collective intuition) and M&A performance. **H10 states the greater the procedural rationality (10a) and collective intuition (10b), the greater impact on M&A performance**. For H10a, the present research did not find any empirical evidence to support this hypothesis given the insignificant path-coefficients (ß=0.060; p=0.215; f^2=0.005). However, the H10 b was strongly supported as the results of the significant and positive path-coefficients between collective intuition and M&A performance (ß=0.302; p=0.001; f^2=0.089). Hence, the H10a is not confirmed, but H10b is confirmed, indicating that TMT's collective intuition during the M&A decision-making process will positively affect the M&A performance.

Hypotheses 11 (a and b) investigate the moderating role of environmental dynamism (i.e. technology dynamism and market dynamism) on the relationships between SDMPs (i.e. procedural rationality and collective intuition) and M&A performance. **H11 states** that **environmental dynamism (i.e. technology dynamism and market dynamism) will attenuate the positive relationship between procedural rationality (11a) and M&A performance but foster a positive relationship between intuition (11b) and M&A performance**. Interestingly, the present research did not find any significant moderating effect of market dynamism on the relationship between procedural rationality and collective intuition and M&A performance, given the insignificant path-coefficients, respectively (ß=0.074; p=0.295; f^2=0.008; ß=0.051; p=0.291; f^2=0.003). In addition, the moderating effect of technology dynamism on the relationship between procedural rationality and collective intuition and M&A performance has also not been found given the insignificant path-coefficients (ß=-0.025; p=0.384; f^2=0.001; ß=0.035; p=0.375; f^2=0.001). Therefore, H11a and H11b are not supported.

Hypotheses 12 (a and b) investigate the moderating role of the strategic decision importance on the relationships between SDMPs (i.e. procedural rationality and collective intuition) and M&A performance. **H12 states that the importance of strategic decision will foster the positive relationship between procedural rationality (12a) and M&A performance but attenuate the positive relationship between collective intuition (12b) and M&A performance.** For H12a, the present research found the empirical evidence to support the positive moderating effect of the importance of the strategic decision on procedural rationality

given the positive and significant path-coefficients (ß=0.223; p=0.013; f^2=0.058). For H12b, as opposed to the initial hypothesis, a significant negative moderating effect on collective intuition was found, given the negatively significant path coefficients (ß=0.169; p=0.035; f^2=0.04). Therefore, H12a was supported, but H12b was not supported. The following *Figure 8.9* and *Figure 8.10* describe those significant interactions between the importance of strategic decision (i.e. M&A Importance) and procedural rationality and collective intuition.

Figure 8.9: The Importance of Strategic Decision (i.e. M&A)-Procedural Rationality

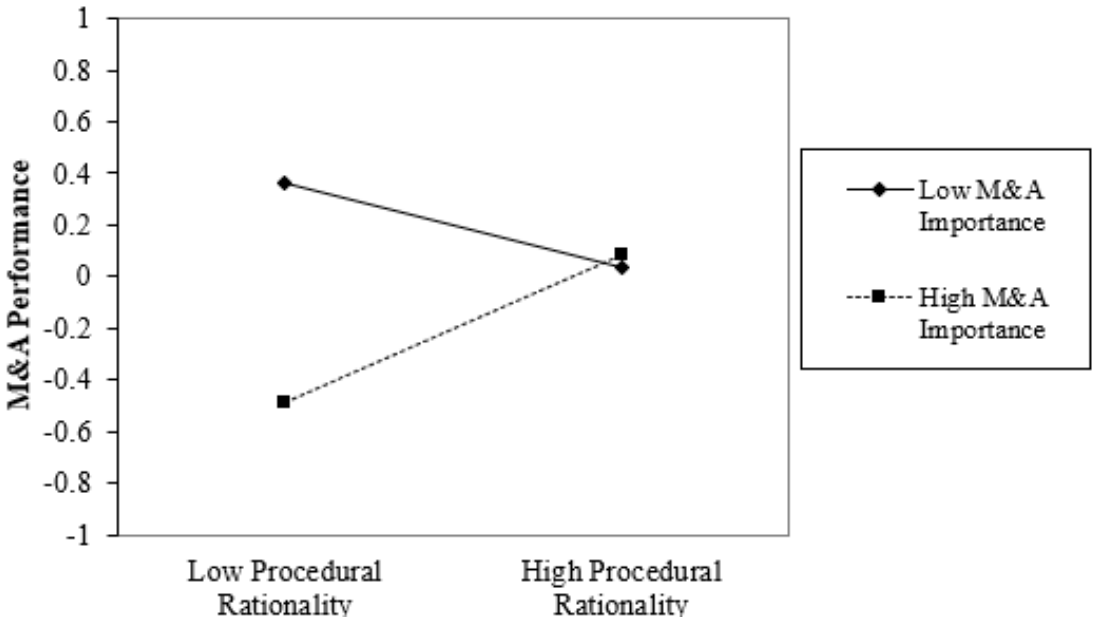
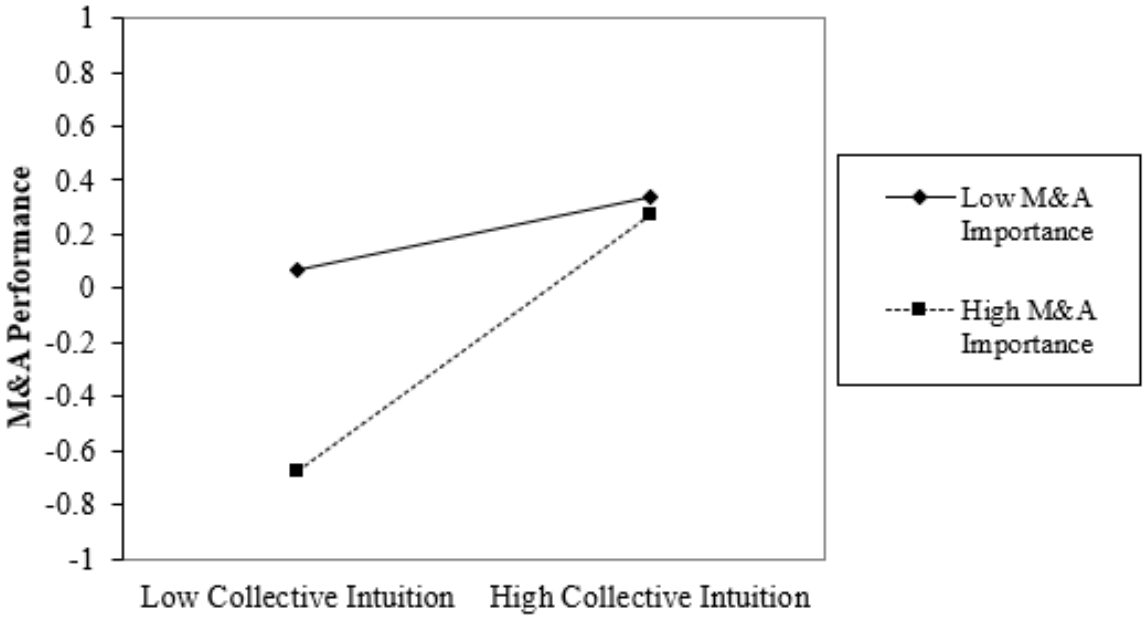


Figure 8.10: The Importance of Strategic Decision (i.e. M&A)-Collective Intuition



The above 8.4.3 has provided evidence for all the proposed hypotheses in Model II (Development of SDMP), and the following *Table 8.6* will summarise key coefficients for all the hypotheses with the results whether to accept or reject the initial hypothesis.

Table 8.6: Results of Hypotheses of Model II (Application of SDMP)

	Description	ß	P-Value	f^2	Results
H10a	Procedural rationality ⟶ M&A performance	0.060	n.s.	0.005	Rejected
H10b	Collective intuition ⟶ M&A performance	0.302	***	0.089	**Supported**
H11a	Moderation: dynamism, procedural rationality ⟶ M&A performance	0.074 -0.025	n.s. n.s.	0.008 0.001	Rejected
H11b	Moderation: dynamism, collective intuition ⟶ M&A performance	0.051 0.035	n.s. n.s.	0.003 0.001	Rejected
H12a	Moderation: the importance of the strategic, decision procedural rationality ⟶ M&A performance	0.223	**	0.058	**Supported**
H12b	Moderation: the importance of strategic decision, collective intuition ⟶ M&A performance	0.169	**	0.040	Rejected

*p < .1. **p < .05. ***p < .01.

8.4.4 Control Variables

Among the 7 control variables used in the double-layered contextual model of SDMP in the present research, 3 control variables have significant influence on the research model given the significant path-coefficients. Namely, politics has negative effect on M&A performance (ß=-0.182; p=0.013; f^2=0.042), degree of integration has positive effect on the M&A performance (ß=0.129; p=0.066; f^2=0.022) and integration speed has positive effect on M&A performance (ß=0.108; p=0.097; f^2=0.015). Organisational slack (ß=0.033; p=0.344; f^2=0.002), firm size (ß=0.023; p=0.329; f^2=0.001), comparative size of the target firm (ß=0.010; p=0.417; f^2=0.000) and average industry growth (ß=-0.051; p=0.168; f^2=0.004) do not have any significant effect on M&A performance.

The following *Table 8.7* will summarise key coefficients for all the hypotheses with the results of whether to accept or reject the initial hypothesis.

Table 8.7: Result of Control Variables

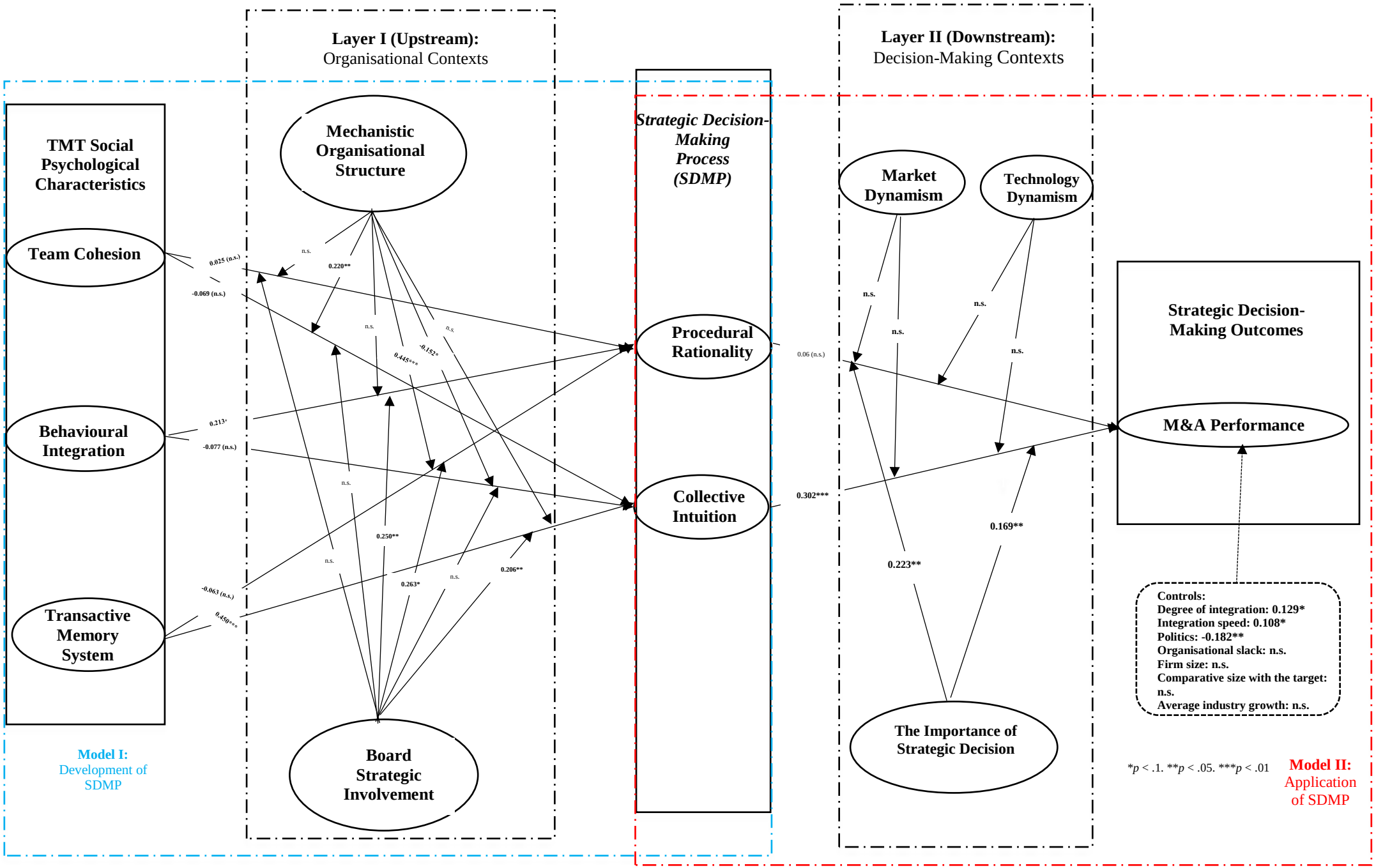
Control Variables	Description	ß	P-Value	f^2	Results
1	Politics ⟶ M&A performance	-0.182	**	0.042	**Significant**
2	Degree of integration ⟶ M&A performance	0.129	*	0.022	**Significant**
3	Integration speed ⟶ M&A performance	0.108	*	0.015	**Significant**
4	Organisational slack ⟶ M&A performance	0.033	n.s.	0.002	Insignificant
5	Firm size ⟶ M&A performance	0.023	n.s.	0.001	Insignificant
6	Comparative size of target firm ⟶ M&A performance	0.010	n.s.	0.000	Insignificant
7	Average industry growth ⟶ M&A performance	-0.051	n.s.	0.004	Insignificant

*p < .1. **p < .05. ***p < .01.

8.4.5 Double-Layered Contextual Model of SDMP

The previous 8.4.2 and 8.4.3 have reported the hypotheses testing results for Model I (Development of SDMP) and Model II (Application of SDMP), respectively. Combined the results from both sub-models, *Figure 8.11* provides the PLS estimation of the full double-layered contextual model of SDMP.

Figure 8.11: PLS Estimation of Double-Layered Contextual Model of SDMP


Layer I (Upstream):
Organisational Contexts
Layer II (Downstream):
Decision-Making Contexts
TMT Social Psychological Characteristics
Team Cohesion
Behavioural Integration
Transactive Memory System
Mechanistic Organisational Structure
Board Strategic Involvement
Strategic Decision-Making Process (SDMP)
Procedural Rationality
Collective Intuition
Market Dynamism
Technology Dynamism
The Importance of Strategic Decision
Strategic Decision-Making Outcomes
M&A Performance
0.025 (n.s.)
-0.069 (n.s.)
0.213*
-0.077 (n.s.)
-0.063 (n.s.)
0.450***
n.s.
0.220**
0.445***
-0.152*
0.250**
0.263*
0.206**
0.06 (n.s.)
0.302***
0.223**
0.169**
Controls:
Degree of integration: 0.129*
Integration speed: 0.108*
Politics: -0.182**
Organisational slack: n.s.
Firm size: n.s.
Comparative size with the target: n.s.
Average industry growth: n.s.
*p < .1. **p < .05. ***p < .01
Model I: Development of SDMP
Model II: Application of SDMP

8.5 Summary of the Findings

8.5.1 Model I (Development of SDMP)

Model I (Development of SDMP) proposes the direct baseline relationships between three TMT social psychological characteristics (i.e. TMT cohesion, TMT behavioural integration and TMT transactive memory system) and SDMPs (i.e. procedural rationality and collective intuition). How those direct relationships are influenced by the two organisational contexts (i.e. mechanistic structure and board strategic involvement) has also been hypothesised.

This present research finds that how a TMT develops its SDMPs might not be directly determined by its social psychological characteristics but moderated by the organisational contexts. To be specific, in terms of the direct baseline relationships, this study finds that behaviourally integrated TMTs intend to develop procedural rationality during their SDMP (*H2a*). Besides, TMTs with the transactive memory system are likely to develop collective intuition during its SDMP (*H3b*). Considering the moderating role of the organisational contexts, this research finds a number of significant interactions. Firstly, regarding the development of procedural rationality during TMT's SDMP, this research finds that when a TMT makes its strategic decision within a low mechanistic structure (i.e. organic structure), the transactive memory system of the TMT negatively influences the development of procedural rationality during the SDMP. However, when the organisational structure becomes highly mechanistic, TMTs with transactive memory systems become more likely to develop procedural rationality during its SDMP (*H6a*).

The research also finds that when the board has a low level of strategic involvement in TMT's SDMP, the behaviourally integrated TMT is unlikely to use its procedural rationality during the SDMP. However, when there is a high level of board strategic involvement, the TMT is much more likely to rely on its procedural rationality when making strategic decisions (*H8a*). Similarly, when the level of strategic involvement is low in its TMT's SDMP, the TMT with a transactive memory system is very unlikely to rely on its procedural rationality to make strategic decision. However, the TMT intends to rely on procedural rationality to make strategic decisions when there is a high level of board strategic involvement in its decision-making process (*H9a*).

Secondly, regarding the development of collective intuition during TMT's SDMP, this research finds that when the organisational structure is highly mechanistic, behaviourally integrated TMTs are unlikely to rely on its collective intuition to make strategic decisions. In contrast, the TMT intends to develop collective intuition during its SDMP when an organisational structure is less mechanistic (i.e. organic structure) (*H5b*). Interestingly, at odds with the initial hypothesis, this research finds that cohesive TMTs are likely to rely less on collective intuition within the less mechanistic organisational structure during its SDMP. However, when the organisational structure is highly mechanistic, the cohesive TMT intends to use more collective intuition to make its strategic decisions (*H4b*).

In addition, this research also finds significant interaction between board strategic involvement, TMT transactive memory system and the development of collective intuition during the SDMP. Whether the board has a high or low strategic involvement in its TMT's SDMP, the TMT with transactive memory will use its collective intuition to make strategic decisions. However, when the board strategic involvement is high, the TMT will be even more likely to develop its collective intuition during the SDMP (*H9b*).

Combined, the above findings show that, to a certain degree, TMTs' social psychological characteristics do not have much direct effect on how the TMT develop their SDMPs. However, when the organisational structure is highly mechanistic, or the board has a high level of strategic involvement in its TMT's SDMP, TMTs would be more likely to develop procedural rationality than collective intuition during SDMP and vice versa.

8.5.2 Model II (Application of SDMP)

Model II (Application of SDMP) proposes the direct baseline relationships between two SDMPs (i.e. procedural rationality and collective intuition) and the organisational performance (i.e. M&A performance). In addition, how those direct relationships are influenced by the two decision-making contexts (i.e. environmental dynamism and the importance of strategic decision) have also been hypothesised.

The findings indicate that only collective intuition can positively affect M&A performance when TMTs make the M&A decision (*H10b*). In contrast, the use of procedural rationality does not show any significant effect (*H10a*). Regarding the moderating role of the decision-making

contexts, surprisingly, both dimensions of environmental dynamism (i.e. market dynamism and technology dynamism) do not affect how the two SDMPs would unfold their influence on M&A performance (*H11a* and *H11b*). However, the present research finds the significant moderating role of another decision-making context for both SDMPs, the importance of the strategic decision. Firstly, when the TMT perceives the strategic decision as low importance prior to making it, using procedural rationality during the SDMPs will have a negative impact on M&A performance. However, when the strategic decision has been perceived as the high importance, using procedural rationality during the SDMP will contribute to positive M&A performance (*H12a*). Secondly, whether the TMT perceives the strategic decision as high or low importance, collective intuition during the SDMP will result in positive M&A performance. In particular, when the importance of strategic decision is high, the effect of using collective intuition to make strategic decisions will be even more positive (*H12b*).

8.6 Summary

This chapter has provided descriptive statistics of the present research sample and the results of all the hypotheses in the double-layered contextual model of SDMP. A two-step approach was applied to assess the model based on Hulland's (1999) guidelines: the assessment of the measurement model and the assessment of the structural model. Before taking this two-step approach, the potential issue of common method bias has been considered first. After reviewing the "a priori" measures undertaken during the research design and data collection processes, a "post hoc" analysis has also been taken to assess the possible presence in the data. Based on the results, it is confident that the common method bias should not be a serious issue for the present research.

As the first step of assessing the measurement model, all the second-order constructs' indicator reliability has been first confirmed. Except for two constructs (i.e. procedural rationality and the importance of strategic decision), the rest of the constructs have all shown acceptable construct reliability and validity. However, given the early stage of the present research, those two constructs would still be acceptable (Hulland, 1999). For discriminant validity, the conclusion can be drawn that all the constructs have met the threshold requirements, based on the Fornell-Lacker criterion and the cross loadings test.

As the second step, the structural model has been tested. Before testing all the structural model hypotheses, the Goodness-of-fit (GoF) of the structural model has been calculated. The GoF has indicated a substantial model fit based on Wetzels et al. (2009) guideline. In addition to GoF, the standard root mean square residual (SRMR) of the model structural model has also indicated a substantial model fit (Henseler et al., 2014). In light of the previous summary of the results and findings of the present research. The results from testing Model I (Development of SDMP) show that the development of the SDMPs (i.e. procedural rationality and collective intuition) are merely the direct products of TMT's social-psychological characteristics as only two direct relationships are significant (*H2a* and *H3b*). Instead, the development of SDMP is significantly moderated by the organisational contexts (e.g. *H5b* and *H8a*). For Model II (Application of SDMP), only collective intuition has the most substantial positive influence on M&A performance (i.e. *H10b*). Additionally, only the importance of strategic decision has shown its significant moderating effect on the direct relationship between SDMPs and M&A performance (i.e. *H12a* and *H12b*).

In the next chapter, chapter 9, findings outlined in this chapter will be discussed together with the present research' contribution. The practical implications, limitations and future directions will also be outlined.

Chapter 9: Discussion

In the previous chapters, the double-layered contextual model of SDMP has been developed (chapter 5) based on a comprehensive literature review of the three theoretical foundations, namely, upper echelon theory, dual-process theory and contingency theory (chapter 2; 3; 4). This conceptual model of SDMP has been put in a particular research context, Mergers and Acquisitions (M&A), and chapter 6 provides the key underlying rationale for this specific focus. The methodological approaches taken by the present research when testing the conceptual model have been outlined in great detail in chapter 7. Drawn upon the data analysis of SmartPLS, all the hypotheses are tested, and the results of hypotheses testing are revealed in chapter 8.

In this final chapter, the findings from testing the double-layered contextual model of SDMP will be highlighted. In particular, as claimed in chapter 1, the present research intends to make four primary contributions: (1) transferring the dual-process theory from the individual level to the team level (i.e. TMT) to gain fresh insights into TMT's SDMP from a cognitive perspective (Healey et al., 2015); (2) providing a more comprehensive picture of the TMT characteristics-SDMP-outcomes relationships by investigating both of the upstream contexts and downstream contexts in which SDMPs are developed and unfolding their impact respectively; (3) enriching our understanding of the boundaries, especially the "black box", associated with the upper echelon theory; (4) enhancing the knowledge of unpacking the "Puzzle of M&A Performance" (Bauer et al., 2019: 2) by integrating the multiple perspectives of the upper echelon, dual-process and the contingency theories. As such, the following section 9.1 will discuss the extent to which the findings from the present research have achieved those intended contributions. Section 9.2 will provide the current study's managerial implications, followed by potential limitations in section 9.3. In the end, section 9.4 will try to outline a number of promising directions for future SDMP and M&A research.

9.1 Research Implications

In this section, the extent to which the present research has achieved the intended four contributions mentioned above will be discussed individually.

9.1.1 Dual-process Theory at the Team level

9.1.1.1 Conceptualisation

An essential premise of the dual-process theory is that individuals have "two minds in one brain" (Evan, 2003: 454). Individuals can use two "systems"/ "types" to think and process information: System/Type 1 is inherently intuitive, whereas System/Type 2 is analytical and rule-based (Stanovich and West, 2000). Scholars have a long debate about how those two types of information processing exist in people's mind. The scholars who favour the "unitary" perspective argue that intuition and analysis are orthogonally independent in people's minds (Armstrong et al., 2012). Simply, it means that individuals can only have cognitive or intuitive cognitive styles (Allison and Hayes, 1996). Alternatively, scholars who support the "dual" perspective advocate that both intuition and rationality will co-exist in individuals' thinking or information-processing processes (Pacini and Epstein, 1999; Hodgkinson and Clarke, 2007). The latter "dual perspective" forms the foundation of the dual-process theory at the individual level.

Some previous studies have provided empirical support for the co-existence of people's use of intuition and rationality when processing information. For example, Wang et al. (2017) undertake a meta-analysis to investigate the relationship between individuals' intuitive and analytical cognitive styles. They find that intuition and analysis are not correlated, which shows that they are not the bipolar opposite of a single continuum. The finding from this present research has also supported this duality at the team level. Based on the correlation between procedural rationality and collective intuition (ß=0.051 P>0.1, see more details in *Appendix 5*), there is no significant correlation between them. Hence, it would be promising that a team could simultaneously develop procedural rationality and collective intuition when making joint decisions.

In terms of conceptualising the dual-process theory at the team level, only one study makes this endeavour to the author's best knowledge. Healey et al. (2015) use team representation (e.g.

subconscious goals) to account for X-system (i.e. team-level System 1) and team mental model to capture C-system (i.e. team-level System 2). Differently, the present research adopts the widely used concept from the SDMP literature, procedural rationality (e.g. Dean and Sharfman, 1993; 1996), to explain the rational aspect of the team decision-making process. In addition, a still under-researched concept, collective intuition (e.g. Eisenhardt, 1999; Samba et al., 2019), has been used to capture the team-level intuitive aspect. This new conceptualisation of the team-level dual-process theory could be more appropriate due to two important reasons.

Firstly, the original dual-process theory's underlying assumptions are based on how individuals process the information gathered from the external environment (Wang et al., 2017). Procedural rationality is "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" (Dean and Sharfman, 1993: 589). Hence, the extent to which the team collects and analyses the information from the environment collectively would reflect the key features of the "Type 2" (e.g. analytical, consequential and ruled-based). However, the conceptualisation used by Healey et al. (2015), team mental model, might not be appropriate to fully account for the team-level "Type 2" of information processing. The team mental model is a team shared mental representation of the knowledge of the external environment (Klimoski and Mohammed, 1994). This shared representation might not necessarily be rational or rule-based, and it would just be the convergence of individuals' mental model in the team (e.g. Cannon-Bowers et al., 1993) and requires no team-level rational reasoning.

Secondly, using collective intuition would make it more promising to transfer the assumptions of individual-level "type 1" of information processing to the team level. Individual senior managers' use of intuition or their intuitive cognitive style has been researched widely to understand the irrational aspect of the strategic decision-making process (e.g. Khatri and Ng, 2000; Sadler-Smith and Shefy, 2004; Elbanna and Child, 2007). However, very few studies try to conceptualise what the team-level intuition looks like (e.g. Salas et al., 2010; Healey et al., 2015; Akinci and Sadler-Smith, 2018; Samba et al., 2019). Following the conceptualisation from Samba et al. (2019) and Akinci and Sadler-Smith (2018), the current research supports that collective intuition is not an aggregation of individuals' intuition in the team. Instead, it is the collective automated expertise that enables the team to collectively recognise the patterns in the focal environment and make joint decisions without rational reasoning.

This new conceptualisation would gain some fresh insights into this team-level mysterious decision-making type and address the scarcity of the team-level intuition's conceptualisation in the literature.

9.1.1.2 Empirical Evidence

9.1.1.2.1 Collective Intuition

Regarding the effect of collective intuition, based on the Model II results (Application of SDMP), the present research finds that if a TMT uses collective intuition when making the strategic decision (i.e. M&A decision), there will be a positive M&A performance. This finding has provided strong empirical evidence to support the significant role that collective intuition plays during the TMT's SDMP. Given the scarcity of research on team-level intuition, only a handful of empirical studies appear in the literature. This positive role of collective intuition is in line with Dayan and Elbanna (2011), who find a positive relationship between team intuition and product success in new product development teams. This finding is also consistent with Kaufmann et al. (2014), who find the positive effect of team members' proportion using experience-based intuition on decision effectiveness (i.e. innovative performance and high quality) in sourcing teams. Besides, Dayan and Di Benedetto's (2010) findings partially support the positive effect of collective intuition. They find the U-shaped relationship between team intuition and team creativity in the new product development project teams. Hence, to the authors' best knowledge, in the context of TMT's SDMP, this is the first study that provides empirical evidence to support the positive role of collective intuition. This finding will greatly contribute to intuition research as intuition has only been researched at the individual level in prior literature, particularly for CEOs (Akinci and Sadler-Smith, 2012; Samba et al., 2019).

M&A is a rare and complex strategic decision made by the TMT (Zollo, 2009). In the context of M&A literature, the present study could also be part of a few studies that try to look at this crucial organisational phenomenon from a decision-making perspective. Dao and Bauer (2020) argue that M&A research is still extremely fragmented, and new perspectives to look at the M&A would improve our understanding of this phenomenon. For example, Uzelac et al. (2016) find the moderating role of decision-makers' intuitive decision-making style on the relationship between post-merger integration decision (task integration and human integration speed) and final M&A performance. However, they do not test the direct influence of the intuitive

decision-making process. Hence, the empirical findings of collective intuition in the present research will also shed light on the M&A literature from a dual-process decision-making perspective.

Regarding the direct determinants of collective intuition, based on the results from Model I (Development of SDMP), surprisingly, out of the three TMT social psychological characteristics, the present research only finds a highly significant positive effect of TMT's transactive memory system (TMS) on collective intuition. This is the first empirical study that tries to look at how a TMT's social psychological characteristics would affect its SDMP from a cognitive perspective. Hence, there are no other empirical studies against which to compare those findings. However, it is feasible that the insignificant relationships between TMT cohesion, TMT behavioural integration and collective intuition could be due to their insignificant influence on the team mental model. In past literature, studies have found that people in cohesive teams are likely to share their mental model due to positive interpersonal relationship (Beal et al., 2003). This expected high level of team mental model should have contributed to the development of the collective intuition. However, at odds with this speculation, it would be plausible that a cohesive team might not necessarily have a good team mental model as the external contexts might have attenuated this expected tendency.

Similarly, behaviourally integrated TMTs are expected to effectively share individuals' tacit knowledge through mutual trust and joint decision-making processes (Lubatkin et al., 2006). The team would also be able to have comprehensive understandings of the team's knowledge base (Lin et al., 2012). However, M&A, as a rare strategic decision made by the TMT (Zollo, 2009), might not have given the TMT enough team knowledge in the past. The individual team members also might not have enough explicit or implicit knowledge about the upcoming M&A decision-making. Therefore, it would lead to the insignificant relationship between TMT behavioural integration and the development of collective intuition.

However, the present research does find a significant positive effect of the transactive memory system (TMS) on the development of collective intuition. In the past literature, there has been only one study that tries to test this particular relationship. Dayan and Elbanna (2011) find strong empirical support for the positive effect of TMS on the development of team intuition in the context of new product development teams. This is highly consistent with the finding from the current study. Given the lack of studies in the decision-making literature, this

important finding is in line with some relevant studies from the team cognition literature. For example, Yoo and Kanawattanachai (2001) find that TMS will help the team establish a collective mind (i.e. individuals take actions while envisaging the team's joint actions). Ellis (2006) find the TMS is one of the most important antecedents to develop the team mental model; Hecker (2012) argue that teams with TMS will be able to establish collective knowledge. In the intuition literature, the most relevant one is a conceptual study undertaken by Salas et al. (2010). They argue that team coordination and team affect would help the team develop the team-level expertise-based intuition (ibid). TMS is a team-level social-psychological characteristic by which the team members are expected to have the mutual trust of each other's expertise and work with each other in a coordinative manner. As such, those findings have provided empirical evidence to support those relevant speculations.

9.1.1.2.2 Procedural Rationality

Regarding the effect of procedural rationality during TMT's SDMP, surprisingly, the present research does not find any significant evidence. This insignificant direct relationship is somehow at odds with the past literature. Some previous studies have found a direct relationship between rationality (e.g. procedural rationality and comprehensiveness) and positive decision-making outcomes. For instance, Dean and Sharfman (1996) find the positive effect of procedural rationality on strategic decision-making effectiveness. Similarly, Elbanna and Child (2007) find that executives' use of rationality during the SDMP positively influences strategic decision-making effectiveness. However, all the previous studies have tried to investigate the rationality-outcomes relationship in particular contexts, such as the external environment (e.g. Goll and Rasheed, 1997). Most of the studies have only found the significant effect of rationality when considering the moderating effect of the contexts. For example, Hough and White (2003) find that the rationality-decision quality relationship will only be significant under the dynamic environment. Similarly, Goll and Rasheed (2005) show that rational decision-making can only significantly affect organisational performance when the external environment is highly munificent. If not considering the environment or the environment is not less munificent, the rationality-organisational performance relationship will remain insignificant (ibid). Therefore, the most promising reason to explain the insignificant procedural rationality-organisational performance relationship would be attributed to the constraints of the downstream contexts within the Model II (Application of SDMP) in the present research, namely, the two decision-making contexts.

As to the antecedents of the development of procedural rationality, based on Model I (Development of SDMP), this study only finds the direct positive effect of TMT behavioural integration. Given the nonexistence of the past studies investigating this link, there are no other studies against which to compare the finding. However, it is feasible that the unnecessary politics (Mooney and Sonnenfeld, 2001) and low level of relationship conflict (Camelo-Ordaz et al., 2014) in the behaviourally integrated TMT makes the team willing to rely on rational information collection and analysis. This explanation has echoed some recent TMT studies, and they find the positive effect of TMT behavioural integration on the TMT ambidexterity (e.g. Luo et al., 2018; Venugopal et al., 2018; 2019; 2020). The underlying rationale is that behaviourally integrated TMTs will be able to manage contradictory choice with enhanced paradoxical cognitive capabilities (Hambrick, 1984; Lubatkin et al., 2006). To pursue procedural rationality when making strategic decisions, there would be an inevitable involvement in making trade-offs when collecting and analysing information from the focal situation. As such, the paradoxical cognitive capabilities would enable the TMT to take this rational approach.

Combined, the present research has first made a valuable contribution by conceptualising and operationalising the dual-process theory to the team level. This study's empirical evidence has first supported the theoretical foundations of the dual-process theory, namely, the duality between Type 1 and Type 2 at the team level. In particular, to explain the team-level Type 1 information processing process, collective intuition has been used and redefined. This has shed some essential lights on understanding the mysterious team-level intuition. Secondly, this study finds that some particular team social psychological characteristics would be the key determinants to develop the two types of information processing at the team level. Those findings have provided crucially important knowledge to understand the dual-process theory further. The empirical results regarding the positive effect of collective intuition have made some essential contributions to the team-level intuition literature.

9.1.2 Contexts of SDMPs

9.1.2.1 Downstream Decision-Making Contexts

Firstly, regarding the potential moderating role of environmental dynamism on the relationship between the SDMPs (i.e. procedural rationality and collective intuition) and organisational performance, the present research does not find any empirical evidence. Those results have challenged most of the past SDMP literature. To begin with, the value of procedural rationality on organisational performance under environmental dynamism is subject to longstanding debates in the SDM literature (Samba et al., 2020; Miller and Mckee, 2020). Some studies have found that dynamism will attenuate or reverse the positive effect of rational strategic decision making (Fredrickson, 1984; Fredrickson and Mitchell, 1984; Hough and White, 2003; Bhuian, 2004). Some other studies found the opposite moderating role of dynamism (e.g. Eisenhardt, 1989; Bourgeois and Eisenhardt, 1988). In addition, Miller (2008) finds the curvilinear relationships in the turbulent environment. However, the insignificant results of dynamism in the current research have supported the findings of Elbanna and Child (2007) and Dean and Sharfman (1996), who also do not find any significant effect of a relevant environmental factor, the environmental uncertainty. Till most recently, Samba et al. (2020) conduct a meta-analysis for the strategic decision-making comprehensiveness-outcomes relationship under the context of environmental dynamism. Unexpectedly, they find that environmental dynamism is not a significant moderator for the comprehensiveness-outcomes linkage. This finding has supported the present research as to the insignificant moderating effect of dynamism on the relationship between procedural rationality and M&A performance.

In addition, given the lack of empirical studies of team-level intuition in the literature, only one study has provided evidence regarding the external environment's moderating role. Dayan and Elbanna (2011) find that both market and technical turbulence positively moderate the effect of team intuition on product success and speed to market in the context of the new product development team. The different nature could explain this inconsistent finding between that study and the present study. Dayan and Elbanna (2011) investigate the SDMP of developing a new product, whereas the current research has focused on the M&A decision. It is feasible to argue that the external environment should impose more potential influence on the former than the latter strategic decision. The customers' fast-changing needs or technological enhancement would have a tremendous impact on how fast the new product should be launched or the

success of the new products. However, the outcomes of M&A decisions, to a large degree, would be determined by the extent to which synergy, compatibility or complementarity between the acquirer and the target firm has been realised (e.g. Bauer and Matzler, 2014). Hence, environmental dynamism might not influence the application of M&A decision-making processes.

Secondly, regarding the moderating role of the strategic decision-specific characteristics (i.e. the importance of strategic decision), the current study finds empirical evidence for both procedural rationality and collective intuition. Compared with other contextual perspectives (e.g. external environment) in the SDM literature, the moderation role of strategic decision-specific characteristics in SDMP has still not gained enough attention (Shepherd and Rudd, 2014; Elbanna et al., 2020). To begin with, the positive moderating role of the importance of M&A decision on the procedural rationality-M&A performance relationship is consistent with Nutt (2008). They find that once the strategic decisions are perceived as high importance, making the decision through a discovery SDMP (i.e. stresses logic and analysis) will be more successful. However, this finding contradicts Elbanna and Child (2007), who fail to find the moderating role of decision importance. This inconsistency could be attributed to the different level of study and the measure of the construct. Elbanna and Child (2007) investigate how individual decision-makers (e.g. CEO) perceive the decision importance before making a rational decision and use the scales to measure the general decision importance. Alternatively, the present research has investigated TMT's collective perception of the M&A importance and adjusts the measurement from Papadakis et al. (1998) to measure the potential synergies if acquiring the target firm.

Besides, there are no available empirical studies in the past literature that try to test the moderating role of strategic decision importance on the team-level intuition and organisational performance. However, its positive moderating effect found in the present research is somehow contradicted with the relevant studies in the literature. For example, Elbanna and Child (2007) do not find any significant moderating effect of strategic decision importance when individual strategic decision-makers (e.g. CEO) is using intuition to make strategic decisions (e.g. product introduction). Meanwhile, Dayan and Elbanna (2011) find the negative effect of decision importance on the development of team intuition in the new product development teams. This finding might have hinted that the decision importance could attenuate the potential positive effect of team intuition as the team would be reluctant to rely on team intuition when making

strategic decisions. The positive moderating effect of M&A importance on collective intuition-M&A performance could be attributed to a few important reasons. For example, intuition helps decision-makers synthesise available information quickly (Dane and Pratt, 2007) and reduce their cognitive constraints (Matzler et al., 2014). When a TMT perceives a strategic decision (e.g. M&A) as high importance, the TMT would require a high level of collective cognitive compacity to make further decisions. Under this situation, collective intuition's positive effect would be strengthened as it could help the TMT reduce more cognitive constraints by enabling the team to synthesise available information in an effective and timely manner.

9.1.2.2 Upstream Organisational Contexts

Based on the results of Model I (Development of SDMP) in previous Chapter 8, the present study has found some interesting findings. Namely, how the two organisational contexts (i.e. organisational structure and board strategic involvement) affect the development of the two SDMPs (i.e. procedural rationality and collective intuition).

Regarding the development of procedural rationality, first of all, the current study finds that when a TMT with the transactive memory system (TMS) is making strategic decisions (e.g. M&A) in a highly mechanistic structure, the TMT will be very likely to rely on procedural rationality to make strategic decisions. This finding is in line with some of the relevant studies as to organisational structure. For example, Miller et al. (1987) find the positive relationship between mechanistic structure (referred to as "structure integration") and the rational strategic decision-making process. However, there has been a lack of SDMP studies investigating the contexts in which SDMPs are developed (Shepherd and Rudd, 2014). Only one study (i.e. Covin et al., 2001) investigates the possible moderating role for rational and intuitive SDMP. They keep focused on the SDMP-organisational performance relationship rather than how the SDMP is developed. As such, there is no specific study to compare the findings. However, the underlying explanation for this finding is that the formal procedures and the tight control of information flow make the TMT rely on the rational decision-making process. More specifically, TMT members' clear roles and responsibilities in the mechanistic structure make it easy for them to get the metaknowledge of "who knows what". This would encourage the TMT to develop procedural rationality during the SDMP by facilitating information collection.

In addition to organisational structure, the present study also finds that when the board has a high level of involvement in its TMT's SDMP, the behaviorally integrated TMT and the TMT with TMS will likely be highly likely to develop procedural rationality during its SDMP. In the SDMP literature, the board's potential moderating role in affecting TMT's SDMP has been largely overlooked. However, many corporate governance scholars have raised the interests of the interacting relationships between the board and its TMT (e.g. Daily et al., 2003; Balic et al., 2011). It is feasible to explain this positive moderating role of board strategic involvement due to its inherent responsibility. When the board has a high level of strategic involvement in its TMT's SDMP, the board will be likely to define strategic decision-making goals, evaluate proposals and provide essential advice for this TMT (Calabro et al., 2013). During this whole process, the board would require the TMT to provide the underlying rationale of its decision-making process, whereby the TMT would be encouraged to follow formal procedures and checklists to evaluate their SDMP. As such, the TMT would be far more likely to rely on procedural rationality during the SDMP so as to articulate the decision-making evidence and provide post-hoc rationalisation if required.

Regarding the development of collective intuition, the current study has found some counterintuitive findings as to the two important organisational contexts. Firstly, the current research finds that cohesive TMT is unlikely to develop collective intuition in a low mechanistic structure (i.e. organic structure) but more likely to develop collective intuition when the organisational structure is highly mechanistic. This unexpected finding is at odds with the initial hypothesis. The formal procedure, tight information control and the centralised decision-making process in the mechanistic structure should have hindered the possibility for the cohesive TMT to develop a shared mental model and reduced the development of collective intuition accordingly. However, in reality, when a cohesive TMT is making an acquisition decision, the situation could be the opposite. M&A is a rare strategic decision made by any organisation (Zollo, 2009). As a result, there would be fewer opportunities for a TMT to get enough team experience about M&A before making the actual acquisition decision, such as screening potential targets, evaluating synergies and undertaking dual-diligence. It would be feasible that in a mechanistic structure, as long as the TMT has experienced any M&A related activities together, the team would follow the formal procedure to record the key information. Additionally, a centralised decision-making procedure would encourage the particular M&A department to share their acquisition-related information with the TMT synchronously. Therefore, the shared experience and information related to previous M&A would make it

possible for a cohesive TMT to strengthen the likelihood to develop a shared mental model within a mechanistic structure so that the TMT is more likely to develop collective intuition.

The present research also finds that behaviourally integrated TMTs are likely to develop collective intuition in the low mechanistic structure (i.e. organic structure), but unlike to develop collective intuition in a highly mechanistic structure. Generally speaking, people in an organisation with a mechanistic structure have to adherent to the formally prescribed rules and procedures (Mintzberg, 1979; Covin et al., 2001). Hence, the initial tendency to develop collective intuition as a result of mutual and collaborative interactions in the behaviourally integrated would be attenuated. This is attributed to the fact that TMT would not be able to stick to formal rules if they rely upon their collective intuition to make strategic decisions. Additionally, Samba et al. (2019) state that the development of the TMT collective intuition, in essence, originates from the positive social interactions in the TMT. The tight information control and formal rules would hinder the social interactions in the behaviourally integrated TMT so that the team will not be able to develop collective intuition during the SDMP.

Another interesting finding as to the development of collective intuition is associated with the moderating role of the board strategic involvement. The present research finds that the high level of board strategic involvement will strengthen TMT's willingness to develop collective intuition when making strategic decisions (i.e. M&A) if it has a transactive memory system (TMS). This counterintuitive finding could be explained by the board's potential role in facilitating coordination and knowledge sharing. Simply, it means that the board would be able to help individual TMT members know each other's expertise when giving advice or evaluating the whole decision-making process. This would allow the TMT to get more benefit from the metaknowledge of who knows what. In particular, TMT's regular meetings required by the board would give more opportunities for the TMT to share their knowledge and expertise. The positive expertise sharing would enable the TMT to develop a team mental model and collective intuition when required. Consequently, the high level of board strategic involvement would foster TMT's likelihood to develop collective intuition.

Combining the findings of the upstream and downstream contexts of SDMPs, this research has made some substantial contributions to the SDMP literature. Specifically, those findings have provided substantial original knowledge to the contexts in which the SDMPs are developed and unfolding their impact on organisational performance. A number of previously unexplored

relationships have been investigated, such as how important organisational contexts will moderate the development of SDMPs. The upstream strategic decision-making contexts have been seen as being crucially important to understand the SDMPs, but very limited empirical studies have been carried out (Shepherd and Rudd, 2014). In particular, the organisational structure is the key context that influences key decision-makers' decision-making behaviour (Mintzberg, 1979), and it would affect some important SDMPs, such as rational decision-making (Fredrickson, 1986; Langley, 1989). However, the empirical evidence is very limited. The present research findings indicate that the TMT with different social-psychological characteristics will be more likely to develop procedural rationality in the highly mechanistic structure but collective intuition in the less mechanistic structure (i.e. organic structure). In addition, the board of directors, as the "extended TMT" (Knockaert et al., 2015), has found to be highly related to the TMT's behaviours in the corporate governance literature (e.g. Daily et al., 2003; Hendry and Kiel, 2004; Balic et al., 2011). However, the potential moderating role of board involvement has been largely overlooked by SDMP scholars. The current study's findings reveal that a high level of board strategic involvement would encourage the TMT to develop procedural rationality during the SDMP rather than collective intuition.

In addition, the perspective of decision-specific characteristics has been found to have the most explaining power to the SDMPs in comparison to other predominant perspectives, namely, environmental determinism, strategic choices and firm characteristic (Papadakis et al., 1998). However, the studies as to the decision-specific characteristics are still painfully scarce (Elbanna and Child, 2007; Shepherd and Rudd, 2014). The current research has verified its crucial moderating role in affecting how the two SDMPs (i.e. procedural rationality and collective intuition) unfold their impact. Furthermore, the findings of the moderating role of environmental dynamism have provided fresh insights into the ongoing debates regarding how the external environment would affect SDMPs-organisational performance relationships.

9.1.3 "Black Box" for Upper Echelon Theory

In the upper echelon literature, many scholars have widely raised two main types of "black box" problems. The first is regarding using observable characteristics (e.g. demographics) of the strategic decision-makers (e.g. CEO or TMT) as the proxies to account for their actual psychological and cognitive traits (e.g. Priem et al., 1995; Papadakis et al., 2010; Kilduff et al., 2000; Samba et al., 2018). The second is attributed to missing mechanisms that transfer the

effect of the upper echelon's characteristics to organisational performance (Hambrick, 2007). Those missing intermediaries have been defined as the "black box" by Lawrence (1997).

The current study has made a great contribution to address those two types of "black box" problems in the upper echelon literature. Firstly, in light of the personality psychology (e.g. Wilt et al., 2012; Wilt and Revelle, 2015), small group (e.g. Greer, 2012) and group cognition literature (e.g. Maghzi et al., 2015; Mohammed et al., 2010; de Mol et al., 2015), three TMT social psychological characteristics (i.e. TMT cohesion; TMT behavioural integration; TMT transactive memory system) have been directly introduced and investigated. This endeavour has not just provided a fundamental solution to deal with the first type of "black box" problem in the upper echelon literature but directly investigating the dominant coalition in the company (i.e. TMT) rather than the individual CEO. For example, the present study finds that the extent to which a TMT has a transactive memory system will be positively related to M&A performance when the TMT is making M&A decisions (ß=1.30 $p<0.05$).

Secondly, the current study gains new insights into tackling the second type of "black box" problem in the upper echelon literature. In light of the dual-process theory (Evan, 2003; Evans and Stanovich, 2013), the rational and irrational perspective of TMT's SDMP (i.e. procedural rationality and collective intuition) have been investigated as the "black box" that transfer the effect of TMT social psychological characteristics to the organisational performance. In particular, the development and the effect of the "black box" have been investigated in Model I (Development of SDMP) and Model II (Application of SDMP), respectively. Those two sub-models provide important findings for some previously unexplored relationships, such as the positive TMT behavioural integration-procedural rationality relationship and positive collective intuition-M&A performance relationship. In addition, after testing the possible mediating role of the SDMPs, the present study finds that collective intuition fully mediates the direct relationship between TMT transactive memory system and M&A performance (ß=1.35; $p<0.05$). As such, it is confident to conclude that taking SDMPs from a dual-process perspective would be an effective approach to unpack the "black box" between TMT characteristics and organisational performance.

Importantly, this group of findings have brought particularly new insights and novelty into the M&A literature from a cognitive perspective. Given the relative scarcity in the M&A literature, a limited number of studies have only tried to focus on the cognitive characteristics of the key

decision-makers (e.g. CEO). For example, Hayward and Hambrick (1997) investigate 106 acquisition decisions in which they find that the CEO's hubris has a positive effect on the size of premiums paid during the acquisition decision-making process. In particular, this positive relationship will be fostered if the board consists of a high proportion of inside directors. In addition, Chatterjee and Hambrick (2011) research CEO's narcissism and acquisition decision making. They find that CEOs with a high level of narcissism are far less responsive to recent objective performance than the less narcissistic CEOs when making acquisition decisions. Taking this cognitive perspective of the dual-process decision-making in the present research, findings have brought novel insights into this still under-developed M&A perspective.

Furthermore, emotional resilience has gained increasing attention recently by M&A scholars (e.g. Khan et al., 2020). It is an ability to successfully deal with some unpredictable external factors in the external environment, which reflect certain emotional competencies (Sameroff and Rosenblum, 2006). Arguably, collective intuition could be seen as another type of emotional resilience as it is emotion-driven (Dane and Pratt, 2007), and it helps strategic decision-makers (e.g.CEO) see the opportunities and threats more quickly and accurately in the uncertain environment (Eisenhardt, 1999). Hence, the finding as to the positive effect of collective intuition on M&A performance has also provided new sights into this surging new perspective of M&A literature.

Combined, the two inherent types of "black box" problems criticised by upper echelon scholars have been fully addressed in the present study. In particular, the cognitive perspective of decision-making has brought substantial value and novelty into the existing streams of literature on the cognitive perspective of M&A.

9.1.4 Puzzle of M&A Performance

Companies can use M&A as an approach to pursue non-organic growth to acquire crucial resources and capability (Bazel-Shoham et al., 2017). Given a high involvement of finance and human capital, only 40-60 per cent of the acquisition events have succeeded to achieve the intended value (Christensen et al., 2011). This conundrum has been referred to as the "puzzle of M&A performance" (Bauer et al., 2019: 2). The current study has provided substantial knowledge to unpack this crucially important puzzle. To be specific, the double-layered contextual model of SDMP developed in the present study has offered a new integrative

perspective to peer into the puzzle by combining the upper echelon perspective, decision-making perspective and contingency perspective.

Firstly, some M&A studies have tried to investigate the effect of CEO's characteristics, such as gender (Huang and Kisgen, 2013), narcissism (Chatterjee and Hambrick, 2011) and risk propensity (Cain and McKeon, 2016), on M&A performance. However, TMT should have played a more predominant role in determining organisational performance rather than the individual CEO (Hambrick and Mason, 1984). Interestingly, only a handful of M&A studies have explored how TMT-level characteristics would affect M&A performance, such as TMT incentive compensation heterogeneity (Steinbach et al., 2017). Importantly, Devers et al. (2020: 29) states that research regarding the effect of "psychological attributes of TMT on acquisition performance" is still urgently needed by the M&A scholars. As such, taking the upper echelon perspective, the present research directly explores three unexplored TMT social psychological characteristics and finds that TMT transactive memory system has a significant positive impact on M&A performance.

Secondly, the concept of causal ambiguity has raised tremendous attention from M&A scholars (e.g. Zollo and Meyer, 2008; Zollo, 2009). This causal ambiguity has highlighted a missing link between resource/competency and organisational performance (King and Zeithaml, 2001). It would be one of the key reasons to explain the puzzle of M&A performance. As such, past M&A studies have investigated the intermediate goals to understand the causal ambiguity (e.g. Cording et al., 2008; Bauer et al., 2019), but new perspectives would still be required (Dao and Bauer, 2020). M&A is a rare and complex strategic decision made by the TMT (Zollo, 2009). As such, the current study introduces a new promising perspective to look at the missing link, namely, the strategic decision-making perspective. The findings indicate that how a TMT makes acquisition decisions (i.e. procedural rationality and/or collective intuition), as a result of its team social psychological characteristics, would affect the M&A performance. For example, TMT with a transactive memory system will likely rely on collective intuition to make acquisition decisions, leading to positive M&A performance.

Thirdly, it would be pivotal to fully understand the contexts in which the different stages of the M&A activities take place in order to explain the mixed results in the M&A literature and unpack the puzzle of M&A performance (e.g. King et al., 2004; Capron and Guillén, 2009; Dao and Bauer, 2020). Taking this contingency perspective, this current study has provided

important empirical evidence as to the contexts of the M&A decision-making activities. In particular, how the decision is developed and the realisation of the decision are all constrained by different contexts, such as organisational structure and acquisition importance. For example, TMT would be more likely to undertake an intuitive decision process when the organisational structure is less mechanistic. The positive impact of this intuitive decision-making process will be stronger if the TMT perceives the acquisition decision as high importance. Alternatively, the rational decision-making process might lead to negative M&A performance if the TMT perceives the acquisition decision as low importance.

Therefore, integrating those three perspectives mentioned above, the present research has made a substantial contribution to help existing M&A literature get insights into the key factors, underlying mechanisms and crucially important contexts that influence M&A performance.

9.1.5 Other Original Contributions to Knowledge

Another important contribution is regarding the adoption of a statistically robust data analysis approach for the SDMP literature, namely, the PLS-SEM. In the past SDMP literature, most of the studies have used single or multiple regression analysis as the statistic technique to analyse the proposed conceptual model (e.g. Elbanna and Child, 2007; Priem et al., 1995; Papadakis et al., 1998; Goll and Rasheed, 2005). Some inherent limitations are associated with this approach, such as the inapplicability of testing the interfering effects between independent variables (Tabachnick et al., 2007). Hence, a handful of studies have tried to apply an alternative approach, structural equation modelling (SEM) (e.g. Baum and Wally, 2003). The SEM approach could be more effective when testing an integrative conceptual model of the SDMP than the regression approach (Papadakis et al., 1998). In particular, the PLS-SEM has been seen as one of the SEM approaches that has numbers of advantages, such as applicability for small to medium sample sizes (Hair et al., 2017) and complex model (Hair et al., 2012). However, there has not been any SDMP research that adopts this statistically robust approach in the previous literature to the author's best knowledge. In this case, the current study has proved the feasibility and appropriateness to test a complex integrative model of SDMP.

9.2 Managerial Implications

In addition to the research implications outlined in the previous sections, some important managerial implications have risen after examining the doubled-layered contextual model of the SDMP in the present study. Bateman and Zeithaml (1989) highlight the importance of strategy scholars investigating relationships that are not obvious to managers. The current study has examined many important relationships to discuss managerial implications in the following sections.

9.2.1 The Significant Role of TMT

The upper echelon theory has emphasised the important role of TMT in determining organisational performance (Hambrick and Mason, 1984). The current study has provided empirical evidence to support these significant roles, such as influencing decision-making effectiveness and the process in which the strategic decision was made. As such, the first managerial implication is about the TMT itself in terms of the team characteristics. Specifically, TMT members (e.g. senior managers and executives) will need to pay attention to not just the demographic characteristics of the team (e.g. average education level and relevant experience) but its social-psychological characteristics. Namely, are the TMT members attached to each other (i.e. cohesion)? Are they engaging in mutual and collaborative activities or interactions (i.e. behavioural integration)? Do they have their expertise and know and trust each other's expertise (i.e. transactive memory system)? Those three important TMT characteristics have shown their impact on determining how strategic decisions will be made. In particular, TMTs will need to ensure the team has a high level of the transactive memory system as the current study finds that it not just affects the SDMP (i.e. intuitive aspect of the SDMP) but influences the final decision-making effectiveness directly.

9.2.2 The Significant Role of SDMP

The current study finds that the process in which a TMT makes the strategic decision (e.g. M&A) plays a significant role in deciding the decision-making outcomes (e.g. M&A performance). This is in line with the previous empirical studies that also find the importance of SDMP (e.g. Elbanna and Child, 2007; Papadakis et al., 1998). In particular, the present study finds empirical evidence to support the role of collective intuition when TMTs are making acquisition decisions. There have been debates as to whether strategic decision-makers should trust and use their intuition to make important strategic decisions (Khatri and Ng, 2000). Despite the potential advantages of relying on intuition to make decisions, such as being a

cognitive shortcut (Bingham and Eisenhardt, 2011), it has been seen as a "troublesome decision tool" (Miller and Ireland, 2005). This could be ascribed to an individual's own biases, such as unmatured schema or mental model. However, given the statistically significant results of collective intuition's positive role, the second important managerial implication is that TMTs might do well to trust their collective intuition when making strategic decisions collectively. In particular, for rare strategic decisions (e.g. M&A), individual TMT members might not have enough individual experience, but they might have some team experience in the past. Hence, in this case, it would be promising that TMT can increase strategic decision-making effectiveness if the team relies on its collective intuition to make the decision.

Interestingly, the present study does not find any significant direct relationship between TMT's rational decision-making process (e.g. collecting enough data and analysing the data thoroughly) and M&A performance. In light of the possible explanations in the previous section of 9.1.1, this might be due to different contextual factors. Another reason could be that "not all M&A are alike" as they occurred for different reasons (Bower, 2001: 94). As such, the effectiveness of the rational decision-making process might not be significant. Nonetheless, TMTs should still try to go through a rational decision-making process to collect and analyse relevant information. In addition, the present research also provides empirical results to support the parallelism of the rational and intuitive SDMP. Therefore, for TMTs, the best way would be to combine two types of approaches when making strategic decisions. For example, the initial intuitive ideas might come first, but they could "wait" for further rational reasoning and make decisions accordingly.

9.2.3 The Significant Role of Important Contexts

Given the crucial roles of different contexts in influencing the development and realisation of the SDMPs, TMTs need to consider several important contexts when making strategic decisions. For example, TMTs should be confident to rely on collective intuition to make strategic decisions if they perceive the decision as highly important. This endeavour would enable the team to get more benefits from relying on collective intuition. In addition, if the TMT perceives the strategic decision as low importance, TMTs should not rely on procedural rationality when making strategic decisions as it might lead to negative organisational performance.

9.2.4 The Significant Role of the Integrative Perspective in M&A

The present research takes an integrative perspective to develop a doubled-layered contextual model of SDMP. In light of this model, when TMTs are making the rare and complex strategic decisions, M&A, they will need to have a holistic consideration of different groups of factors. TMTs normally pay more attention to some widely considered M&A related factors, such as strategic fit (e.g. Larsson and Finkelstein, 1999; Bauer and Matzler, 2014). However, based on the empirical results from the present study, the process in which the acquisition decision was made should receive greater attention. Consequently, TMTs should try to have an integrative picture of the different contexts associated with acquisition decision-making behaviours. It means that given the current organisational structure and the strategic role of the board, TMT should then decide its SDMP. For example, TMTs could not endeavour to rely on their collective intuition when the organisation is highly mechanistic, or the board has a high level of strategic involvement in their strategic decision-making process. In addition, TMTs should also pay attention to the acquisition event itself. Does the TMT perceive the acquisition decision as high importance compared to other possible strategic decisions, such as new product development? If so, TMT should rely more on its collective intuition to make the acquisitions.

9.3 Limitations

Even though the present study has put tremendous efforts to guarantee the robustness of the research design, the results might still be faced with some potential limitations. This section will outline the possible limitations, including (1) cross-sectional research design; (2) survey-based research; (3) key informant bias; (4) sample size and regional bias; (5) potential new perspective of ambidexterity; (6) other limitations.

9.3.1 Cross-Sectional Design

The first possible limitation is attributed to the use of a cross-sectional design in the current study. To be specific, data regarding the process in which TMTs made their acquisitions decisions (i.e. SDMP) and M&A performance were collected at the same point in time. This made it impossible for the present research to explain the changes after making the acquisition decisions. As such, a longitudinal research design should have been considered by the current study, but several important reasons have precluded the adoption. To begin with, as a doctoral

research project in the UK, the total period for completion will be three years, whereby the data collection time frame would be between 3-6 months. This has made it impossible for the present research to adopt a longitudinal research design as the M&A integration processes normally take several years before the full realisation of the M&A event (Ellis et al., 2009). In addition, although adopting a longitudinal research design could provide new insights into understanding the M&A event (Meglio and Risberg, 2010), the issues of the managerial turnover and senior executives' low level of willingness to participate in primary data M&A studies had made it unfeasible for the present research to adopt this research design. This possible limitation has also been raised in the SDMP literature. For example, Dean and Sharfman (1996) highlight the importance of SDMP studies to rely on a longitudinal design so as to get an accurate causality between SDMPs and strategic decision-making effectiveness. However, due to the inherent difficulties of undertaking a longitudinal research design, this still remains a common limitation for SDMP studies (e.g. Elbanna and Child, 2007; Goll and Rasheed, 2005).

Another relevant limitation associated with the cross-sectional research design in this present research might be pertaining to recollection bias. In light of the past M&A literature, this study uses a 3-year to 5-year time lag to examine the realisation of the M&A decision-making process as it normally takes 3-5 years till the M&A performance can be measured (Homburg and Bucerius, 2006). Given the fact that primary data is collected at a particular point in the current research, respondents' capacity to recollect the past M&A events might lead to a positive assessment (Ellis et al., 2009) or inaccurate details of the decision-making process. However, this possible recollection bias has been mitigated. Firstly, the current study focuses on relatively recent points in time, making it easy for respondents to recollect the facts associated with making the M&A decision. Secondly, M&A is a rare strategic decision made by any firm (Zollo, 2009). As such, the key decision-makers of the M&A event should have a good memory to recall those rare organisational events.

9.3.2 Survey-Based Research Methodology

The current study relies on a survey-based methodology for data collection, which might have some limitations. In the SDMP literature, studies have emphasised the problematic nature of relying on survey-based methodologies, such as providing limited insights into SDMPs (Elbanna, 2010). In the M&A literature, Homburg and Bucerius (2006) highlight the

problematic nature of using survey-based methodologies to investigate the M&A outcomes as it takes several years for the M&A event to realise its impact. Given those inherent limitations associated with the survey-based methodologies, other alternative techniques have been introduced by strategic decision-making scholars, such as the critical incident technique (Akinci, 2014) and the think-aloud protocol technique (Hodgkinson and Sadler-Smith, 2011). However, large sample sizes are required in the SDMP literature to increase the findings' generalisability (Papadakis et al., 1998). As such, the survey-based research methodologies have still been applied to achieve a relatively larger sample size. Also, the survey questionnaires have been carefully designed, followed by the guidelines from Dillman (2009). In particular, the questionnaire questions that require respondents' recollection have provided clear statement information to help them recall particular information.

9.3.3 Key Informants Bias

The key informant bias (Kumar et al., 1993) could be another limitation. Even though the present research tries to contact multiple key informants per firm during the data collection stage, the data are still based on a single informant in the sample. Two important reasons could explain this. Firstly, M&A research with primary data typically relies on single informants due to the inherent difficulties to find two multiple informants to provide precise information on a specific M&A event (Bauer et al., 2016). Secondly, the Covid-19 pandemic during the data collection period makes it extremely hard to encourage potential respondents to participate in the present research. Given the possibilities of key information bias, the current study compares results regarding performance and demographic data with secondary data, and no significant differences are found. However, it would still be possible that different key strategic decision-makers may have different perceptions regarding how the TMT has made the M&A decisions and the different subjective assessment of the final perceptual M&A performance.

9.3.4 Sample Size and Regional Bias

After the initial survey distribution followed by four rounds of reminder emails, a total of 149 questionnaires were received back, but only 109 of them were usable due to the missing items or respondents' low confidence to complete the questionnaire. This has given a response rate of 6.6%. Given the nature of SDMP research, this response rate is similar to the studies in the past literature, such as 8.7% in Olson et al. (2007a), 6 % in Simons et al. (1999), and slightly lower than M&A research, such as 15.42% in Bauer et al. (2018) and 15.42% in Bauer et al.

(2018). The double-layered contextual model of SDMP in the present study has ten latent variables, which indicates the complexity of the research. From a statistical perspective, the relatively small sample size might have hindered the generalisability of the findings. However, this current study adopts PLS-SEM when testing the conceptual model due to some key advantages. For example, it is highly appropriate for researchers to test complex model with better performance (Haenlein and Kaplan, 2004; Hair et al., 2012) and applicable for small to medium sample sizes (Chin et al., 2003; Hair et al., 2017). As such, even though the sample size might be a limitation, given the statistical powers of PLS-SEM, the empirical results from the current study will still be robust and generalisable.

In addition, the sample is restricted to British acquiring companies only. Due to the cultural differences, legal regulations and heterogeneous market economies, strategic decision-making teams (e.g. TMT) might have different collective decision-making behaviours. Hence, it is still possible that the results from the current study might still be affected by a regional bias. This might limit the generalisability of the findings of the current study.

9.3.5 Potential New perspective of Ambidexterity

Another potential limitation might be the possibility of taking a perspective of ambidexterity when looking at the SDMPs. In the literature, scholars widely accept that ambidexterity is an organisation's ability to pursue exploration and exploitation simultaneously, leading to sustainable competitive advantage (Raisch and Birkinshaw, 2008). However, using the ambidextrous perspective to look at an organisational phenomenon indicates an organisation's ability to balance contradictory demands or paradoxical challenges (Tarba et al., 2020; Nosella et al., 2012; Smith and Tushman, 2005). Zimmermann et al. (2018) state that organisational ambidexterity is the ability that the organisation can integrate different but complementary ways of exploratory and exploitative behaviours during the decision-making processes.

The present research takes the dual-process perspective to look at the rational and intuitive perspective of the SDMP. Studies have indicated that those two ways of making strategic decisions have created a paradox in which they are different but complementary (Keller and Sadler-Smith, 2019). In particular, Matzler et al. (2014) investigate strategic decision-makers' cognitive styles (i.e. rational and intuitive) and exploration and exploitation. They find that intuition is highly linked to exploration whereas exploitation is based on both rationality and

intuition. Therefore, the theoretical assumptions and empirical evidence mentioned above have indicated the possibility and appropriateness of taking an ambidextrous perspective to look at the SDMPs. Despite this possibility, taking a cognitive perspective based on the dual-process theory in the present research would also be highly applicable and makes substantial contributions to both SDMP and M&A literature.

9.3.6 Other Limitations

Except for the limitations mentioned above, there would also be some other limitations. For example, in terms of the measurement of collective intuition, due to the unavailability of the appropriate measures in any published journal articles, the current study has used the one developed by a doctoral thesis (i.e. Samba, 2016). However, after a range of rigorous tests of the measurement, it has shown highly satisfactory reliability and discriminant validity (see Chapter 8.3). Another possible limitation is also related to the measurement of collective intuition. Some previous intuition scholars have raised their concerns of over-relying on the self-report approach to measure intuition (e.g. Hodgkinson and Sadler-Smith, 2011). The current study could have integrated the self-report approach with other techniques, such as the critical incident technique (CIT) (Akinci, 2014), to better capture the collective intuition during TMT's SDMP.

9.4 Future Research

Besides the contributions the current study has made to SDMP and M&A literature (see Chapter 9.1), this section will outline some important directions for future research.

9.4.1 New Research Design

In the previous sections (see chapter 9.3), some potential limitations regarding the research design have been outlined, such as the cross-sectional and survey-based research design. In light of the previous arguments, they are not just manifested in the current study but the strategic decision-making and M&A research realms due to the nature of the research. Firstly, future SDMP research should try to adopt a longitudinal research design to investigate more accurate causalities between SDMPs and strategic decision outcomes (e.g. organisational performance and strategic decision-making effectiveness). This endeavour will follow an

important call for SDMP studies to fully understand the impact of SDMPs (Dean and Sharfman, 1996). Similarly, future M&A research should also take this research design given the complexity of the M&A event. The extent to which the acquiring firm well integrates the target firm is a crucially important factor for a successful M&A endeavour (Birkinshaw et al., 2000; Bauer and Matzler, 2014). However, researchers can not rely on the cross-sectional design to examine any possible change during the integration process (Meglio and Risberg, 2000). Alternatively, a longitudinal research design would offer new insights into the integration process (Zollo and Meier, 2008). Therefore, future SDMP and M&A studies should try to overcome the inherent difficulties and undertake a longitudinal design.

Secondly, a large number of SDMP and M&A studies have adopted a survey-based quantitative research design to rely on big sample size and robust analytical process to achieve the generalisability of research findings (e.g. Papadakis et al., 1998; Bauer and Matzler, 2014). However, future research should combine the survey-based technique with more qualitative-orientated approaches in order to get more in-depth insights into those important organisational phenomena. In particular, as one of the foci of the SDMPs in the current study, collective intuition has been solely investigated based on respondents' self-reported data. Most of the studies explore intuition with a quantitative survey-based approach (e.g. Khatri and Ng, 2000; Elbanna and Child, 2007; Kaufmann et al., 2014). Only a handful of studies adopt a qualitative research design, providing more new insights into intuition (e.g. Akinci and Sadler-Smith, 2018; Calabretta et al., 2017). As such, future SDMP research focusing on intuition should use some special techniques, such as critical incident techniques (Akinci, 2014) and concurrent protocol analysis (Baldacchino et al., 2014).

9.4.2 Strategic Decision-Making Process

In light of the dual-process theory (Evan, 2003), the current study investigates two team-level decision-making processes: procedural rationality and collective intuition. Importantly, empirical evidence in the present research has shown the development, application and contexts of those two SDMPs. However, future research needs to get more insights into how the two types of team-level SDMPs interplay during the team's collective decision-making process. For example, previous scholars have proposed two possible variants of this dual perspective of individual decision-making processes, namely, default-interventionist (e.g. Stanvich and West, 2000; Evan and Stanovich, 2013) and parallel-competitive (e.g.

Hodgkinson and Sadler-Smith, 2018) (see Chapter 3.3.2). It will be crucially important for future research to provide empirical evidence to fully understand how a TMT uses both SDMPs to make joint strategic decisions.

In addition, political behaviour/politics/politicisation has been seen as another important SDMP in the SDM literature (e.g. Dean and Sharfman, 1996; Elbanna and Child, 2007; Papadakis et al., 1998; Shepherd et al., 2019). Together with intuition, it has been seen as a construct to represent the incremental perspective of the SDMP (Elbanna, 2006; Elbanna and Child, 2007). Despite its importance and the special perspective to look at the SDMP (i.e. dual-process perspective) in the current research, politics has only been used as a control variable in the double-layered contextual model of SDMP. However, it has shown its significant negative effect on the M&A performance (see chapter 8.4.4). Therefore, future research should investigate the three-way interactions between procedural rationality, collective intuition, and politics to provide a more comprehensive picture of the SDMPs.

Furthermore, the current study uses procedural rationality to account for the rational perspective of TMT's SDMP. The comprehensiveness of strategic decision-making has also been adopted by SDM scholars when looking at the rational perspective of SDMP (e.g. Fredrickson and Mitchell, 1984). Coupled with procedural rationality, it has been seen as another construct to account for the synoptic perspective of SDMP (Elbanna, 2006). Those two similar constructs have slightly different theorisation and conceptualisation. However, they have been used interchangeably in the past SDMP literature.

As such, in line with the call from Shepherd and Rudd (2014), future studies should clearly define and provide an underlying rationale as to why a particular construct is chosen. Additionally, to provide a more comprehensive picture of the rational aspect of SDMP, it could be promising for future research to test those two constructs together in a single study.

9.4.3 Contexts of Strategic Decision-Making Process

The doubled-layered contextual model of SDMP has provided empirical evidence to the development and the application of SDMP. However, in light of the previous studies that develop an integrative model of SDMP (e.g. Elbanna and Child, 2007; Papadakis et al., 1998), four important categories of contexts would impose a potential moderating effect on SDMP.

Namely, the upper echelon perspective, firm perspective, external environment perspective and the perspective of decision-specific characteristics.

Firstly, the current study only tests the moderating role of the last three perspectives. Future SDMP studies should include those four perspectives in a single model to examine each perspective's effect on different SDMPs. In particular, based on the upper echelon perspective, future studies should investigate more TMT-level moderators given the still lack of empirical evidence, such as TMT potency (Clark and Maggitti, 2012), TMT competitive aggressiveness (Papadakis and Barwise, 2002) and TMT diversity (Miller et al., 1998). Secondly, Papadakis et al. (1998) have found that strategic decision-specific characteristics have the strongest explaining power of SDMP compared to other perspectives. Due to the complexity of the current study's integrative model, only strategic decision importance has been tested, which has generated some insightful results. Future research should put more efforts to test the moderating roles of other strategic decision-specific characteristics, such as decision uncertainty and decision motive.

Thirdly, the current study does not test any three-way interactions across different contextual perspectives. Future research should try to investigate those possibilities, such as the interactions between procedural rationality, organisational structure and the TMT's perception of decision importance. Fourthly, taking a resource-based view of the firm (Wernerfelt, 1984; Barney,1991), some firm-level resource-related factors will need to be considered by the further SDMP research in order to understand how the abundance of the organisation resource could affect the development or the application of the SDMP, such as organisational slack.

In addition, Mergers and Acquisitions (M&A), as a rare strategic decision (Zollo, 2009), has been used as the research context when investigating the process in which TMTs are making strategic decisions. A number of M&A related factors, such as the comparative size of the target firm, degree of integration and integration speed, have only been used as control variables in the double-layered contextual model of SDMP. However, it would be possible that the M&A integration process could moderate the relationship between SDMPs and M&A performance. As such, for future M&A research that tries to understand the SDMP of M&A, the potential moderating effect of more M&A-related factors will need to be considered. In particular, TMT acquisition experience (e.g. Bauer et al., 2016; Brouthers and Dikova, 2010; Bruton et al., 1994) will need to be taken into account as another crucially important moderator

for SDMP due to the concern of superstitious learning (Levitt and March, 1988; Zollo, 2009) and causal ambiguity (King and Zeithamal, 2001).

9.4.4 Other Directions for Future Research

For the current research, measurements of all the constructs (except for collective intuition) have been adopted and modified based on existing measurement published in top peer-reviewed journals. However, some constructs (e.g. procedural rationality and the importance of strategic decision) have shown less satisfactory construct reliability, with AVE being slightly lower than the threshold level. Given the early stage of the present research, they will still be acceptable (Hulland, 1999). The unreliable measures could make it difficult to detect the initial significant relationships between variables (Bryman and Bell, 2003). As such, future research will need to be more cautious when creating or modifying existing measurements.

9.5 Conclusion

This chapter first explains research implications in terms of how the present research has achieved the four primary intended contributions by discussing the findings. In addition, managerial implications, possible limitations and future research recommendations have been outlined.

Drawn upon the empirical evidence of the double-layered contextual model of SDMP developed in the current study, it should be confident to conclude that the following initial intended contributions have been achieved. Those contributions will be crucially important to gain new theoretical insights into the SDMP and M&A literature:

(1) Transferring the dual-process theory from the individual level to the team level (i.e. TMT) to gain fresh insights into TMT's SDMP from a cognitive perspective (Healey et al., 2015). This study confirms the parallelism of rational and intuitive aspects of the decision-making process at the team level; conceptualises and provides empirical evidence of the team-level intuition (i.e. collective intuition) on decision-making outcomes (i.e. M&A performance). This endeavour has also made a great contribution to the intuition literature.

(2) Providing a more comprehensive picture of the TMT characteristics-SDMP-outcomes relationships by investigating both of the upstream contexts and downstream contexts in which SDMPs are developed and unfolding their impact, respectively. For example, TMTs tend to rely on collective intuition when making strategic decisions, and its positive impact would be fostered if the strategic decision has high perceived importance by the TMT. It contributes to the upper echelon literature to explain the inconclusive findings of the direct TMT characteristics-organisational outcomes relationships.

(3) Enriching our understanding of the boundaries, especially the "black box", associated with the upper echelon theory. The "black box" is contextualised in various contexts: organisational contexts (i.e. organisational structure and board strategic involvement) and decision-making contexts (i.e. environmental dynamism and importance of strategic decision). This makes a great contribution to the theorisation, operationalisation and application of the upper echelon theory.

(4) Enhancing the knowledge of unpacking the "Puzzle of M&A Performance" (Bauer et al., 2019: 2) by integrating the multiple perspectives of the upper echelon, dual-process and contingency theories. The holistic integration of those three theoretical perspectives makes a significant contribution to the M&A literature that helps the literature get new insights into the determinants of M&A performance.

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Appendices

Appendix 1: Common Method Bias

Common method bias							
		Substantive factor			Common method factor		
Construct	Item	Loading R1	Sig	Loading $R1^2$	Loading R2	Sig	Loading $R2^2$
Cohesion	COH1	0.792	***	0.627	0.043	n.s.	0.002
	COH2	0.613	***	0.376	0.142	n.s.	0.020
	COH3	0.787	***	0.619	0.042	n.s.	0.002
	COH4	0.907	***	0.823	-0.118	n.s.	0.014
	COH5	0.879	***	0.773	-0.135	n.s.	0.018
	COH6	0.767	***	0.588	-0.060	n.s.	0.004
Collective Behaviour	CB1	0.735	***	0.540	0.180	n.s.	0.032
	CB2	0.909	***	0.826	-0.104	n.s.	0.011
	CB3	0.923	***	0.852	-0.077	n.s.	0.006
Joint Decision Making	JDM1	0.788	***	0.621	-0.008	n.s.	0.000
	JDM2	0.677	***	0.458	0.187	*	0.035
	JDM3	0.965	***	0.931	-0.181	n.s.	0.033
Information Exchange	IE1	0.931	***	0.867	-0.043	n.s.	0.002
	IE2	0.957	***	0.916	-0.066	n.s.	0.004
	IE3	0.769	***	0.591	0.115	n.s.	0.013
Specialisation	SPE1	0.885	***	0.783	-0.063	n.s.	0.004
	SPE2	0.585	***	0.342	0.122	n.s.	0.015
	SPE3	0.896	***	0.803	-0.034	n.s.	0.001
	SPE4	0.933	***	0.870	-0.300	n.s.	0.090
Credibility	CRE1	0.740	***	0.548	0.067	n.s.	0.004
	CRE2	0.810	***	0.656	0.086	n.s.	0.007
	CRE3	0.808	***	0.653	-0.401	n.s.	0.161
	CRE4	0.477	***	0.228	0.266	*	0.071
	COR1	0.496	***	0.246	0.256	*	0.066

Coordination	COR2	0.630	***	0.397	0.108	n.s.	0.012
	COR3	0.722	***	0.521	-0.118	n.s.	0.014
	COR4	0.876	***	0.767	-0.122	n.s.	0.015
	COR5	0.884	***	0.781	-0.116	n.s.	0.013
Procedural Rationality	PR1	0.701	***	0.491	-0.028	n.s.	0.001
	PR2	0.693	***	0.480	-0.136	n.s.	0.018
	PR3	0.737	***	0.543	0.091	n.s.	0.008
	PR4	0.588	***	0.346	0.067	n.s.	0.004
Collective Intuition	CI1	0.713	***	0.508	0.101	n.s.	0.010
	CI2	0.847	***	0.717	-0.043	n.s.	0.002
	CI3	0.728	***	0.530	0.070	n.s.	0.005
	CI4	0.801	***	0.642	-0.046	n.s.	0.002
	CI5	0.810	***	0.656	-0.077	*	0.006
Mechanistic Structure	MS1	0.718	***	0.516	0.061	n.s.	0.004
	MS2	0.799	***	0.638	0.043	n.s.	0.002
	MS3	0.718	***	0.516	-0.059	n.s.	0.003
	MS4	0.746	***	0.557	-0.051	n.s.	0.003
Board Strategic Involvement	BSI1	0.833	***	0.694	-0.071	n.s.	0.005
	BSI2	0.884	***	0.781	-0.099	n.s.	0.010
	BSI3	0.880	***	0.774	-0.114	n.s.	0.013
	BSI4	0.735	***	0.540	0.022	n.s.	0.000
	BSI5	0.724	***	0.524	0.130	*	0.017
	BSI6	0.530	***	0.281	0.176	*	0.031
Market Dynamism	MD1	0.894	***	0.799	0.009	n.s.	0.000
	MD2	0.901	***	0.812	-0.061	n.s.	0.004
	MD3	0.762	***	0.581	0.062	n.s.	0.004
Technology Dynamism	TD1	0.890	***	0.792	0.046	n.s.	0.002
	TD2	0.916	***	0.839	-0.025	n.s.	0.001
	TD3	0.899	***	0.808	-0.004	n.s.	0.000
	TD4	0.923	***	0.852	-0.016	n.s.	0.000

The Importance of Strategic Decision	ISD1	0.839	***	0.704	0.035	n.s.	0.001
	ISD2	0.829	***	0.687	-0.072	n.s.	0.005
	ISD3	0.619	***	0.383	0.049	n.s.	0.002
Subjective Performance	SP1	0.815	***	0.664	0.049	n.s.	0.002
	SP2	0.663	***	0.440	0.124	*	0.015
	SP3	0.796	***	0.634	0.027	n.s.	0.001
	SP4	0.843	***	0.711	-0.071	n.s.	0.005
Objective Performance	OP1	0.857	***	0.734	-0.123	*	0.015
	OP2	0.788	***	0.621	-0.030	n.s.	0.001
	OP3	0.667	***	0.445	0.115	n.s.	0.013
	OP4	0.862	***	0.743	-0.006	n.s.	0.000
Sum		50.156		**40.118**	0.113		**0.796**
Mean		0.784		**0.627**	0.002		**0.012**
				Ratio:	**52**		**1**

*p <0.05; **p <0.01; ***p <0.001.

Appendix 2: Psychometric Properties of the Scales

Construct	Items	Factor Loading	Cronbach´s Alpha	Composite Reliability	Average Variance Extracted (AVE)
Cohesion			0.916	0.934	0.703
	…we have good sense of belonging between members	0.817			
	…we deem everyone as a genuine member	0.759			
	…we see everyone as part of the team	0.822			
	…we are enthusiastic about the team	0.888			
	…we are happy to be part of the team	0.884			
	…we are content to be part of the team	0.854			
Collective Behaviour			0.817	0.891	0.731
	…we volunteer to help manage others' workload	0.855			
	…we switch responsibilities flexibly to help each other	0.834			
	…we help each other complete jobs and meet deadlines	0.875			
Joint Decision Making			0.737	0.851	0.655
	…we let each other know when their actions affected others' work	0.783			
	…we have a clear understanding of the joint problems and needs of others	0.824			
	…we discuss their expectations of each other	0.821			
Information Exchange			0.865	0.917	0.787
	…we exchange ideas with high effectiveness	0.839			
	…we exchange solutions with high effectiveness	0.908			
	…we have creative and innovative dialogue between each other	0.860			
Specialisation			0.752	0.844	0.579
	…we have our specialised knowledge	0.861			

	…we are responsible for our expertise in different areas	0.638		
	…we have specialised knowledge essential for completing the deal	0.872		
	…we know each other's expertise in specific areas	0.681		
Credibility			0.812	0.877	0.642
	…we are comfortable accepting procedural suggestions from others	0.794		
	…we trust others' knowledge	0.884		
	…we want to double-check information provided by others	0.802		
	…we have much faith in other's expertise	0.715		
Coordination			0.772	0.846	0.526
	…we work together in a well-coordinated fashion	0.715		
	…we have very few misunderstandings about what to do	0.724		
	…we need to backtrack and start over a lot	0.629		
	…we make this M&A decision smoothly and efficiently	0.764		
	…we have little confusion about how we would make this M&A decision	0.783		
Procedural Rationality			0.613	0.771	0.459
	…TMT looked into the information in-depth (e.g. accounting standards)	0.721		
	…TMT used other sources outside of lawyers, bankers and accountants	0.583		
	…TMT analysed relevant information in-depth (e.g. legal constraints)	0.708		
	…TMT relied on the quantitative analytical techniques (e.g. market analysis)	0.659		
Collective Intuition			0.839	0.886	0.609
	…TMT had enough team expertise, in the target selection phase, allowed us to recognise the potential target firm immediately	0.769		
	…TMT was knowledgeable about possible problems related to the target selection phase	0.830		
	…TMT quickly understood the problems regarding the target selection phase	0.771		

	…TMT automatically had a sense of what problems needed to be negotiated with the selected target firm	0.765			
	… TMT was already familiar with a variety of possible solutions to deal with potential problems when first considered making this M&A decision	0.766			
Mechanistic Structure			0.733	0.806	0.521
	…tight formal control through sophisticated control and information systems	0.858			
	...getting personnel to follow the formally laid down procedures	0.856			
	...holding fast-to-true and tried management principles despite any changes in business conditions	0.537			
	...a uniform managerial style throughout the business unit	0.572			
Board Strategic Involvement			0.862	0.905	0.517
	…board contributes to TMT's network building	0.756			
	…board contributes to lobbying and legitimizing	0.801			
	…board uses its networks to give TMT advice	0.804			
	…board functions as mentors for the TMT	0.733			
	…is actively involved in work related to long-term strategies and overall goals	0.801			
	...finds adequate time for board tasks and prepare for board meetings efficiently	0.704			
Market Dynamism			0.812	0.877	0.711
	…industry was having rapidly changing customer demand	0.914			
	…industry was having customers with new product preferences	0.949			
	…industry was witnessing demand for our products from new customers	0.629			
Technology Dynamism			0.928	0.932	0.775
	…industry was changing quite rapidly	0.964			
	…industry was providing big opportunities	0.865			

	…industry was facilitating many possible product ideas	0.779			
	…industry was having breakthroughs	0.904			
The Importance of Strategic Decision			0.645	0.711	0.469
	...increasing efficiency of production/services	0.403			
	…reducing the costs of products/services	0.756			
	…increasing market power (e.g. pricing power due to less competitors in the industry)	0.821			
Subjective Performance			0.875	0.915	0.729
	…set goals were reached	0.880			
	…the acquisition was the right strategic decision	0.787			
	…the firm is better than before	0.877			
	…overall the acquisition was successful	0.867			
Objective Performance			0.873	0.913	0.723
	…return on investment	0.870			
	…return on equity	0.843			
	…return on sales	0.823			
	…relative firm value	0.866			
Politics			0.72	0.819	0.535
	…we opened up to each other about their interests and preferences	0.846			
	… we used power to defend their interests and preferences	0.662			
	…were preoccupied by their own agenda	0.768			
	…followed the company’s agenda	0.629			
Degree of Integration	To which extent was the target firm integrated?	Single item			
Integration Speed	How long did it take to integrate the target firm?	Single item			
Organisational Slack			0.821	0.814	0.545
	… absolute sufficient capital	0.774			
	… absolute sufficient skilled labour	0.611			
	… absolute sufficient material suppliers	0.743			
	… absolute sufficient material talent	0.654			

Firm Size	…approximate number of full-time employees in the year of making this M&A decision in the organisation.	Single item
Comparative size of the target firm	… the relative size of the target firm compared to the acquirer with regards to the annual sales.	Single item
Average industry growth	the average industry growth three years prior to the acquisition.	Single item

Appendix 3: Fornell-Larcker Criterion

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1: Average Industry Growth	***1.000***																							
2: Behavioural Integration	0.072	***0.719***																						
3: Board Strategic Involvement	0.175	0.319	***0.767***																					
4: Cohesion	0.113	0.649	0.330	***0.839***																				
5: Collective Behaviour	0.038	0.814	0.159	0.444	***0.855***																			
6: Collective Intuition	-0.078	0.215	0.268	0.289	0.137	***0.780***																		
7: Comparative Size	-0.005	0.102	-0.024	0.112	-0.018	0.005	***1.000***																	
8: Coordination	-0.005	0.546	0.340	0.608	0.340	0.498	0.004	***0.725***																
9: Credibility	0.027	0.669	0.368	0.689	0.535	0.402	0.075	0.671	***0.801***															
10: Degree of Integration	-0.120	-0.089	0.024	0.088	-0.105	0.176	0.136	0.099	-0.034	***1.000***														
11: Firm Size	-0.023	-0.062	0.016	-0.021	-0.152	-0.119	0.059	-0.137	-0.038	-0.064	***1.000***													
12: Information Exchange	0.051	0.870	0.358	0.601	0.534	0.196	0.154	0.509	0.588	0.012	-0.009	***0.887***												
13: Integration Speed	0.168	-0.074	-0.074	-0.109	0.032	-0.188	-0.026	-0.205	-0.133	0.101	0.082	-0.096	***1.000***											
14: Joint Decision Making	0.096	0.852	0.279	0.594	0.554	0.211	0.112	0.532	0.572	-0.149	-0.004	0.631	-0.119	***0.810***										

15: The Importance of Strategic Decision	0.064	0.093	0.026	-0.042	0.009	-0.067	0.232	-0.123	-0.109	0.132	-0.039	0.117	-0.089	0.106	***0.685***								
16: Market Dynamism	0.030	-0.020	-0.067	0.006	-0.159	-0.293	0.279	-0.045	-0.142	0.042	0.245	0.014	-0.039	0.093	0.036	***0.843***							
17: Objective Performance	-0.079	0.186	0.107	0.244	0.201	0.409	0.047	0.337	0.274	0.192	-0.155	0.139	-0.022	0.135	-0.165	-0.157	***0.851***						
18: Politics	0.010	-0.084	-0.046	-0.234	0.037	-0.390	-0.022	-0.303	-0.104	-0.140	0.143	-0.096	0.298	-0.153	0.067	0.106	-0.338	***0.731***					
19: Procedural Rationality	0.196	0.213	0.206	0.179	0.097	0.027	0.092	0.078	0.147	-0.029	0.135	0.211	-0.001	0.228	0.088	0.171	0.123	-0.065	***0.677***				
20: Organisational Slack	0.024	0.309	0.186	0.230	0.113	0.242	0.077	0.266	0.345	0.060	-0.039	0.354	0.033	0.305	0.074	0.003	0.087	-0.055	0.036	***0.679***			
21: Specialisation	0.055	0.414	0.451	0.515	0.231	0.310	0.070	0.495	0.684	-0.020	0.037	0.388	-0.057	0.426	-0.161	-0.003	0.099	-0.081	0.085	0.290	***0.761***		
22: Mechanistic Structure	0.204	0.119	0.136	0.178	0.016	0.126	0.118	0.139	0.118	0.013	-0.112	0.124	0.013	0.161	0.069	0.135	0.080	-0.022	0.124	0.091	0.107	***0.722***	
23: Subjective Performance	-0.066	0.193	0.175	0.280	0.193	0.543	-0.012	0.388	0.358	0.280	0.020	0.199	0.022	0.090	-0.173	-0.201	0.718	-0.329	-0.016	0.151	0.161	0.057	***0.854***
24: Technology Dynamism	-0.106	0.228	0.132	0.159	0.132	-0.164	0.131	0.136	0.110	0.013	0.035	0.210	-0.147	0.236	0.067	0.469	-0.075	0.132	0.097	-0.024	0.082	0.006	-0.118

Appendix 4: Cross loadings

Cross loadings																									
Loadings and cross loadings																									
	AIG	**BSI**	**COH**	**CB**	**COR**	**CRE**	**FS**	**ISD**	**IE**	**DOI**	**IS**	**CI**	**JDM**	**MD**	**OP**	**POLI**	**PR**	**CMSZ**	**OS**	**SPE**	**MS**	**SP**	**TD**	**TMS**	**Behavioural Integration**	**M&A Performance**
AIG	***1.000***	0.175	0.113	0.038	-0.005	0.027	-0.023	0.064	0.051	-0.120	0.168	-0.078	0.096	0.030	-0.079	0.010	0.196	-0.005	0.024	0.055	0.204	-0.066	-0.106	0.032	0.072	-0.078
BSI1	0.207	***0.756***	0.220	0.173	0.129	0.202	-0.009	0.072	0.291	0.037	0.036	0.200	0.258	-0.126	0.051	-0.076	0.094	0.022	0.190	0.304	0.082	0.109	-0.024	0.232	0.287	0.087
BSI2	0.177	***0.801***	0.214	0.141	0.187	0.193	0.052	0.023	0.253	-0.018	-0.033	0.199	0.223	-0.111	0.021	0.101	0.088	-0.044	0.126	0.236	0.046	0.058	0.057	0.234	0.246	0.043
BSI3	0.155	***0.804***	0.147	0.168	0.220	0.258	-0.076	-0.074	0.131	-0.051	-0.049	0.199	0.132	-0.106	0.022	0.027	0.143	-0.197	0.148	0.302	0.083	0.080	0.089	0.298	0.169	0.056
BSI4	0.060	***0.733***	0.270	0.154	0.235	0.244	-0.093	0.059	0.306	0.083	-0.074	0.192	0.152	-0.022	0.158	-0.041	0.113	0.143	0.067	0.339	0.169	0.166	0.153	0.306	0.248	0.175
BSI5	0.160	***0.801***	0.320	0.075	0.330	0.374	0.043	0.155	0.388	0.064	-0.088	0.292	0.253	-0.121	0.082	-0.087	0.067	-0.110	0.156	0.394	0.206	0.176	0.159	0.422	0.291	0.140
BSI6	0.070	***0.704***	0.306	0.059	0.376	0.350	0.109	-0.084	0.262	0.000	-0.098	0.152	0.243	0.112	0.132	-0.094	0.353	0.069	0.154	0.433	0.043	0.178	0.136	0.437	0.226	0.168
COH1	-0.032	0.279	***0.817***	0.385	0.478	0.613	-0.009	-0.053	0.552	0.131	-0.107	0.198	0.518	0.034	0.194	-0.155	0.097	0.065	0.222	0.475	0.153	0.179	0.133	0.607	0.577	0.202
COH2	0.065	0.333	***0.759***	0.395	0.465	0.473	-0.039	0.161	0.518	0.150	-0.093	0.212	0.551	-0.029	0.240	-0.234	0.217	0.053	0.146	0.311	0.138	0.241	0.196	0.499	0.578	0.259
COH3	0.145	0.287	***0.822***	0.456	0.516	0.593	0.059	-0.129	0.483	0.005	-0.007	0.248	0.524	-0.075	0.284	-0.139	0.036	0.065	0.141	0.391	0.163	0.374	0.118	0.594	0.575	0.356
COH4	0.155	0.277	***0.888***	0.353	0.519	0.559	-0.007	0.028	0.575	0.118	-0.124	0.184	0.491	0.102	0.146	-0.232	0.159	0.111	0.253	0.434	0.144	0.184	0.211	0.593	0.565	0.178
COH5	0.118	0.243	***0.884***	0.352	0.530	0.600	-0.035	-0.048	0.484	0.096	-0.080	0.188	0.489	0.090	0.217	-0.246	0.184	0.152	0.195	0.453	0.119	0.205	0.149	0.620	0.524	0.227
COH6	0.105	0.247	***0.854***	0.323	0.538	0.619	-0.045	-0.148	0.446	-0.016	-0.119	0.358	0.441	-0.055	0.163	-0.169	0.169	0.107	0.202	0.504	0.171	0.229	0.037	0.644	0.479	0.212

CB1	0.087	0.153	0.496	***0.855***	0.375	0.521	-0.080	-0.029	0.527	-0.142	0.050	0.156	0.557	-0.077	0.173	0.004	0.158	0.064	0.152	0.313	0.123	0.176	0.182	0.478	0.758	0.188
CB2	0.039	0.095	0.319	***0.834***	0.221	0.435	-0.137	-0.016	0.377	0.049	0.025	0.093	0.376	-0.209	0.147	0.029	0.032	-0.027	0.030	0.114	-0.088	0.125	0.096	0.324	0.617	0.146
CB3	-0.034	0.154	0.309	***0.875***	0.262	0.409	-0.179	0.069	0.452	-0.154	0.004	0.096	0.470	-0.136	0.194	0.065	0.046	-0.090	0.095	0.147	-0.016	0.190	0.051	0.340	0.700	0.207
COR1	-0.109	0.248	0.520	0.267	***0.715***	0.594	-0.050	-0.003	0.442	-0.004	-0.135	0.359	0.496	0.022	0.287	-0.197	0.156	0.210	0.287	0.382	0.163	0.275	0.170	0.667	0.476	0.303
COR2	-0.075	0.254	0.485	0.223	***0.724***	0.544	-0.070	-0.027	0.400	0.096	-0.124	0.357	0.374	-0.147	0.265	-0.231	0.091	0.015	0.090	0.334	0.094	0.299	0.192	0.645	0.396	0.305
COR3	0.033	0.121	0.333	0.212	***0.629***	0.436	-0.149	-0.101	0.302	0.190	-0.106	0.265	0.298	0.067	0.185	-0.184	-0.041	-0.024	0.203	0.288	0.068	0.233	0.073	0.541	0.321	0.226
COR4	0.153	0.259	0.433	0.272	***0.764***	0.402	-0.151	-0.111	0.341	0.103	-0.103	0.510	0.320	-0.078	0.261	-0.252	0.033	-0.143	0.224	0.356	0.077	0.368	0.013	0.605	0.369	0.341
CORN5	-0.002	0.331	0.417	0.256	***0.782***	0.443	-0.091	-0.210	0.346	0.000	-0.266	0.310	0.419	-0.016	0.216	-0.233	0.023	-0.063	0.162	0.423	0.094	0.232	0.033	0.654	0.401	0.242
CRE1	0.078	0.346	0.567	0.455	0.497	***0.795***	0.033	-0.034	0.457	-0.151	-0.164	0.403	0.463	-0.158	0.209	-0.161	0.152	0.020	0.297	0.531	0.120	0.331	0.015	0.716	0.541	0.293
CRE2	-0.023	0.347	0.631	0.437	0.595	***0.884***	-0.024	-0.164	0.519	-0.049	-0.245	0.345	0.527	-0.053	0.210	-0.111	0.189	0.124	0.247	0.658	0.079	0.240	0.203	0.831	0.585	0.243
CRE3	0.009	0.220	0.462	0.306	0.482	***0.802***	-0.045	-0.182	0.337	0.025	-0.027	0.312	0.343	-0.212	0.289	-0.070	0.020	0.054	0.218	0.526	0.065	0.330	-0.003	0.702	0.388	0.335
CRE4	0.028	0.257	0.537	0.521	0.574	***0.715***	-0.088	0.044	0.569	0.074	0.038	0.224	0.494	-0.043	0.175	0.017	0.097	0.032	0.353	0.462	0.117	0.257	0.120	0.692	0.626	0.234
FS	-0.023	0.016	-0.021	-0.152	-0.137	-0.038	***1.000***	-0.039	-0.009	-0.064	0.082	-0.119	-0.004	0.245	-0.155	0.143	0.135	0.059	-0.039	0.037	-0.112	0.020	0.035	-0.065	-0.062	-0.071
ISD1	0.051	-0.092	-0.013	0.059	0.006	0.000	-0.050	***0.403***	0.075	0.195	-0.056	0.032	0.080	-0.098	0.062	-0.083	0.053	0.192	-0.030	-0.110	0.164	0.002	0.160	-0.024	0.084	0.034
ISD2	-0.062	-0.091	-0.092	-0.031	-0.097	-0.158	-0.065	***0.756***	0.092	0.151	-0.144	-0.030	0.034	-0.028	-0.094	0.080	0.017	0.121	0.022	-0.199	0.024	-0.141	0.128	-0.165	0.041	-0.128
ISD3	0.166	0.102	0.025	0.059	-0.083	-0.006	-0.006	***0.821***	0.100	0.094	-0.003	-0.060	0.141	0.055	-0.131	-0.001	0.124	0.268	0.078	-0.069	0.119	-0.114	0.014	-0.056	0.117	-0.132

IE1	0.057	0.295	0.532	0.409	0.455	0.555	-0.040	0.076	***0.893***	0.027	-0.039	0.134	0.516	-0.001	0.141	-0.083	0.126	0.112	0.329	0.361	0.149	0.203	0.165	0.540	0.734	0.186
IE2	-0.024	0.308	0.486	0.541	0.425	0.514	0.044	0.141	***0.908***	0.024	-0.093	0.212	0.564	-0.068	0.110	-0.087	0.213	0.041	0.330	0.294	-0.008	0.189	0.189	0.493	0.808	0.162
IE3	0.107	0.348	0.584	0.464	0.475	0.498	-0.031	0.091	***0.860***	-0.020	-0.121	0.173	0.596	0.108	0.119	-0.084	0.217	0.261	0.282	0.382	0.197	0.138	0.204	0.531	0.770	0.139
DOI	-0.120	0.024	0.088	-0.105	0.099	-0.034	-0.064	0.132	0.012	***1.000***	0.101	0.176	-0.149	0.042	0.192	-0.140	-0.029	0.136	0.060	-0.020	0.013	0.280	0.013	0.026	-0.089	0.255
IS	0.168	-0.074	-0.109	0.032	-0.205	-0.133	0.082	-0.089	-0.096	0.101	***1.000***	-0.188	-0.119	-0.039	-0.022	0.298	-0.001	-0.026	0.033	-0.057	0.013	0.022	-0.147	-0.170	-0.074	0.000
CI1	-0.015	0.256	0.306	0.120	0.411	0.372	-0.144	0.005	0.165	0.040	-0.240	***0.769***	0.217	-0.196	0.291	-0.254	-0.002	0.076	0.181	0.304	0.220	0.373	-0.016	0.425	0.198	0.359
CI2	-0.070	0.228	0.240	0.099	0.351	0.320	-0.127	-0.111	0.092	0.216	-0.155	***0.830***	0.116	-0.203	0.351	-0.354	-0.013	-0.030	0.245	0.243	0.074	0.523	-0.175	0.361	0.120	0.474
CI3	-0.057	0.252	0.329	0.071	0.412	0.348	-0.031	-0.001	0.239	0.200	-0.127	***0.771***	0.113	-0.283	0.310	-0.310	0.105	0.043	0.135	0.210	0.020	0.447	-0.113	0.389	0.173	0.410
CI4	-0.165	0.197	0.097	0.070	0.399	0.239	-0.048	-0.007	0.201	0.107	-0.169	***0.765***	0.241	-0.117	0.290	-0.295	-0.001	0.077	0.254	0.270	0.099	0.330	-0.135	0.350	0.203	0.336
CI5	-0.009	0.107	0.136	0.173	0.376	0.280	-0.107	-0.143	0.077	0.114	-0.040	***0.765***	0.150	-0.339	0.352	-0.306	0.014	-0.140	0.131	0.186	0.077	0.427	-0.204	0.338	0.154	0.422
JDM1	0.114	0.183	0.461	0.484	0.389	0.441	0.006	0.134	0.459	-0.159	-0.166	0.165	***0.783***	0.063	0.052	-0.084	0.204	0.082	0.193	0.405	0.020	-0.053	0.179	0.482	0.671	-0.001
JDM2	-0.002	0.283	0.550	0.446	0.494	0.558	-0.009	0.008	0.599	-0.093	-0.131	0.219	***0.824***	0.117	0.132	-0.204	0.188	0.140	0.279	0.438	0.157	0.124	0.233	0.584	0.733	0.138
JDM3	0.130	0.206	0.425	0.415	0.402	0.382	-0.006	0.123	0.465	-0.112	0.012	0.124	***0.821***	0.043	0.142	-0.076	0.161	0.045	0.266	0.182	0.212	0.143	0.157	0.392	0.661	0.154
MD1	-0.020	-0.071	0.017	-0.179	0.004	-0.080	0.247	0.013	0.028	-0.009	-0.038	-0.253	0.151	***0.914***	-0.141	0.052	0.102	0.205	0.011	0.014	0.101	-0.159	0.518	-0.023	0.001	-0.162
MD2	0.031	-0.082	-0.014	-0.154	-0.095	-0.170	0.235	0.050	-0.005	0.092	-0.008	-0.290	0.018	***0.949***	-0.169	0.155	0.209	0.318	-0.002	-0.007	0.110	-0.224	0.368	-0.113	-0.054	-0.213
MD3	0.161	0.066	0.050	0.023	0.050	-0.102	0.067	0.025	0.034	-0.042	-0.139	-0.180	0.145	***0.629***	-0.023	-0.020	0.087	0.115	-0.008	-0.034	0.235	-0.069	0.332	-0.032	0.077	-0.050

OP1	-0.188	0.041	0.098	0.117	0.261	0.202	-0.125	-0.153	0.059	0.169	-0.094	0.388	0.073	-0.194	***0.870***	-0.296	-0.016	0.016	0.074	0.031	0.044	0.637	-0.104	0.206	0.096	0.810
OP2	-0.106	0.111	0.177	0.148	0.301	0.255	-0.131	-0.193	0.103	0.144	-0.077	0.340	0.131	-0.135	***0.843***	-0.331	0.038	0.021	0.146	0.126	0.118	0.601	-0.115	0.280	0.149	0.776
OP3	0.055	0.141	0.328	0.251	0.318	0.320	-0.158	-0.091	0.208	0.094	0.090	0.294	0.214	-0.131	***0.823***	-0.208	0.228	0.075	0.159	0.129	0.123	0.495	-0.058	0.313	0.264	0.707
OP4	-0.018	0.077	0.240	0.180	0.274	0.171	-0.117	-0.120	0.113	0.234	0.017	0.364	0.057	-0.077	***0.866***	-0.308	0.178	0.051	-0.062	0.059	-0.001	0.694	0.018	0.213	0.138	0.839
POLI 1	0.108	-0.110	-0.285	0.003	-0.387	-0.161	0.179	0.017	-0.121	-0.150	0.279	-0.487	-0.188	0.100	-0.340	***0.846***	-0.034	-0.078	-0.156	-0.091	-0.055	-0.332	0.147	-0.266	-0.121	-0.363
POLI 2	-0.057	0.110	-0.029	0.172	-0.033	0.041	0.138	0.105	0.130	-0.231	0.075	-0.132	0.028	0.079	-0.229	***0.662***	-0.015	-0.089	0.042	0.040	-0.034	-0.146	0.080	0.014	0.132	-0.202
POLI 3	-0.040	-0.037	-0.175	-0.035	-0.217	-0.074	-0.012	0.101	-0.156	-0.029	0.257	-0.172	-0.109	0.028	-0.232	***0.768***	-0.084	0.089	0.100	-0.084	0.078	-0.274	0.071	-0.147	-0.121	-0.273
POLI 4	-0.076	-0.046	-0.107	0.006	-0.119	-0.038	0.120	-0.050	-0.078	0.056	0.244	-0.275	-0.151	0.140	-0.109	***0.629***	-0.071	0.048	-0.156	-0.087	-0.088	-0.119	0.058	-0.090	-0.087	-0.123
PR1	0.090	0.188	0.106	0.114	-0.055	0.126	0.075	0.050	0.074	0.041	0.012	0.004	0.069	0.060	0.077	0.045	***0.721***	-0.037	0.049	0.063	0.104	0.019	-0.053	0.053	0.101	0.051
PR2	0.076	0.042	-0.029	0.060	-0.050	-0.045	0.031	0.181	0.126	-0.093	0.114	0.026	0.135	-0.021	0.105	-0.109	***0.582***	0.171	0.106	-0.144	-0.009	-0.054	-0.074	-0.082	0.127	0.025
PR3	0.151	0.097	0.164	0.136	0.100	0.267	0.137	0.083	0.237	-0.027	-0.057	0.002	0.221	0.153	0.041	0.015	***0.708***	0.114	0.040	0.209	0.145	-0.102	0.179	0.222	0.236	-0.034
PR4	0.196	0.188	0.194	-0.031	0.178	0.029	0.109	-0.019	0.147	-0.028	-0.035	0.039	0.198	0.223	0.112	-0.138	***0.689***	0.054	-0.057	0.051	0.074	0.059	0.172	0.115	0.126	0.091
COSZ	-0.005	-0.024	0.112	-0.018	0.004	0.075	0.059	0.232	0.154	0.136	-0.026	0.005	0.112	0.279	0.047	-0.022	0.092	***1.000***	0.077	0.070	0.118	-0.012	0.131	0.058	0.102	0.018
OS1	0.163	0.069	0.236	0.120	0.229	0.262	-0.061	-0.045	0.333	0.061	0.169	0.185	0.296	0.062	0.043	-0.156	0.001	0.071	***0.774***	0.225	0.056	0.122	0.032	0.276	0.299	0.090
OS2	0.056	0.193	0.120	0.041	0.210	0.178	0.022	0.151	0.219	0.047	0.040	0.225	0.264	0.108	-0.033	-0.087	0.082	0.159	***0.512***	0.228	0.050	-0.025	-0.033	0.228	0.208	-0.031
OS3	-0.043	0.241	0.152	0.027	0.216	0.248	-0.030	0.045	0.170	0.002	-0.168	0.169	0.125	-0.001	0.089	0.051	0.107	-0.043	***0.744***	0.218	0.089	0.067	-0.046	0.259	0.131	0.084

OS4	-0.081	0.139	0.098	0.092	0.156	0.243	0.037	0.247	0.284	0.079	0.077	0.221	0.295	-0.025	0.024	-0.025	-0.010	0.213	***0.654***	0.224	0.053	0.101	-0.057	0.234	0.267	0.069
SPE1	0.172	0.435	0.438	0.221	0.395	0.555	-0.085	-0.094	0.309	0.004	-0.057	0.153	0.336	0.039	0.063	-0.032	0.121	0.067	0.250	***0.827***	0.131	0.051	0.076	0.649	0.342	0.061
SPE2	-0.049	0.231	0.250	0.033	0.216	0.360	0.056	-0.120	0.175	-0.086	0.082	0.170	0.154	-0.074	0.005	-0.014	-0.049	-0.003	0.204	***0.681***	0.073	0.023	-0.109	0.403	0.146	0.015
SPE3	-0.017	0.346	0.415	0.227	0.347	0.525	0.051	-0.129	0.361	0.045	-0.004	0.280	0.312	-0.098	0.182	-0.121	0.049	0.025	0.085	***0.635***	0.041	0.272	0.047	0.573	0.357	0.246
SPE4	0.023	0.334	0.426	0.181	0.488	0.595	0.097	-0.148	0.310	-0.042	-0.134	0.322	0.430	0.078	0.043	-0.069	0.091	0.097	0.321	***0.874***	0.075	0.129	0.161	0.720	0.362	0.094
MS1	0.133	0.086	0.155	0.089	0.146	0.085	-0.111	0.097	0.180	0.117	0.009	0.105	0.126	0.151	0.101	-0.068	0.142	0.157	0.017	0.013	***0.858***	0.102	0.042	0.105	0.158	0.110
MS2	0.220	0.170	0.131	-0.033	0.147	0.136	-0.086	0.021	0.059	-0.078	-0.053	0.110	0.171	0.090	0.050	0.007	0.111	0.003	0.135	0.135	***0.856***	0.012	0.031	0.160	0.076	0.034
MS3	0.195	0.032	0.117	-0.019	-0.046	0.047	0.026	0.024	0.021	0.021	0.190	0.082	0.008	0.019	0.029	0.034	-0.023	0.198	0.034	0.119	***0.537***	0.110	-0.183	0.030	0.005	0.076
MS4	0.039	0.045	0.152	-0.098	-0.007	0.020	-0.122	0.043	-0.013	-0.112	0.065	0.059	0.097	0.079	-0.005	0.049	0.002	0.064	0.105	0.157	***0.572***	-0.129	-0.058	0.039	-0.007	-0.074
SP1	-0.015	0.146	0.252	0.182	0.375	0.352	0.035	-0.170	0.123	0.257	0.010	0.518	0.155	-0.194	0.661	-0.311	0.011	-0.015	0.149	0.134	0.060	***0.880***	-0.114	0.360	0.179	0.835
SP2	-0.028	0.171	0.285	0.156	0.423	0.337	-0.018	-0.130	0.202	0.138	-0.071	0.487	0.065	-0.135	0.522	-0.329	-0.035	-0.086	0.155	0.205	0.140	***0.787***	-0.110	0.392	0.171	0.710
SP3	-0.032	0.180	0.271	0.186	0.283	0.312	0.021	-0.172	0.208	0.283	0.072	0.413	0.060	-0.167	0.614	-0.233	-0.035	0.035	0.061	0.121	-0.030	***0.877***	-0.065	0.294	0.183	0.807
SP4	-0.146	0.104	0.156	0.136	0.259	0.226	0.024	-0.118	0.152	0.266	0.052	0.439	0.023	-0.187	0.645	-0.258	0.002	0.017	0.154	0.099	0.035	***0.867***	-0.116	0.235	0.126	0.818
TD1	-0.112	0.172	0.183	0.159	0.130	0.105	-0.049	0.073	0.242	0.029	-0.093	-0.189	0.232	0.434	-0.108	0.160	0.075	0.160	-0.021	0.104	-0.012	-0.120	***0.964***	0.142	0.251	-0.123
TD2	-0.134	0.063	0.083	0.062	0.143	0.092	0.191	0.061	0.132	0.037	-0.164	-0.104	0.211	0.506	0.002	0.062	0.140	0.122	-0.015	0.075	0.005	-0.081	***0.865***	0.126	0.159	-0.043
TD3	-0.084	0.116	0.176	0.099	0.024	0.043	0.095	0.103	0.196	0.114	-0.069	-0.106	0.172	0.410	0.056	0.009	0.128	0.134	-0.050	0.080	0.040	-0.029	***0.779***	0.056	0.187	0.013

TD4	-0.046	0.070	0.136	0.090	0.088	0.094	0.098	0.051	0.154	-0.018	-0.194	-0.109	0.197	0.399	-0.019	0.072	0.097	0.053	-0.038	0.027	0.046	-0.095	***0.904***	0.099	0.174	-0.063
AIG: average industry growth; **BSI:** board strategic involvement; **COH**: cohesion; **COR**: coordination; **CRE**: credibility; **FS**: firm size; **ISD**: the importance of strategic decision; **IE**: information exchange; **DOI**: degree of integration; IS: integration speed; **CI**: collective intuition; **JDM**: joint decision making; **MD**: market dynamism; **OP**: objective performance; **POLI**: politics; **PR**: procedural rationality; **CMSZ**: comparative size of the target firm; **OS**: organisational slack; **SPE**: specialisation; **MS**: mechanistic Structure; **SP**: subjective performance; **TD**: technology dynamism; **TMS**: transactive memory system																							

Appendix 5: Variable Correlations, Means and Standard Deviation

Correlations, Means and STDV																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1. Technology Dynamism	1																						
2. Market Dynamism	.499**	1																					
3. The Importance of Strategic Decision	0.148	-0.035	1																				
4. Procedural Rationality	0.160	-0.061	.805**	1																			
5. Collective Intuition	-0.138	-.279**	-0.025	-0.051	1																		
6. Organisational Structure	-0.044	0.137	0.121	0.029	0.121	1																	
7. TMT Cohesion	0.170	0.029	-0.031	-0.057	.269**	.188*	1																
8. Collective Behaviour	0.108	-0.133	0.043	0.029	0.132	-0.041	.437**	1															
9. Joint Decision-Making	.219*	0.121	0.119	0.060	.211*	0.138	.590**	.534**	1														
10. Information Exchange	.200*	0.030	0.111	0.124	.196*	0.092	.612**	.515**	.621**	1													
11. Specialisation	0.108	-0.002	-0.149	-0.178	.322**	0.123	.531**	.250*	.432**	.415**	1												
12. Credibility	0.042	-0.031	-0.111	-0.141	.235*	0.081	.379**	0.133	.282**	.303**	.835**	1											
13. Coordination	0.106	-0.009	-0.079	-0.101	.494**	0.068	.594**	.326**	.516**	.506**	.512**	.369**	1										

14. Board Strategic Involvement	0.102	-0.051	-0.032	-0.086	.263**	0.112	.313**	0.167	.265**	.346**	.439**	.327**	.297**	1								
15. Politics	0.071	0.075	-0.016	0.030	-.339**	0.005	-.192*	0.052	-0.129	-0.077	-0.081	-0.068	-.246**	-0.009	1							
16. Organisation Slack	-0.034	0.058	0.051	-0.002	.275**	0.111	.210*	0.089	.331**	.344**	.285**	.297**	.272**	.206*	-0.062	1						
17. Firm Size	0.089	.215*	-0.053	0.006	-0.118	-0.099	-0.013	-0.156	-0.004	-0.014	0.029	0.063	-0.144	-0.001	0.133	-0.014	1					
18. Average Industry Growth	-0.105	0.067	0.065	0.060	-0.080	.193*	0.110	0.034	0.104	0.057	0.072	0.074	0.000	0.181	-0.030	0.037	-0.023	1				
19. Degree of Integration	0.044	0.015	.191*	.212*	0.169	-0.017	0.096	-0.088	-0.149	0.011	0.003	-0.034	0.114	0.023	-0.115	0.065	-0.064	-0.120	1			
20. Integration Speed	-0.142	-0.072	-0.091	0.002	-.190*	0.075	-0.104	0.030	-0.108	-0.095	-0.082	-0.059	-.202*	-0.063	.287**	0.044	0.082	0.168	0.101	1		
21. Comparative Size with the Target Firm	0.131	.248**	.252**	0.138	0.009	0.145	0.109	-0.025	0.106	0.162	0.079	0.076	-0.004	-0.027	-0.002	0.132	0.059	-0.005	0.136	-0.026	1	
22. Subjective M&A Performance	-0.093	-0.177	-0.112	-0.032	.536**	0.032	.279**	0.187	0.092	.198*	.192*	0.110	.386**	0.158	-.294**	0.097	0.019	-0.069	.278**	0.020	-0.013	1
23. Objective M&A Performance	-0.028	-0.133	-0.077	0.040	.407**	0.062	.245*	.198*	0.140	0.139	0.123	0.028	.333**	0.098	-.304**	0.049	-0.156	-0.084	0.188	-0.026	0.046	.714**	1
Mean	4.38	4.70	4.09	4.78	5.54	4.17	5.85	5.24	5.21	5.50	5.85	5.76	5.41	5.18	3.27	5.21	4.21	4.38	5.28	4.10	1.21	5.65	4.96
STDV	1.343	1.212	1.353	1.056	1.017	1.177	0.938	1.056	0.941	1.044	0.833	0.820	0.808	1.202	1.109	0.944	1.831	1.025	1.552	1.764	1.292	1.280	1.290

* p< .05. ** p<.01.

Appendix 6: Survey Questionnaire

Strategic Decision-Making in Mergers and Acquisitions (M&A)

The aim of this research:

Mergers and Acquisitions (M&A) are rare and paramount strategic decisions made by the top management team (TMT) as they require a high level of involvement in both financial and human terms. However, research consistently shows that **70% of M&A decisions fail to produce the intended value.**

Previous research has prominently investigated the reasons in the pre-merger or the post-merger phase, but the research regarding the processes of making M&A decisions is limited. As such, **this research project will investigate how M&A decisions evolve and affect M&A performance.**

Your benefit:

- **You will gain new insights into why most of the M&A decisions fail to produce value.** We are more than happy to send you aggregated research results and further discuss them with you. As such, you could add your contact details at the end of the questionnaire, but the given information will not be used for data analysis.
- Your participation will help **M&A academics and practitioners make further progress** in understanding the M&A decision.

Some hints for filling out the questionnaire:

- Please only answer this survey if you have been actively involved in **one completed M&A transaction in the acquiring firm** and relate all your answers to **this M&A transaction only**. If not, please forward the survey to somebody who was responsible for the acquisition.

- All information and content are treated **confidential and anonymous.**
- **Please answer all questions** for getting reliable research results.

The filling out of the survey takes about **10-15 minutes.**

Thank you very much for your support!

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Section A: The Impact of COVID-19 on the M&A Market

COVID-19 pandemic is affecting all businesses and individuals and it has been a prominent focus in the media. Especially, it has a massive impact on a firm's strategic decision-making and corporate control.

Q1: What do you think will be the effect of COVID-19 on the M&A market (multiple answers possible)?

- The number of M&A deals globally will drop
- Carve-out related M&A deals will increase
- Buyers will have more bargaining power to negotiate the purchase price of the target firm
- A longer due diligence will be expected
- Other (please specify)

Section B: Your Organisation's Operating Environment

The organisation is embedded in an environment, this section aims to understand the industrial environment in which your M&A decision was made. **Please refer to the time when you made your M&A decision.**

Q2: The **technology** in our industry was...

	Strongly disagree	--	-	Neither agree nor disagree	+	++	Strongly agree
1: changing quite rapidly	○	○	○	○	○	○	○
2: providing big opportunities	○	○	○	○	○	○	○
3: facilitating many possible product ideas	○	○	○	○	○	○	○
4: having breakthroughs	○	○	○	○	○	○	○

Q3: The **market** in our industry was …

	Strongly disagree	--	-	Neither agree nor disagree	+	++	Strongly agree
1: having rapidly changing customer demand	○	○	○	○	○	○	○
2: having customers with new product preferences	○	○	○	○	○	○	○
3: witnessing demand for our products from new customers	○	○	○	○	○	○	○

Q4: Please indicate the **average industry growth** three years prior to the acquisition.

- ○ >-15%
- ○ -15% to -5%
- ○ -4% to 0%
- ○ 1% to 5%
- ○ 6% to 10%

- ○ 11% to 15%
- ○ > 15%

Section C: The Nature of the M&A Decision

Please refer your answers to **one specific M&A transaction** in which you have been involved.

Q5: When did you make the decision to acquire the target firm?

- ○ 2018
- ○ 2017
- ○ 2016
- ○ 2015
- ○ 2014
- ○ Other (please specify) _____

Q6: Please indicate the **type** of this M&A transaction.

- ○ Horizontal (e.g. acquire direct competitor)
- ○ Vertical (e.g. acquire firm from the same supply chain)
- ○ Conglomerate (e.g. acquire firm with unrelated business)

Q7: What was the **geographic nature** of this acquisition?

- ○ UK-UK
- ○ UK-EU
- ○ UK-Global
- ○ Other (please specify) _____

Q8: Please indicate the **relative size of the target firm** compared to the acquirer with regards to the annual sales.

- ○ <25%
- ○ 25% to 49 %
- ○ 50% to 74%
- ○ 75% to 100%
- ○ >100%

Q9: How would you perceive the **impact of the M&A decision** on the following areas at the time you made it?

	Not at all important	--	-	Moderately important	+	++	Extremely important
1: Increasing profit	○	○	○	○	○	○	○
2: Increasing quality of products/services	○	○	○	○	○	○	○
3: Increasing efficiency of production/services	○	○	○	○	○	○	○
4: Reducing the costs of products/services	○	○	○	○	○	○	○
5: Increasing sales	○	○	○	○	○	○	○
6: Increasing market share	○	○	○	○	○	○	○
7: Increasing innovation capability	○	○	○	○	○	○	○
8: Increasing market power (e.g. pricing power due to less competitors in the industry)	○	○	○	○	○	○	○

Section D: The M&A Decision-Making Process

Please refer your answers to the **same M&A transaction as the previous section.**

This section basically refers to the issues **before the M&A deal closing.**

Q10: In the **pre-merger phase**, the TMT …

	Strongly disagree	--	-	Neither agree nor disagree	+	++	Strongly agree
1: looked into the information in-depth (e.g. accounting standards)	○	○	○	○	○	○	○
2: used other sources outside of lawyers, bankers and accountants	○	○	○	○	○	○	○
3: analysed relevant information in-depth (e.g. legal constraints)	○	○	○	○	○	○	○
4: relied on the quantitative analytical techniques (e.g. market analysis)	○	○	○	○	○	○	○
5: focused its attention on crucial information and ignoring the irrelevant information	○	○	○	○	○	○	○

Q11: In the **pre-merger phase,** the TMT …

	Strongly disagree	--	-	Neither agree nor disagree	+	++	Strongly agree
1: had enough team expertise, in the target selection phase, allowed us to recognise the potential target firm immediately	○	○	○	○	○	○	○
2: was knowledgeable about possible problems related to the target selection phase	○	○	○	○	○	○	○
3: quickly understood the problems regarding the target selection phase	○	○	○	○	○	○	○
4: automatically had a sense of what problems need to be negotiated with the selected target firm	○	○	○	○	○	○	○
5: was already familiar with a variety of possible solutions to deal with potential problems when first considered making this M&A decision	○	○	○	○	○	○	○

12: In the **pre-merger phase,** the TMT members...

	Strongly disagree	--	-	Neither agree nor disagree	+	++	Strongly agree
1: opened up to each other about their interests and preferences	○	○	○	○	○	○	○
2: used power to defend their interests and preferences	○	○	○	○	○	○	○
3: bargained with each other	○	○	○	○	○	○	○
4: formed alliances with each other	○	○	○	○	○	○	○
5: were preoccupied by their own agenda	○	○	○	○	○	○	○
6: followed the company's agenda	○	○	○	○	○	○	○

Section E: The Outcomes of the M&A Decision

Please refer your answers to the **same M&A transaction as the previous section.**
This section refers to the **period after deal closing.**

Q13: Please indicate the approximate **annual sales of the combined firms** after the acquisition.

- ○ < 25 million £
- ○ 25-49 million £
- ○ 50-99 million £
- ○ 100-249 million £
- ○ 250-499 million £
- ○ 500-1000 million £
- ○ > 1000 million £

Q14: Please indicate to which extent you agree with the following statements.

	Strongly disagree	--	-	Neither agree nor disagree	+	++	Strongly agree
1: Set goals were reached	○	○	○	○	○	○	○
2: The acquisition was the right strategic decision	○	○	○	○	○	○	○
3: The firm is better than before	○	○	○	○	○	○	○
4: Overall, the acquisition was successful	○	○	○	○	○	○	○

Q15: Please describe how the following indicators have changed after the acquisition.

	Extremely **negative** development	--	-	No change	+	++	Extremely **positive** development
1: Return on Investment	○	○	○	○	○	○	○
2: Return on Equity	○	○	○	○	○	○	○
3: Return on Sales	○	○	○	○	○	○	○
4: Relative Firm Value	○	○	○	○	○	○	○

Q16: Please indicate your answer.

	Not at all	--	-	Moderately integrated	+	++	Fully integrated
To which extent was the target firm integrated?	○	○	○	○	○	○	○

Q17: Please indicate your answer.

	Less than 5 months	5-8 months	9-12 months	13-16 months	17-20 months	21-24 months	More than 24 months
How long did it take to integrate the target firm?	○	○	○	○	○	○	○

Section F: Organisation Structure

This section refers to **general organisational issues.**

Q18: Generally, in our organisation, we have strong emphasis on...

	Strongly disagree	--	-	Neither agree nor disagree	+	++	Strongly agree
1: tight formal control through sophisticated control and information systems	○	○	○	○	○	○	○
2: getting personnel to follow the formally laid down procedures	○	○	○	○	○	○	○
3: holding fast-to-true and tried management principles despite any changes in business conditions	○	○	○	○	○	○	○
4: a uniform managerial style throughout the business unit	○	○	○	○	○	○	○
5: getting staff personnel to adhere closely to formal job descriptions	○	○	○	○	○	○	○

Q19: In the TMT, we ...

	Strongly disagree	--	-	Neither agree nor disagree	+	++	Strongly agree
1: have a good sense of belonging between members	○	○	○	○	○	○	○
2: deem everyone as a genuine member	○	○	○	○	○	○	○
3: see everyone as part of the team	○	○	○	○	○	○	○
4: are enthusiastic about the team	○	○	○	○	○	○	○
5: are happy to be part of the team	○	○	○	○	○	○	○
6: are content to be part of the team	○	○	○	○	○	○	○

Q20: In the TMT, we ...

	Strongly disagree	--	-	Neither agree nor disagree	+	++	Strongly agree
1: volunteer to help manage others' workload	○	○	○	○	○	○	○
2: switch responsibilities flexibly to help each other	○	○	○	○	○	○	○
3: help each other complete jobs and meet deadlines	○	○	○	○	○	○	○
4: let each other know when their actions affected others' work	○	○	○	○	○	○	○
5: have a clear understanding of the joint problems and needs of others	○	○	○	○	○	○	○
6: discuss their expectations of each other	○	○	○	○	○	○	○
7: exchange ideas with high effectiveness	○	○	○	○	○	○	○
8: exchange solutions with high effectiveness	○	○	○	○	○	○	○
9: have creative and innovative dialogue between each other	○	○	○	○	○	○	○

Q21: In the TMT, we ...

	Strongly disagree	--	-	Neither agree nor disagree	+	++	Strongly agree
1: have our specialised knowledge	○	○	○	○	○	○	○
2: have specific knowledge that others do not have	○	○	○	○	○	○	○
3: are responsible for our expertise in different areas	○	○	○	○	○	○	○
4: have specialised knowledge essential for completing the deal	○	○	○	○	○	○	○
5: know each other's expertise in specific areas	○	○	○	○	○	○	○
6: are comfortable accepting procedural suggestions from others	○	○	○	○	○	○	○
7: trust others' knowledge	○	○	○	○	○	○	○
8: are confident relying on information provided by others	○	○	○	○	○	○	○
9: want to double-check information provided by others	○	○	○	○	○	○	○
10: have much faith in other's expertise	○	○	○	○	○	○	○
11: work together in a well-coordinated fashion	○	○	○	○	○	○	○
12: have very few misunderstandings about what to do	○	○	○	○	○	○	○
13: need to backtrack and start over a lot	○	○	○	○	○	○	○
14: make this M&A decision smoothly and efficiently	○	○	○	○	○	○	○

15: have little confusion about how we would make this M&A decision	○	○	○	○	○	○	○

Q22: In the TMT, we have a common understanding about...

	Strongly disagree	--	-	Neither agree nor disagree	+	++	Strongly agree
1: the best way to maximise the organisation's long-term profitability	○	○	○	○	○	○	○
2: what organisation's goal priorities should be	○	○	○	○	○	○	○
3: the best way to ensure the organisation's long-run survival	○	○	○	○	○	○	○
4: which organisational objectives should be considered most important	○	○	○	○	○	○	○

Section H: The Board of Directors

Please answer the next question in light of the **board of directors** of your organisation. It is a selected group of people who represent the shareholders of your organisation, it includes "insiders" (e.g. TMT members and other internal non-executives) and possible "outsiders" (e.g. external directors).

Q23: The **board of directors** in the organisation...

	Strongly disagree	--	-	Neither agree nor disagree	+	++	Strongly agree
1: contributes to TMT's network building	○	○	○	○	○	○	○
2: contributes to lobbying and legitimizing	○	○	○	○	○	○	○
3: uses its networks to give TMT advice	○	○	○	○	○	○	○
4: functions as mentors for the TMT	○	○	○	○	○	○	○
5: is actively involved in work related to long-term strategies and overall goals	○	○	○	○	○	○	○
6: finds adequate time for board tasks and prepare for board meetings efficiently	○	○	○	○	○	○	○

Section I: Information of your organisation

Q24: Please indicate the **industry** your organisation is operating in

- ○ **Manufacturing industry** (e.g. chemical; electrical equipment; food and beverage; furniture and wood products; metals and engineering; textiles and clothing; transport equipment etc.)
- ○ **Service industry** (e.g. professional services; retail and wholesale; financial services; engineering; residential care; scientific research and development; repair and installation of machinery, travel agency etc.)
- ○ Other (please specify) _____

Q25: Please indicate the **approximate** number of full-time employees in the year of making this M&A decision in the organisation.

- ○ 0-100
- ○ 101-200
- ○ 201-300
- ○ 301-400
- ○ 401-500
- ○ 500+

Q26: In general, our organisation has absolutely sufficient...

	Strongly disagree	--	-	Neither agree nor disagree	+	++	Strongly agree
1: capital	○	○	○	○	○	○	○
2: skilled labour	○	○	○	○	○	○	○
3: material suppliers	○	○	○	○	○	○	○
4: material talent	○	○	○	○	○	○	○

Section J: Your Details

If you are interested in the results of the survey, please provide the following details. The given information will **not** be used for data analysis.

Q: 27 Please state your company's registered trading name.

_____

Q: 28 What was your job-title at the time of the M&A deal?

_____

Q29: Please state your name and email address if you would like to **receive a copy of the results.**

○ Name _____

○ Email Address _____

Q30: How would you rate your involvement in making this M&A decision?

	1	2	3	4	5	6	7	
Very limited	○	○	○	○	○	○	○	Very extensive

Q31: How would you rate your confidence in answering this questionnaire?

	1	2	3	4	5	6	7	
Not at all confident	○	○	○	○	○	○	○	Very confident

Thank you very much for your time in completing this questionnaire and contributing to the M&A research!

Appendix 7: Reminder Letters of Survey Questionnaires

Dear Sir/Madam,

My name is Bowen Lou, a PhD researcher at Lancaster University Management School, Lancaster.

Recently, you should have received an email with a survey link to my PhD research project, Strategic Decision-Making in Mergers and Acquisitions (M&A). It would be much appreciated if you could take 10-15 minutes to fill out this survey.

All the information and content will be treated confidential and anonymous and no analysis will be conducted on individual companies. I will be more than happy to send you aggregated research results, key implications and to further discuss them with you.

Your help is vital for me to be able to complete my PhD, and therefore I can assure you that your assistance with this research is greatly appreciated. If you would like to discuss this research in person, please just reply to this email, and it will direct to my email (b.lou1@lancaster.ac.uk).

Please use the following link to get access to the survey.
Many thanks indeed.

Follow this link to the Survey:

https://lancasteruni.eu.qualtrics.com/jfe/form/SV_a8CJ5iz07TdMj9X

Yours sincerely,
Bowen Lou
PhD researcher
Lancaster University Management School, Lancaster University
Lancashire, LA1 4YG