Top management team (TMT) antecedents and financial performance outcomes of firm internationalisation: The mediating effect of the competence of the TMT

Ryan Trudgen

Bachelor of Commerce *Monash University*
Honours Degree of Bachelor of Commerce *Monash University*

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Department of Management
Faculty of Business and Economics
Monash University
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Abstract

Identifying the antecedents of firm internationalisation is a central topic of interest within the international business (IB) field. One set of potential antecedents is the characteristics of the top management teams (TMTs) that drive their firms' international outcomes. Interestingly, research into the role of TMTs in this context remains relatively rare. Drawing predominantly on upper echelons theory, the primary aim of this study was to examine the relationships between TMT characteristics and firm internationalisation and the mediating role of the competence of the TMT on these relationships. Then, because financial performance is typically assumed to be the ultimate objective for international businesses, the secondary aim of this study was to examine whether the competence of the TMT or firm internationalisation are associated with firm financial performance. Data were collected from a survey of 152 top executives from Australian firms who undertake international operations. Results of structural equation modelling show that TMT nationality diversity, the proportion of TMT members with a tertiary education, and TMT behavioural integration were positively related to firm internationalisation, with these relationships fully mediated by competence of the TMT. In comparison, the proportion of TMT members with international experience had a direct (unmediated) positive relationship with firm internationalisation. The geographic scope of TMT international experience and TMT relationships (intra-firm, intra-industry, and extra-industry) were not found to have direct, or indirect, effects on firm internationalisation. Lastly, the competence of the TMT was positively related to firm financial performance, while firm internationalisation was not linearly related to firm financial performance. Ad hoc analysis, however, detected a negative quadratic (inverted U-shaped) relationship between firm internationalisation and financial performance, whereby firm internationalisation is beneficial to firm financial performance up to a certain point, after which additional

internationalisation becomes detrimental to financial performance. This study makes the following theoretical contributions to current understanding of the role of TMTs in driving firm internationalisation and firm financial performance. First, the competence of the TMT is shown to be a central construct underpinning the mechanism by which TMT characteristics impact firm internationalisation. This sheds some light on the *black box problem* that has plagued upper echelons literature. Second, the competence of the TMT is revealed to be a valuable resource which allows firms to maximise their financial performance and calibrate the pressures of under- and over-internationalising, so as to ensure that an optimal degree of internationalisation is maintained.

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Chapter One: Introduction

This thesis reports on a study that investigates the top management team (TMT) antecedents, and firm financial performance outcomes, of firm internationalisation. First, this chapter will identify the broad research problem and research questions addressed by the current study. Then, the significance of the study will be outlined. To conclude, an overview of the thesis structure will be provided.

The Research Problem

A country's economic development is driven, at least in part, by its involvement in international trade (Kastelle & Liesch, 2013). Accordingly, the importance of international business (IB) to the global economy has grown exponentially over recent decades (Aharoni & Brock, 2010). In this time, the dominant focus of the IB literature has evolved and shifted from macro-environmental contextual factors, towards firm-level strategy and performance (Liesch, Hakanson, McGaughey, Middleton, & Cretchley, 2011a). Firm internationalisation is a central variable within the IB literature (Casillas & Acedo, 2013; Tsao & Lien, 2012). In the current study, firm internationalisation refers to the *extent* of firms' international involvement (Hitt, Tihanyi, Miller, & Connelly, 2006b; Kaczmarek & Ruigrok, 2013; Lin & Liu, 2011, 2012a, 2012b; Ruigrok, Amann, & Wagner, 2007; Shirokova & Tsukanova, 2013; Sullivan, 1994a, 1996). This captures the structural, attitudinal, and performance components of internationalisation (Sullivan, 1994a, 1996).

Meta-analyses have revealed firm internationalisation to be positively, albeit modestly, associated with firm financial performance (Bausch & Krist, 2007; Ruigrok & Wagner, 2004). Accordingly, the antecedents of firm internationalisation have been an important topic of interest over recent decades (Hitt et al., 2006b). Currently, examinations into firm

internationalisation have predominately focussed on *firm*-, *industry*-, and *country*-level factors (Grøgaard, Gioia, & Benito, 2013; Li & Yue, 2008). Less is known about the *managerial*-level drivers of firm internationalisation.

It is, however, senior managers who ultimately make strategic decisions regarding firm internationalisation (Aharoni, Tihanyi, & Connelly, 2011). These decisions are conditioned by the managers' bounded rationality; and guided by their individual interpretations and orientations (Nielsen & Nielsen, 2011). Upper echelons theory provides the primary theoretical lens for this study and suggests that organisations can be viewed as a reflection of their top managers (Hambrick & Mason, 1984). From this, one set of potential antecedents of firm internationalisation is the characteristics of the top management teams (TMTs) that drive international strategic decision-making. TMTs can be defined as those members of the management board, or executive committee, which are directly involved in deciding the large and strategic issues facing the firm (Collins & Clark, 2003; Nielsen, 2010b). It has only been over the past decade or so, however, that literature has begun to consider the relationships between TMT composition and firm internationalisation (Nielsen, 2010b).

There is a broad spectrum of TMT variables available to researchers, including: the demographic characteristics and diversity of the TMT members themselves (Homberg & Bui, 2013; Hutzschenreuter & Horstkotte, 2013; Nielsen & Nielsen, 2013; Wei & Wu, 2013); the social relationships possessed by each individual TMT member (Atuahene-Gima & Murray, 2007; Collins & Clark, 2003; Geletkanycz & Hambrick, 1997; Reagans, Zuckerman, & McEvily, 2004); and the internal processes of the team (Carmeli, 2008; Carmeli & Halevi, 2009; Carmeli & Schaubroeck, 2006; Carmeli & Shteigman, 2010; Lubatkin, Simsek, Ling, & Veiga, 2006; Simsek, Veiga, Lubatkin, & Dino, 2005). TMT literature, however, has

tended to focus on only a relatively narrow range of TMT characteristics when examining firm internationalisation.

Based on a sample of firms that were located in Australia and undertook international activities, the current study *simultaneously* examines the effects of a broader range of TMT characteristics on firm internationalisation than has been previously examined in the literature. From a human capital theory perspective (Becker, 1962, 1993), the proportion of TMT members with international experience, the geographic scope of TMT international experience, and the proportion of TMT members with a tertiary education, are each presented as potential antecedents of firm internationalisation. Drawing on upper echelons theory (Hambrick, 2007; Hambrick & Mason, 1984), the relationships that TMT nationality diversity and TMT behavioural integration each potentially have with firm internationalisation are presented. Based on social capital theory (Inkpen & Tsang, 2005; Nahapiet & Ghoshal, 1998), the relationships that TMT intra-firm relationships, TMT intra-industry relationships, and TMT extra-industry may have with firm internationalisation are outlined. Examination of the abovementioned relationships seeks to address the first research question of the current study, which is:

> **Research Question One:** *"What TMT characteristics are associated with firm internationalisation?"*

Upper echelons theory suggests an indirect relationship between TMT characteristics and firm outcomes, mediated via more proximal outcomes (Hambrick, 2007; Hambrick & Mason, 1984). Specifically, it is the TMT's preferences, orientation, mindset, and capabilities which *may* result from their characteristics that informs strategic decision-making and, in turn, drives firm-level outcomes (Hambrick & Mason, 1984). As noted by Talke, Salomo, and Rost (2010), however, few studies have looked at mechanisms or processes through which

TMT characteristics influence firm strategies and outcomes. For instance, literature examining the relationships between TMT characteristics and firm internationalisation has tended to focus on direct effects, resulting in a gap in our understanding that is often referred to as the *black box problem* (Herrmann & Datta, 2005; Lee & Park, 2006). This has been acknowledged as a key limitation of the upper echelons literature (Lee & Park, 2008). As a result, Kaczmarek and Ruigrok (2013) argued that the literature would benefit from further investigation into potential mediating variables.

One potential set of mediator variables are the *TMT outcomes* (skills, capabilities, and cognitions) which result from the TMT's characteristics and, in turn, drive firm-level outcomes. Studies recently have begun examining the mediating role of TMT outcomes, including: the perceived quality of strategic decisions (Carmeli & Schaubroeck, 2006), TMT behavioural complexity (Carmeli & Halevi, 2009), ambidextrous orientation (Lubatkin et al., 2006), and TMT potency (Carmeli, Schaubroeck, & Tishler, 2011). There are, however, many other potential mediators that have not yet been examined. For instance, the competence of the TMT is generally accepted to be an important resource for achieving firm-level global initiatives (Ling & Jaw, 2006). To my knowledge, however, the mediating effect of the competence of the TMT on the relationships between TMT characteristics and firm internationalisation is yet to be examined.

Competence of the TMT comprises the ability to absorb worldwide information, identify global opportunities, deal with emergencies, and cope with hardship (Ling & Jaw, 2006). Drawing on human capital theory (Becker, 1962; Strober, 1990), social capital theory (Inkpen & Tsang, 2005; Nahapiet & Ghoshal, 1998), and upper echelons theory (Hambrick, 2007; Hambrick & Mason, 1984), it is argued that each of the TMT characteristics, relationships, and processes listed above will increase the competence of the TMT. Competent TMT's are those which are able to effectively absorb and interpret information

from the external environment and respond to environmental changes quickly and efficiently (Ling & Jaw, 2006). TMTs with these capabilities are expected to be more aware of foreign opportunities and to appreciate the potential benefits of firm internationalisation. The competence of the TMT may, in turn, engender a positive disposition towards firm internationalisation within the team and thus encourage the pursuit of increased levels of firm internationalisation (Knight & Kim, 2009). From this, the competence of the TMT emerges as a potential mediator of the relationship between TMT characteristics and firm internationalisation. Addressing this, the second research question of the current study is:

> **Research Question Two:** *"Does the competence of the TMT mediate the relationship between TMT characteristics and firm internationalisation?"*

The arguments above assume that firm internationalisation is conducive to firm performance and that it will be pursued by competent management. While there are many components of firm performance (Hult et al., 2008; Richard, Devinney, Yip, & Johnson, 2009; Venkatraman & Ramanujam, 1986), it is generally agreed that *financial* performance is the ultimate objective for international businesses (Bouquet, Morrison, & Birkinshaw, 2009; Dunning & Lundan, 2008). Therefore, firm financial performance is the outcome of interest in this section of the current study. Indeed, the assumption that firm internationalisation is conducive to increased firm financial performance underpins the IB field of investigation (Assaf, Josiassen, Ratchford, & Barros, 2012; Contractor, 2007; Contractor, Kundu, & Hsu, 2003; Glaum & Oesterle, 2007). As such, the internationalisation-performance (I/P) relationship is of central importance to IB theory and practice (Assaf et al., 2012) and a considerable body of literature has examined this relationship over the past 40 years (Glaum & Oesterle, 2007). These efforts, however, have resulted in a plethora of mixed and inconsistent findings (Hutzschenreuter & Horstkotte, 2013; Nielsen & Nielsen, 2010; Xiao, Jeong, Moon, Chung, & Chung, 2013); leaving a number of questions unanswered.

While it is generally agreed that there are both positive and negative outcomes to firm internationalisation, disagreement about the trade-off between these endures. Consequently, current efforts to examine the I/P relationship have found the relationship to be: positive and linear (Papadopoulos & Martin, 2010; Tsao & Lien, 2013); negative (Chen & Tan, 2012; Lin, Liu, & Cheng, 2011); U-shaped (Assaf et al., 2012; Capar & Kotabe, 2003); inverted U-shaped (Gomes & Ramaswamy, 1999; Hitt, Hoskisson, & Kim, 1997; Jung & Bansal, 2009); and horizontal S-shaped (Contractor et al., 2003; Nielsen, 2010b; Xiao et al., 2013). Others have found only weak or non-significant relationships (Collins, 1990; Morck & Yeung, 1991; Singla & George, 2013; Tallman & Li, 1996).

Because of the presumed importance of the I/P relationship (Assaf et al., 2012) and the uncertainty that continues to plague the literature (Hutzschenreuter & Horstkotte, 2013; Nielsen & Nielsen, 2010), the financial performance implications of firm internationalisation remains a pertinent question for both IB researchers and practitioners (Gaur & Kumar, 2009). Rather than assuming that firm internationalisation will benefit firm financial performance, the third research question of the current study is:

Research Question Three: *"Is firm internationalisation associated with firm financial performance?"*

To date, studies examining the performance of international businesses have tended to underplay the influence of management, instead assuming that firms automatically implement effective strategies and develop structures which allow them to capitalise on the opportunities that arise from increased firm internationalisation (Hennart, 2007). Regardless of the level of firm internationalisation, it would be remiss to overlook the role of management in driving the financial performance of international firms. Indeed, TMT characteristics have consistently been found to be influential antecedents of firm performance (Boone & Hendriks,

2009; Cannella, Park, & Lee, 2008; Carmeli, 2008; Carmeli et al., 2011; Nielsen & Nielsen, 2013; Nielsen, 2010b). To my knowledge, however, the direct relationship between the competence of the TMT and firm financial performance is yet to be examined.

In order to maximise their firm's financial performance, a TMT must capitalise on the opportunities that accrue from internationalisation (Hennart, 2007), while remaining cognisant of the potential dangers of both over-, and under-, internationalisation (Contractor, 2007; Contractor et al., 2003). Arguably, the competence of the TMT can assist with both of these tasks (Ling & Jaw, 2006). From a resource-based view of the firm (RBV) perspective, managerial resources that are valuable, inimitable, unsubstitutable, and rare, can improve the conception and implementation of firm strategies and provide a source of sustained competitive advantage (Barney, 1991). From this, competent TMTs could be an important antecedent to the performance of international businesses (Knight & Kim, 2009). Responding to recent calls for a greater managerial-level focus within the IB field (Aharoni et al., 2011), the fourth research question of this study is:

> **Research Question Four:** *"Is the competence of the TMT associated with firm financial performance?"*

Significance of the Study

Addressing recent calls within the literature, the current study provides an examination of firm internationalisation which acknowledges the role of managerial strategic decision-making (Aharoni et al., 2011). In doing so it adds to the emergent field of investigation examining the effects of TMT characteristics on firm internationalisation (Caligiuri, Lazarova, & Zehetbauer, 2004; Greve, Nielsen, & Ruigrok, 2009; Herrmann & Datta, 2005; Lee & Park, 2006; Nielsen & Nielsen, 2011; Tihany, Ellstrand, Daily, & Dalton, 2000). Extending this fledgling stream of research, the current study includes TMT

characteristics that, to my knowledge, have not yet been examined in relation to firm internationalisation, including: TMT intra-firm relationships; TMT intra-industry relationships; TMT extra-industry relationships; and TMT behavioural integration. By simultaneously examining the effects of a broad range of TMT characteristics, diversity, relationships, and processes, the current study provides a more comprehensive understanding of which TMT characteristics drive firm internationalisation.

Australia was selected as the context for the current study because it is rare for studies examining the relationships between TMTs characteristics, firm internationalisation, and firm financial performance to be conducted within this context. According to Liesch et al. (2011a, p. 35), "[i]n IB, geography matters". Of particular importance to the current study, it has been argued that both the influence that TMTs have on firm-level outcomes (Crossland & Hambrick, 2007, 2011), and the financial performance benefits experienced by firms as a result of their internationalisation, are likely to be influenced by country specific factors (Ruigrok & Wagner, 2003). Although the North American context initially dominated the *IB literature*, the focus of IB studies has become increasingly geographically diverse over recent decades (Liesch et al., 2011a). As noted by Nielsen (2010b), however, the *IB upper echelons literature* has been slower to progress in this regard, with a large proportion of the TMT studies conducted within North America. Australia provides a vastly different context, as compared to North America. Australia is a small economy (Freeman & Cavusgil, 2007; Freeman, Edwards, & Schroder, 2006) and the trade and investment undertaken by Australian firms can be susceptible to the "tyranny of distance", which may influence their internationalisation strategies (Kastelle & Liesch, 2013, p. 25). These characteristics make Australia an interesting context in which to examine the research questions of the current study.

The current study also responds to the suggestion made recently by Kaczmarek and Ruigrok (2013) that IB upper echelons literature would be well served by studies investigating potential mediated relationships. Business theories commonly specify mechanisms through which independent variables (IVs) affect dependent variables (DVs) (MacKinnon, Coxe, & Baraldi, 2012) and upper echelons theory is no exception to this (Hambrick & Mason, 1984). By examining the mediating role of the competence of the TMT, this study represents a step towards opening the *black box* that has plagued the upper echelons literature (Hambrick, 2007) and limited our understanding of *how* TMT characteristics are translated into firm internationalisation (Herrmann & Datta, 2005; Lee & Park, 2006).

This study also advances understanding of the antecedents of the competence of the TMT. Although competent TMTs are a valuable resource which can help to drive firm-level international outcomes of financial performance (Knight & Kim, 2009; Ling & Jaw, 2006), little is known about the TMT characteristics that may develop such competence. The current study makes important practical contributions by examining which specific TMT characteristics, relationships, and processes that are associated with the competence of the TMT. These insights could be used to inform the recruitment, training, and development processes for TMT members, so as to ensure that any deficiencies in the TMT's composition are addressed.

This study also contributes to current understanding of the financial performance outcomes of firm internationalisation. Although it is generally found that firm internationalisation will influence performance (Tihany et al., 2000), the nature of this relationship has not yet been clarified. For instance, despite the decidedly mixed findings regarding the I/P relationship (Hutzschenreuter & Horstkotte, 2013; Nielsen & Nielsen, 2010), many IB researchers and practitioners intuitively subscribe to the notion that

internationalisation will be *good* for businesses (Contractor, 2007). Because the antecedents of firm performance are a central topic of interest to IB researchers (Hult et al., 2008), research that contributes to our understanding of this is of significant importance.

Finally, this study builds upon current understanding of the influence that TMTs have on firm performance. Firm financial performance is a key outcome of interest within the upper echelons literature (Boone & Hendriks, 2009). With each year that passes, new insights into the influence of TMTs on firm performance continue to accumulate (Hambrick, 2007). Despite this, our understanding remains incomplete, as evidenced by the continued scholarly interest in this area (Carmeli, 2006, 2008; Carmeli et al., 2011; Homberg & Bui, 2013; Nielsen & Nielsen, 2013; Nielsen, 2010b; Wei & Wu, 2013). To my knowledge, this study is the first to *directly* examine the relationship between the competence of the TMT and firm financial performance.

Structure of the Thesis

This thesis is comprised of six chapters, including the current chapter. Chapter One has introduced the broad research problem and research questions to be addressed in the current study and highlighted the significance of conducting this research. It will now present an overview of the thesis with brief summaries of each chapter provided.

Chapter Two provides a critical review of the literature relating to: firm internationalisation; the role of management in firm internationalisation; the potential TMT antecedents of firm internationalisation; the mediating role of competence of the TMT on the relationships between TMT characteristics and firm internationalisation; the I/P relationship; and the relationship between the competence of the TMT and firm financial performance. From this, 18 hypotheses are derived. The conceptual model of this study is presented at the conclusion of the chapter.

Chapter Three outlines the research methodology and research design adopted to address the research questions and hypotheses of the current study. This includes discussion of the research design, sample, data collection method, response rate, and questionnaire development.

Chapter Four presents the methods used to analyse the data. This includes explanation of the various analyses undertaken to: assess the validity and reliability of measures; detect the presence of common method variance (CMV); and test hypotheses.

Chapter Five presents the results of the analyses explained in Chapter Four. The chapter presents: the validity and reliability of the measures included in the current study; the results of hypothesis testing; and the results of the CMV tests conducted for each component of hypothesis testing. The empirical model of the current study is presented at the conclusion of the chapter.

Chapter Six discusses the results of the current study, comparing them to the relevant theoretical and empirical literature. Then, the contributions made by this study are outlined. Next, limitations of the study are acknowledged and future research directions are presented. This chapter, and the thesis itself, are then closed with a brief conclusion.

Summary

This study will examine both the direct and indirect effects of a broad range of TMT characteristics on firm internationalisation. In doing so, numerous shortcomings in the IB upper echelons literature will be addressed. Then, firm internationalisation and the competence of the TMT will be examined as potential predictors of firm financial performance. The current study will provide valuable insights into the two central variables

of the IB field: firm internationalisation and firm financial performance. The following chapter will provide a critical review of the IB and upper echelons fields of literature.

Chapter Two: Literature Review

Chapter One of this thesis provided an introduction to the research problem and four research questions of interest in the current study. This chapter will provide a critical review of the literature relating to firm internationalisation, its TMT antecedents, and its financial performance outcomes. First, the role played by management throughout the internationalisation process will be discussed from various theoretical perspectives. Arguments for potential direct relationships between specific TMT characteristics and firm internationalisation will then be presented. Following this, the competence of the TMT will be introduced as a potential mediator of these relationships. This represents an important step in addressing the *black box* problem identified within the TMT literature. Finally, the firm financial performance outcomes of firm internationalisation and competence of the TMT will be discussed. From this critical literature review, 18 hypotheses are developed and integrated throughout the chapter. The conceptual model for this study will be presented at the conclusion of this chapter.

Firm Internationalisation

> *"In the last decade, the world has become increasingly interconnected. Firms' behaviour has been strongly influenced by globalization; they have adopted articulated strategies, often moving to complex forms of internationalization in order to survive"* (Giovannetti, Ricchiuti, & Velucchi, 2013, p. 2665).

Due to substantial advancements in telecommunication and information technologies, extensive development of transportation networks, and increasingly liberalised trading regimes, many firms now perceive themselves primarily as participants in the global, rather than national, marketplace (Fan & Phan, 2007). International trade was once considered the

domain of large, established multinational enterprises (MNEs) from developed economies, but is now increasingly undertaken by firms regardless of their size, age, and the level of economic development of their home-country (Hashai, 2011; Knight & Liesch, 2002; Lamb, Sandberg, & Liesch, 2011; Taylor & Jack, 2013; Varma, 2011). As a result, the importance of IB to the global economy continues to grow exponentially (Aharoni & Brock, 2010). While remaining "a relatively young academic field" (Aharoni & Brock, 2010, p. 6), IB research has made considerable progress in the past 50 years (Seno-Alday, 2010).

Firm internationalisation is central to the IB field. Consequently, a considerable body of literature has been dedicated to increasing our understanding of firm internationalisation over recent decades. Broadly, these studies can be categorised according to whether they have adopted either a process, or variance, approach (Welch & Paavilainen-Mäntymäki, 2013). Studies undertaking a process approach seek to explain *how* and *why* firm internationalisation occurs, which is best achieved through the use of theoretical conceptualisation, qualitative case study research, or longitudinal quantitative techniques (Welch & Paavilainen-Mäntymäki, 2013). From this perspective, firm internationalisation is typically defined as the *process* through which a firm increases its involvement in (Welch & Luostarinen, 1988), commitment to (Johanson & Vahlne, 1977), and transactions with (Beamish, 1990), foreign markets. This approach has proven to be valuable when *exploring* the complexity of firm internationalisation.

Studies using the process approach have revealed firm internationalisation to be an idiosyncratic process and one that is unique to each individual firm (Lamb et al., 2011). Firm internationalisation can: be both inward and outward directed (Welch & Luostarinen, 1993); occur at various speeds (Casillas & Acedo, 2013; Weerawardena, Mort, Liesch, & Knight, 2007); take a range of forms (Janjuha-Jivraj, Martin, & Danko, 2012); and follow a variety of paths (Freeman & Cavusgil, 2007). In regards to direction, outward internationalisation refers

to the penetration of foreign markets, whereas inward internationalisation refers to the sourcing of activities and resources from foreign markets (Wan & Hoskisson, 2003; Welch & Luostarinen, 1993). Internationalisation speed can vary from a slow, gradual, and cautious process, through to rapid and explosive expansion across national borders (Casillas & Acedo, 2013; Chetty & Campbell-Hunt, 2003; Weerawardena et al., 2007). Internationalisation forms can include, but are not limited to, importing, exporting, foreign direct investment (FDI), licensing, contracting, and/or franchising (Manolova, Brush, Edelman, & Greene, 2002). Finally, while the internationalisation of some firms follows a path dictated by cultural similarity and familiarly, others embrace cultural distance early in the process (Barkema & Drogendijk, 2007; Freeman & Cavusgil, 2007).

In comparison to the process approach, the *variance* approach seeks to identify the antecedents and/or outcomes of firm internationalisation (Welch & Paavilainen-Mäntymäki, 2013). Accordingly, it is this approach which is adopted in the current study. Studies utilising this approach have provided valuable insights into the firm-, industry-, and country-level antecedents of firm internationalisation (Hitt et al., 2006b). Similarly, a large body of literature has been dedicated to the examination of the performance outcomes of firm internationalisation (Assaf et al., 2012; Lin et al., 2011; Papadopoulos & Martin, 2010; Singla & George, 2013; Xiao et al., 2013; Yang & Driffield, 2012). Under this approach, the label of firm internationalisation typically refers to the firm's *degree of internationalisation* (Jaw & Lin, 2009; Kaczmarek & Ruigrok, 2013; Lin & Liu, 2011, 2012a, 2012b; Nielsen, 2010b; Ramaswamy, Kroeck, & Renforth, 1996; Ruigrok et al., 2007; Shirokova & Tsukanova, 2013; Sullivan, 1994a, 1996).

According to Sullivan (1994a), a firm's degree of internationalisation is comprised of three components: *performance*; *structure*; and *attitude*. The performance component of firm internationalisation refers to "what goes on overseas" and captures the proportion of the

firm's sales and profits that is derived from foreign markets (Sullivan, 1994a, p. 331). The structural component refers to "what resources are overseas", which captures the international dispersion of the firm's operations, employees, and assets (Sullivan, 1994a, p. 331). Finally, the attitudinal component refers to senior management's international orientation, which can be gauged by the geographic and psychic dispersion of the firm's operations and sales (Sullivan, 1994a).

Despite the preponderance of literature dedicated to firm internationalisation, notable gaps in our understanding remain. This is evidenced by the continued identification of emerging research themes which require additional attention (Griffith, Cavusgil, & Xu, 2008). For instance, the role of TMTs in driving firm internationalisation is yet to be adequately addressed, as "a relatively large segment of international business research continues to leave limited or no room for decision-making on the part of managers" (Aharoni et al., 2011, p. 135). In response to this, the following section will discuss the influence that managerial decision-making can have on firm internationalisation.

The Role of Management in Firm Internationalisation

> *"Even though top managers may make few decisions, their decisions likely impact every aspect of the MNE, including its business portfolio, capabilities, market position, and performance"* (Aharoni et al., 2011, p. 138)

Due to the multitude of internationalisation strategies pursued by firms, researchers have developed a range of theories and perspectives to explain firm internationalisation. The extent to which managerial characteristics and cognitions drive firm internationalisation is portrayed differently in each perspective. While some suggest that strategic internationalisation decisions will be purely rational and essentially overlook the role of management (Brouthers & Hennart, 2007), others present the individuality and subjectivity of

managerial decision-making as the central tenet of firm internationalisation (McDougall & Oviatt, 2000; Oviatt & McDougall, 2005). Before discussing whether specific TMT characteristics and outcomes may, or may not, act as antecedents of firm internationalisation, the role of management as a whole will be discussed from the perspective of Dunning's (1981, 1988, 2001, 2006) eclectic paradigm, the Uppsala model (U-model) of internationalisation (Johanson & Vahlne, 1977, 1978, 2006, 2009), and international entrepreneurship (IE) theory (McDougall & Oviatt, 2000; Oviatt & McDougall, 2005). A review and integration of these perspectives illustrates that while firm characteristics and external business factors play important roles in encouraging firm internationalisation, it is the way in which TMTs perceive, interpret, and respond to these conditions which ultimately determines the firm's international expansion.

Dunning's (1981, 1988, 2001, 2009) eclectic paradigm provides a firm-level perspective whereby the *why*, *where*, and *how* questions of foreign investment and expansion can be determined by the presence or absence of ownership, location, and internalisation (OLI) advantages. From these, it is the *why* question which is of particular relevance to the current study, as it seeks to address the factors encouraging firms to expand internationally. This paradigm explains that firms expand internationally in order to exploit their ownership advantages and gain access to the location advantages of foreign countries (Dunning, 2006). Therefore, it is the firm's unique capabilities and the global business environment which determine firm internationalisation, rather than managerial mindset or disposition. While this perspective provides considerable insights into why internationalisation can be an attractive strategy for firms to pursue, it is limited in its explanation of management's role in this process.

The U-model of internationalisation also provides insights into the *why*, *where* and *how* of firm internationalisation (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul,

1975). This perspective portrays internationalisation as a process in which firms gradually and deliberately progress through incremental steps and increase their commitment to foreign markets (Johanson & Vahlne, 1978). This process entails: 1) progression from low-commitment forms of international involvement (i.e. exporting) through to high-commitment forms (i.e. establishment of foreign subsidiaries); and 2) a path of foreign market entry characterised by gradually increasing psychic distance. Once again, it is the *why* question which is of interest to the current study. The U-model of internationalisation depicts an expansion process that is dependent upon the acquisition of experiential knowledge and increased familiarity with foreign markets (Johanson & Vahlne, 1977).

The depiction of a *gradual* and *deliberate* internationalisation process has been identified as one of the key problems with the U-model, as it does not reflect recent patterns of firm internationalisation (Steen & Liesch, 2007). Indeed, some firms internationalise rapidly (Madsen, 2013) and enter psychically distant markets early in their internationalisation process (Freeman & Cavusgil, 2007). Furthermore, this model has been criticised for adopting a firm-level perspective which does not address individual managerial decision makers (Aharoni et al., 2011). This was acknowledged by Johanson and Vahlne (1977): "In our model, we consider knowledge to be vested in the decision-making system. We do not deal explicitly with the individual decision maker".

Later refinements to this model, however, have placed greater emphasis on the importance of top management's experience and knowledge in influencing the internationalisation process (Johanson & Vahlne, 2009). The U-model, therefore, acknowledges the bounded rationality and uncertainty of decision-making throughout the internationalisation process (Nielsen, 2010b). From this perspective, managerial knowledge, confidence, experience, and familiarity with foreign markets are expected to be important antecedents of firm internationalisation (Johanson & Vahlne, 2009). Gaining an

understanding of which specific TMT characteristics contribute to these attributes would therefore be considered valuable.

IE theory takes the argument above one step further. It explains a firm's internationalisation as being the result of management's "discovery, enactment, evaluation, and exploitation of opportunities - across national borders - to create future goods and services" (Oviatt & McDougall, 2005, p. 540). This provides a perspective of internationalisation that is based predominantly on managerial perception of the firm and the business environment. The individual-manager level of analysis is appropriate "given the role of *individuals* [emphasis added] in the formation of a firm's uncertainty and risk perspectives relating to different international activities" (Liesch, Welch, & Buckley, 2011b, p. 861). From this, it has been identified that the path, speed, and form of internationalisation is largely dependent upon top management characteristics such as: background (Ghannad & Andersson, 2012); experience (Nordman & Melén, 2008); networking capability (Andersson & Florén, 2011); risk tolerance (Dib, Da Rocha, & Da Silva, 2010); technical knowledge (Freeman, Hutchings, & Chetty, 2012); and entrepreneurial mindset (Freeman & Cavusgil, 2007). This perspective portrays top management knowledge, experience, orientation, and disposition as important antecedents of firm internationalisation.

From the above review, it can be seen that there are contradictory views of the role of management in the firm internationalisation process. It is arguable, however, that while factors in the global business environment and internal to the firm are likely to motivate internationalisation, it is management who must ultimately identify and pursue these opportunities. This is reflected in the evolution of *internationalisation theories*, which have shifted from rational, firm-level decision-making perspectives towards a managerial-level focus. Therefore, the role played by influential decision makers is likely to be an important

factor in determining firm internationalisation. This notion can be explained further through the lens of upper echelons theory (Hambrick, 2007; Hambrick & Mason, 1984).

Upper Echelons Theory

> *"Existing theories of international business can be further developed by incorporating choices made by decision makers with bounded rationality"* (Aharoni et al., 2011, p. 139).

In addition to the IB theories outlined above, literature has recently begun applying upper echelons theory (Hambrick, 2007; Hambrick & Mason, 1984) to the examination of firm internationalisation (Caligiuri et al., 2004; Greve et al., 2009; Heijltjes, Olie, & Glunk, 2003; Kaczmarek & Ruigrok, 2013; Nielsen & Nielsen, 2011; Nielsen, 2010b; Reuber & Fischer, 1997). The upper echelons perspective is particularly relevant to the study of firm internationalisation because top management play a pervasive role in this process (Aharoni et al., 2011). Despite this, it has only been over the past decade or so that the TMT literature has been extended to the context of firm internationalisation (Nielsen, 2010b). Accordingly, it has been argued that more research in this area would be welcomed (Barkema & Shvyrkov, 2007). In response to this, upper echelons theory provides the primary theoretical lens for the current study.

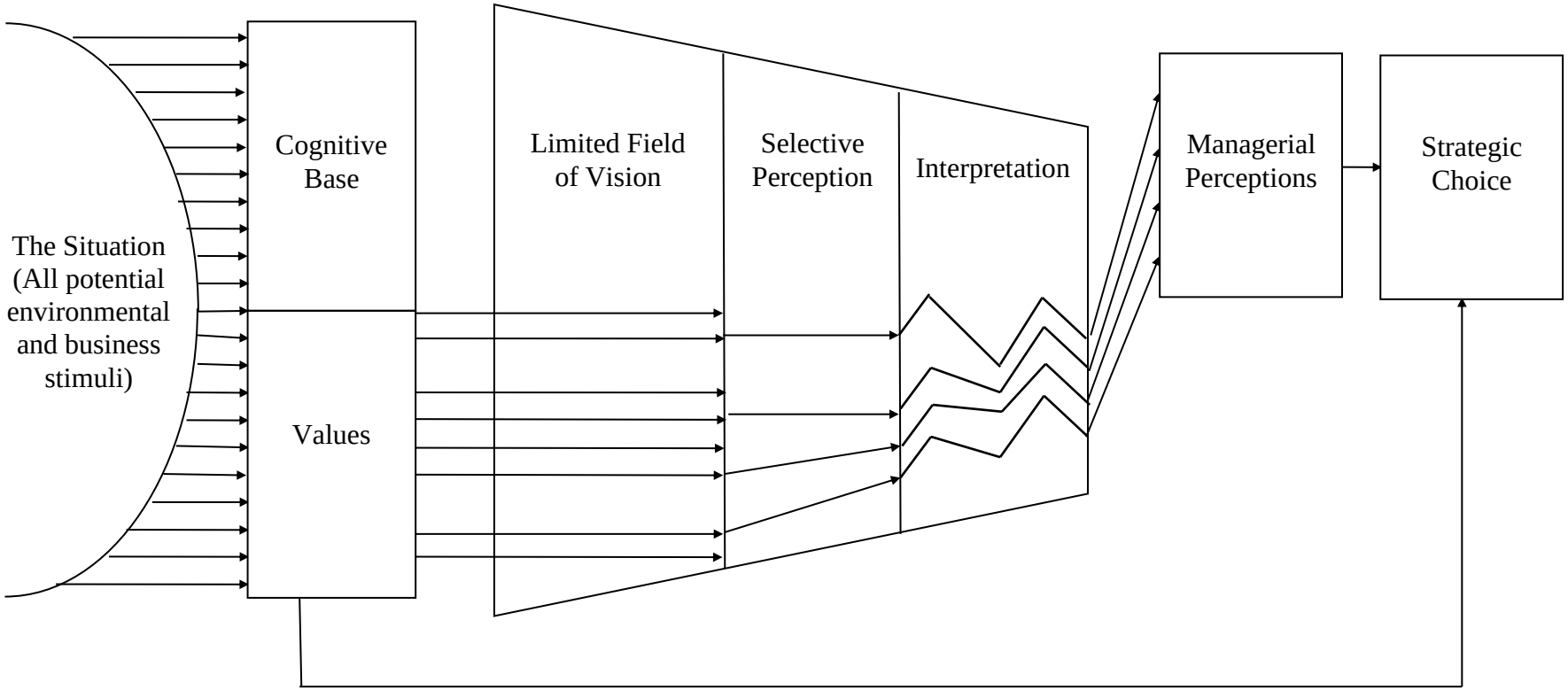
Compared to IE theory, which is commonly applied at the individual level (Andersson, 2011; Jones, Coviello, & Tang, 2011; Liesch et al., 2011b), upper echelons theory (Hambrick, 2007; Hambrick & Mason, 1984) provides a team-level perspective for examining the role of management in driving firm-level outcomes, such as firm internationalisation. As a key point of difference, upper echelons theory is underpinned by the notion that "study of an entire team increases the potential strength of the theory to predict, because the chief executive shares tasks and, to some extent, power with other team members" (Hambrick & Mason,

1984, p. 196). Although application of upper echelons theory does not strictly require a TMT-level focus, a group-level focus is argued to yield better explanations of the role of management in determining firm-level outcomes (Hambrick, 2007, p. 334).

Upper echelons theory is built upon the behavioural theory of the firm which argues that the rationality of strategic decision-making is bound by limitations to managerial cognitive ability and the availability of information (Cyert & March, 1992; March & Simon, 1958). This notion of limited human cognitive ability is particularly relevant in the context of top-level managerial decision-making, as senior executives must process, interpret, and understand large amounts of stimuli which are often complex and/or ambiguous (Starbuck & Milliken, 1988). Upper echelons theory builds on this and contends that organisational strategy is heavily influenced by the values and cognitive bases of powerful actors within the firm, usually the Chief Executive Officer (CEO) or TMT (Hambrick, 2007; Hambrick & Mason, 1984).

Because managers are cognitively incapable of fully capturing the complexity of problems faced by their organisations, they must rely on simplified mental models which are able to capture main features of the problem, but not all of its intricacies (March & Simon, 1958). In doing so, managers simplify their decision-making processes by utilising existing cognitive schemas and structures (Shaw, 1990).When approaching new problems, decision makers have pre-existing sets of "givens" which they apply. These givens can include assumptions of future events, awareness or conception of alternatives, and the knowledge of the consequences for each alternative solution (March & Simon, 1958). Decision makers draw on existing knowledge and previous experiences when constructing these heuristics and schemas, meaning that strategists from different backgrounds will attend to different aspects of a problem and react to them in different ways (Schwenk, 1988).

The way in which top managers perceive and interpret their environment and make decisions has been described as a sequential process by Hambrick and Snow (1977). They highlighted that a manager's field of vision is limited to those areas where his or her focus is directed. These perceptions then face further limitations and potential distortions as the manager selectively perceives only a fraction of the stimuli in his or her field of vision. Finally, the manager interprets and perceives information based on his or her values and cognitive bases. A graphical representation of this process was later provided by Hambrick and Mason (1984, p. 195) (see Figure 2.1 below). Following this, the potential relationships between TMT characteristics and firm internationalisation are presented and explained from various theoretical perspectives.



Source: Hambrick and Mason (1984, p. 195)

Figure 2.1: Strategic Choice under Conditions of Bounded Rationality

TMT Characteristics as Antecedents of Firm Internationalisation

> *"Changes in the composition of the top management team can cause significant changes in the approach to internationalization based on individuals' networks, knowledge, information, and attitudes"* (Liesch et al., 2002, p. 25)

Upper echelons theory suggests that firm-level performance and strategy outcomes may be a reflection of the *TMT's characteristics*, which may inform the team members' values and cognitive base (Hambrick & Mason, 1984). Based on this, a substantial body of literature has emerged examining the relationships between TMT characteristics and firm-level outcomes. At a general level, the TMT literature can be separated into two major streams: 1) those which examine the relationship between TMT characteristics, relationships, and outcomes; and 2) those which investigate the consequences of team processes (Simsek et al., 2005). The first stream has linked TMT characteristics to a range of firm-level outcomes, such as strategic change (Naranjo-Gil, Hartmann, & Maas, 2008), competitive moves (Hambrick, Cho, & Chen, 1996), firm performance (Cannella et al., 2008), and internationalisation (Lee & Park, 2006).

Examination of purely demographic TMT variables, however, has received criticism, as it leaves additional, critical theoretical concepts unmeasured (Simsek et al., 2005). Acknowledging this, the second stream of TMT literature investigates the 'fine-grained' aspects of team processes (Simsek et al., 2005), including: conflict (Amason & Sapienza, 1997; Olson, Parayitam, & Bao, 2007); debate (Simons, Pelled, & Smith, 1999); social cohesion (Michel & Hambrick, 1992); and behavioural integration (Carmeli & Halevi, 2009; Carmeli & Schaubroeck, 2006; Lubatkin et al., 2006; On, Liang , Priem, & Shaffer, 2013; Raes, Bruch, & De Jong, 2013; Simsek et al., 2005).

When examining the relationships between TMT characteristics and firm internationalisation, however, the literature has tended to focus its examination on only a narrow range of TMT characteristics. Ideally, examination of the composition of a TMT should take into account: the characteristics and diversity of the members themselves (Homberg & Bui, 2013; Hutzschenreuter & Horstkotte, 2013; Nielsen & Nielsen, 2013; Wei & Wu, 2013), the relationships of the TMT members (Atuahene-Gima & Murray, 2007; Collins & Clark, 2003; Geletkanycz & Hambrick, 1997; Reagans et al., 2004), and the team's processes (Carmeli & Halevi, 2009; Carmeli & Shteigman, 2010; Lubatkin et al., 2006; Raes et al., 2013; Simsek et al., 2005).

Extending current understanding, this study examines the relationships between a broader range of TMT characteristics and firm internationalisation than has been examined to date. Based on upper echelons theory (Hambrick, 2007; Hambrick & Mason, 1984), human capital theory (Becker, 1962; Strober, 1990), and social capital theory (Inkpen & Tsang, 2005), the TMT characteristics examined in the current study are: the proportion of TMT members with international experience; the geographic scope of TMT international experience; TMT nationality diversity; the proportion of TMT members with a tertiary education; TMT intra-firm relationships; TMT intra-industry relationships; TMT extra-industry relationships; and TMT behavioural integration. The relationship between each of these TMT characteristics and firm internationalisation will be addressed below.

TMT international experience and firm internationalisation

> *"International experience might be useful to expand abroad since having experience doing business in foreign countries results in unique knowledge that enables a manager to better understand different local markets and to make sound managerial decisions"* (Rivas, 2012, p. 549)

International experience, which can be held by actors at various levels of an organisation, has been argued to play a leading role in driving firm internationalisation (Clarke, Tamaschke, & Liesch, 2013). There are many ways of measuring international experience (Clarke et al., 2013). At the TMT-level, previous studies have examined the: proportion of TMT members with previous international experience (Nielsen & Nielsen, 2011); average years of international experience (Sambharya, 1996); and the intra-personal diversity of international experience possessed by each TMT member (Greve et al., 2009). Of these alternatives, however, the most common measure is the proportion of team members who have previous work experience outside their domestic market (Hutzschenreuter & Horstkotte, 2013; Nielsen & Nielsen, 2011; Nielsen, 2010b; Rivas, 2012; Sambharya, 1996). Indeed, when a large proportion of TMT members possess international experience, that experience is increasingly likely to inform the team's dominant logic and influence firm-level outcomes. This is the conceptualisation of TMT international experience adopted in the current study.

Clarke et al. (2013) called for researchers to consider whether acquiring managers with pre-existing international experience could be used as an efficient way for firms to increase their existing stock of international experience. Although literature has only recently begun examining the role of TMTs in driving firm internationalisation (Nielsen, 2010b), the importance of TMT international experience in this context has gained considerable acceptance (Rivas, 2012). Throughout the literature, three key explanations of how TMT international experience drives firm internationalisation are presented. Namely, being led by an internationally experienced TMT is said to facilitate firm internationalisation because international experience provides the TMT with: 1) *skills and abilities* which enable the identification of foreign opportunities; 2) valuable *social networks* which provide timely

information about the global market place; and 3) an *international orientation* / *global mindset*.

Human capital theory (Becker, 1962) can be used to explain how TMT international experience provides skills and abilities that may lead to increased firm internationalisation. Human capital includes "the collective knowledge, skills, abilities, expertise, experiences, competency or capability of employees within a firm that are valuable and unique" (Ling & Jaw, 2006, p. 381). While firms may experience difficulties in identifying and rewarding the international human capital derived from international experience, it can provide management with valuable skills and knowledge which can be used to benefit their organisation (Benson & Pattie, 2008). International experience can provide managers with valuable: *Skills* such as cross-cultural adaptability (Chang, Yuan, & Chuang, 2013); *knowledge* of foreign opportunities (Tihany et al., 2000); and the *ability* to better cope with the challenges of internationalisation (Hutzschenreuter & Horstkotte, 2013). From this, "each TMT may be envisioned as a self-contained international business advice network", whereby internationalisation decisions are improved when the network can draw upon larger amounts of internationalisation experience (Athanassiou & Nigh, 2002, p. 162). The skills, knowledge, and abilities gained through international experience may encourage the TMT to pursue higher degrees of firm internationalisation.

While working internationally, managers are also able to develop relationships with contacts in the foreign market (Welch, Steen, & Tahvanainen, 2009). Social capital theory (Dyer & Singh, 1998; Nahapiet & Ghoshal, 1998) explains the benefits of such relationships. Social capital refers to the benefits derived by an actor from his or her social structures, which can be an important resource for social action (Nahapiet & Ghoshal, 1998). From this, social capital can be defined as "the aggregate of resources embedded within, available through, and derived from the network of relationships possessed by an individual" (Inkpen

& Tsang, 2005, p. 151). For TMTs, social relationships provide timely information about the external business environment and the internal workings of the firm (Collins & Clark, 2003). For instance, Ellis (2011) argued that the international opportunities that are identified through social ties are considered to be more important and account for greater sales volumes, than those that are identified via other means. Relationships can also play an important role in reducing a *firm's liabilities of outsidership*, thus removing some of the key barriers to firm internationalisation (Johanson & Vahlne, 2009). By providing greater awareness of attractive international opportunities (Ellis, 2011) and benefits of *insidership* (Johanson & Vahlne, 2009), the relationships possessed by TMT members could potentially entice management into pursuing firm internationalisation.

Finally, research has found that the experiences gained throughout a manager's career influence his or her managerial orientation and strategy selection (Gunz & Jalland, 1996). Thus, when a large proportion of TMT members possess international experience, it can instil an *international orientation* within the TMT (Herrmann & Datta, 2005; Nielsen & Nielsen, 2011). This has also been referred to as a *global mindset* (Hutzschenreuter & Horstkotte, 2013). In either case, it is generally argued that international experience provides management with a favourable disposition towards internationalisation, due to reduced perceptions of risk associated with foreign expansion and confidence in their ability to cope with the challenges it brings (Nielsen & Nielsen, 2011; Sambharya, 1996). It should, however, be noted that although international experience may result in "perceptions of lowered uncertainty and risk, and elevated confidence levels, a reverse outcome is possible" (Liesch et al., 2011b, p. 860). If the international experience confuses a TMT member, or is associated with negative outcomes, it may in fact constrain firm internationalisation.

That being said, the majority of TMT literature has supported the positive effects that international experience can have on firm internationalisation (Rivas, 2012). From this, TMT

international experience is expected to provide the team with a positive disposition towards international opportunities and play a considerable role in determining the extent to which management pursues internationalisation. For instance, the U-model of internationalisation presents uncertainty and risk as factors which can slow a firm's internationalisation (Johanson & Vahlne, 1978). Managers with a positive disposition towards internationalisation are likely to perceive less uncertainty and risk. Therefore, the international experience possessed by "management teams may have a strong effect on internationalization" (Johanson & Vahlne, 2009).

From the above arguments, it can be concluded that the proportion of TMT members with international experience will be positively associated with firm internationalisation. Therefore, the first hypothesis of this study is:

> **Hypothesis 1a:** The proportion of TMT members with international experience is positively related to firm internationalisation.

In addition to the proportion of TMT members with international experience, the geographic scope of the TMT's international experience may also be related to firm internationalisation. Greater geographic scope of international experience refers to the number of countries in which the experience has been developed and can reflect a greater variety of experience (Clarke et al., 2013). This geographic scope may, then, result in the TMT's international experience being less location bound. *Location boundness* can be defined as the extent to which the benefits of experience "decay in value across space" (Rugman & Verbeke, 2008, p. 330). If TMT international experience is highly location bound, it may constrain the TMT's perception of the global marketplace and may not encourage the firm to enter into additional foreign markets. In comparison, *individual* TMT members who have gained international experience across a broad spectrum of countries may not possess

"deep-level country-specific knowledge of certain foreign markets, but instead are likely to offer a seasoned perspective on the global marketplace attained through many years of international experience from various countries and cultural areas" (Greve et al., 2009, p. 215). Extending this logic to the *team level*, it is possible that when TMT members collectively possess experience across multiple geographic regions, then that experience will be valuable across a broader range of potential foreign markets and drive firm internationalisation. Therefore, the second hypothesis of this study is:

> **Hypothesis 1b:** The geographic scope of TMT international experience is positively related to firm internationalisation.

TMT nationality diversity and firm internationalisation

> *"Nationality diversity may permit valuable knowledge of formal and informal institutions of different countries to be integrated into strategic decisions; it may also be a source of reducing the information-processing costs of globalization"* (Nielsen & Nielsen, 2013, p. 376)

From an upper echelons perspective, "for any variable that influences an individual's strategic choice, it can be said that the range of group scores on that variable also influences strategic choice" (Hambrick & Mason, 1984, p. 203). Consequently, a considerable amount of attention has been paid to the influence of TMT diversity on firm-level outcomes (Homberg & Bui, 2013). From this, it has been found that diversity should not be treated as a generic or unidimensional concept (Nielsen & Nielsen, 2013). Instead, different aspects of TMT diversity influence various team- and firm-level outcomes (Homberg & Bui, 2013), suggesting that the effect of specific forms of diversity on firm outcomes are context-dependent (Wei & Wu, 2013). For instance, TMT nationality diversity has been argued to be particularly valuable within the context of IB and firm internationalisation (Kaczmarek &

Ruigrok, 2013; Nielsen & Nielsen, 2013). The effects of TMT nationality diversity, however, are yet to be extensively examined. This has resulted in TMT nationality diversity being identified as "a timely, yet under-researched aspect of TMT composition that captures the variety in institutionally embedded experiences of the team members" (Nielsen & Nielsen, 2013).

To date, the TMT diversity literature has produced inconsistent and mixed findings, leading to team diversity being referred to as a *double-edged sword* (Homberg & Bui, 2013; Li, 2013; Wu, Wei, & Liang, 2011). This concept was articulated by Milliken and Martins (1996, p. 403), who explained that "diversity appears to be a double-edged sword, increasing the opportunity for creativity as well as the likelihood that group members will be dissatisfied and fail to identify with the group". Commonly, the positive and negative outcomes of TMT diversity are explained from the *information-processing*, and *similarity-attraction*, perspectives, respectively (Homberg & Bui, 2013; Horwitz & Horwitz, 2007; Wei & Wu, 2013).

The information-processing perspective underlines the potential benefits that can be derived from TMT diversity (van Knippenberg, De Dreu, & Homan, 2004). This perspective emphasises informational diversity, which refers to "differences in knowledge cases and perspectives that members bring to the group" (Jehn, Northcraft, & Neale, 1999, p. 743). Increased diversity, therefore, enables the team to draw upon a greater stock of information and a broader range of perspectives when assessing the business environment (Homberg & Bui, 2013). This gives rise to a range of positive outcomes, including: a broader set of cognitive perspectives (Lee & Park, 2006); increased problem solving capacity (Hoffman & Maier, 1961); generation of a broader set of solutions (Bantel & Jackson, 1989); and deeper discussion and debate of alternatives (Cosier & Rose, 1977). From this perspective, increased TMT nationality diversity represents a valuable resource.

In contrast to the information-processing perspective, the similarity-attraction perspective (Byrne, 1971) can be used to explain the negative outcomes of team diversity. Despite this, TMT literature has been accused of ignoring the negative consequences of diversity (Barkema & Shvyrkov, 2007; Boone & Hendriks, 2009). The information-processing perspective explains that, when individuals are free to choose, they have a proclivity to interact with those whom they perceive to be more similar to themselves (Byrne, 1971). Consequently, team diversity can be detrimental to the cohesion between team members and reduce team effectiveness (Michel & Hambrick, 1992). Unintended consequences of diversity can include: restricted informal communication; reduced cohesion; restricted teamwork; and decreased overall team performance (Ancona & Caldwell, 1992; Smith et al., 1994).

For any variable on which a TMT is diverse, there is likely to be a trade-off between the information-processing, and similarity-attraction, perspectives (Homberg & Bui, 2013). The extent to which the benefits of diversity outweigh the negatives, however, is dependent on the specific variable being examined. This has led researchers to conclude that "diversity is itself diverse" (Klein & Harrison, 2007, p. 27). The most common categorisation and differentiation of diversity types in terms of positive and negative outcomes is that between *task/job-related* and *task*/*job-unrelated* diversity, respectively (Barkema & Shvyrkov, 2007; Horwitz & Horwitz, 2007; Pelled, 1996; Pelled, Eisenhardt, & Xin, 1999; Simons et al., 1999).

When a team is diverse on an attribute that is *not related to the team's task/job*, it can result in emotional/relationship conflict (De Wit & Greer, 2008). This form of conflict is destructive, targeted at the individual, and distracts attention from the team's objectives. In comparison, *task/job-related attributes* are those which contribute to the skill and knowledge set of team members and facilitate cognitive tasks at work (Pelled et al., 1999; Simons et al.,

1999). Diversity on these attributes results in task-oriented conflict, which has been found to be beneficial for strategic decision-making (Eisenhardt, Kahwajy, & Bourgeois, 1997). Task-oriented conflict arises from the identification and expression of various perceptions and opinions (Elron, 1997). This, in turn, results in debate which facilitates deeper probing of alternatives, resulting in more considered decisions (Cosier & Rose, 1977). In the context of firm internationalisation, TMT nationality diversity could be considered to fit this description, as it is argued to be a beneficial TMT trait (Kaczmarek & Ruigrok, 2013). Therefore, when TMTs are comprised of members of various nationalities, they may be able to utilise their various knowledge and perspectives, and increase their firms' degree of internationalisation.

A key consequence of increasing a TMT's nationality diversity is the bringing together of individuals from various national cultures (Nielsen & Nielsen, 2011). Indeed, the effects of culture have been a prominent focus of studies examining nationality diversity within teams (Nielsen & Nielsen, 2013). Culture has been defined as "the collective programming of the mind that distinguishes one group or category of people from another" (Hofstede, 1984, p. 51). National culture is typically ingrained in people at childhood and, once it is programmed, becomes deeply entrenched and difficult to change (Hofstede & Hofstede, 2005). It is highly pervasive and complex in that it influences every aspect of human life including, but not limited to, attitude towards time, relationships with others, perception of change, and communication style (Hall, 1976; Hofstede, 1983; Taras, Steel, & Kirkman, 2011; Taras, Steel, & Kirkman, 2012). Therefore, when considering the composition of TMTs, it is important to consider the cultural environment in which the team members spent their formative years (Hambrick, Davidson, Snell, & Snow, 1998).

A number of studies have examined the influence of national, and cultural, diversity in teams. For instance, Stahl, Maznevski, Voigt, and Jonsen (2010) conducted a meta-analysis of 108 studies examining the impact of cultural diversity. Their findings revealed that while

such diversity was positively related correlated with increased conflict and reduced social integration, it was also positively related to team creativity and team member satisfaction with the team. Elron (1997) found that national cultural diversity led to increased *task-related* conflict and improved overall team performance. More specific to firm internationalisation, Nielsen and Nielsen (2011, p. 188) suggested that multicultural teams can use their various cognitive schemas and values to "more accurately evaluate the institutional and cultural risks associated with doing business in foreign markets". These benefits could potentially make TMTs more comfortable with the idea of increased firm internationalisation.

Being a national of a particular country also provides team members with deeper understanding of, and entrenchment in, that market as compared to merely possessing international experience (Nielsen, 2010b). From this, being a national of a particular market can help to reduce the liabilities of foreignness (Zaheer, 1995; Zaheer & Mosakowski, 1997). These liabilities of foreignness arise when foreign firms are faced with competitive disadvantages compared to local firms due to: managerial unfamiliarity with the host-country environment; cultural, political and economic differences between the home- and host-country; and the added costs and challenges which arise when operating across geographic distance (Zaheer, 1995). For instance, foreign managers are more likely to lack local contacts and political influence (Zaheer & Mosakowski, 1997). Being led by a TMT that is comprised of nationals from many different countries can reduce the entry barriers to a larger number of foreign markets and thus encourage firm internationalisation.

Finally, from an upper echelons perspective, the benefits gained from team diversity are especially valuable when the firm is faced with turbulent, volatile, and discontinuous environments (Hambrick & Mason, 1984). Given the unpredictability of the current global business environment and the complexity which arises when operating across multiple countries, it is not surprising that TMT nationality diversity has been found to be particularly

beneficial for firms that undertake international activities (Kaczmarek & Ruigrok, 2013). In sum, while it is acknowledged that TMT nationality diversity is a double-edged sword, consistent with Nielsen and Nielsen (2013, p. 375), it is expected that "on balance, the benefits associated with enhanced creativity and problem solving of nationally diverse TMTs are likely to outweigh any affective costs". From this, it is expected that TMT nationality diversity will be positively associated with firm internationalisation. Thus, it is hypothesised that:

> **Hypothesis 1c:** TMT nationality diversity is positively related to firm internationalisation.

TMT education and firm internationalisation

> *"Education offers opportunities for gaining knowledge about foreign countries, including their different markets and cultures. Higher levels of education and their associated greater sociocognitive capacity should enable managerial teams to transcend ethnocentrism in their approaches to strategic decision making. Therefore, international activities should become more attractive"* (Wally & Becerra, 2001, p. 171).

Beyond managerial experience, education is another key source of managerial human capital (Strober, 1990) and one which is believed to impact firm strategy through its influence on the decision-making process (Shrader & Siegel, 2007). A number of nations have recently set targets for tertiary education attainment (Department of Industry, 2008). The Australian population is relatively well educated compared to other nations within the Organisation for Economic Co-operation and Development (Organisation for Economic Co-operation and Development, 2013). In Australia, 24% of people between 15 and 64 years of age have completed a tertiary education, which has increased from 21% in 2006 (Australian Bureau of

Statistics, 2012). To my knowledge, however, the association between the proportion of TMT members with a tertiary education and firm internationalisation has not yet been examined.

Investments made in education, either by the individual or by the firm, can be considered a human capital investment as it improves the knowledge base and cognitive skills of the manager (Becker, 1964). Specifically, tertiary education can improve managerial autonomy, intellectual ability, and critical reasoning skills (Watty, 2006). Tertiary education is generally comprised of two separate, but interlinked, components. Students acquire skills specific to their discipline (i.e., Commerce, Engineering, and Medicine), and also broader 'life skills' which are applicable and valuable across disciplines. These broader competencies can include "problem identification and problem solving, rational analysis of decisions, recognition of external factors that facilitate or constrain decision-making, and written and verbal communication skills" (Stewart, 2010, p. 248).

Hambrick and Mason (1984, p. 200) suggested that "to some degree, education indicates a person's knowledge and skill base" and can provide some insight into management's socioeconomic grouping and interorganisational ties. If it is assumed that increased levels of TMT education implies greater cognitive abilities, it follows that such education would better enable team members to effectively assess the business environment, clearly articulate opportunities, and generate a breadth of creative solutions to pursue those opportunities (Bantel & Jackson, 1989). This is important for firm internationalisation as attainment of additional education can bring with it increases in openmindedness, information-processing abilities, cognitive flexibility, and receptivity to change (Herrmann & Datta, 2005; Wiersema & Bantel, 1992). Furthermore, formal education can expose managers to a broader range of knowledge about foreign markets, potentially reducing the uncertainties typically associated with internationalisation and resulting in a favourable perception of

foreign opportunities (Wally & Becerra, 2001). Therefore, based on arguments derived from human capital theory, it is hypothesised that:

> **Hypothesis 1d:** The proportion of TMT members with a tertiary education is positively related to firm internationalisation.

TMT relationships and firm internationalisation

> *"[T]he systems of relationships top managers have with employees and other actors outside of their organization, are a chief source of timely and relevant information on the state of both the external environment and the organization"* (Collins & Clark, 2003, p. 740)

The human capital possessed by TMT members is not the sole source of information and knowledge available to them. While composing a TMT with highly experienced and educated members is an important way to ensure that the team has access to a wide range of information and perspectives, an additional path to achieving this goal is to capitalise on the relationships held by each member (Reagans et al., 2004). From this perspective, when examining TMTs, it is important to take into consideration not only *who executives are* but also *whom executives know* (Young, 2005). The relationships held by TMT members can be labelled intra-firm (within the same firm as the TMT), intra-industry (external to the firm, but within the same industry), or extra-industry (in an industry other than that of the focal firm), depending on where the other party is located (Atuahene-Gima & Murray, 2007; Collins & Clark, 2003). Each of these types of TMT relationships can provide different, but complimentary, capabilities (Atuahene-Gima & Murray, 2007; Collins & Clark, 2003; Reagans & McEvily, 2003) which may facilitate firm internationalisation.

According to Johanson and Vahlne (2009), the global marketplace is increasingly comprised of complex networks of relationships and being an *insider* to relevant networks is

a requisite for successful internationalisation. Based on this notion, there is substantial literature explaining the role of formal *business networks* in facilitating firm internationalisation (Fletcher, 2008; Hitt, Lee, & Yucel, 2002; Johanson & Vahlne, 1992, 2003, 2006, 2009; Solberg & Durrieu, 2006). According to Ellis (2011), however, when researchers are interested in management's ability to identify and pursue international opportunities, they should focus their analysis on the more informal *social relationships* held by the managers themselves. As such, another stream of literature has investigated the influence that the personal relationships of senior managers can have on firm internationalisation outcomes (e.g., Freeman & Cavusgil, 2007; Loane & Bell, 2006; Manolova, Manev, & Gyoshev, 2010; Mort & Weerawardena, 2006; Zhou, Wu, & Luo, 2007). These studies, however, have typically been focussed on *single* entrepreneurial managers of small international businesses, rather than TMTs.

The limited literature that has investigated the influence of *TMT* social networks, relationships, and ties has suggested that the social capital possessed by individual TMT members can be combined and aggregated to the team level. Following this approach, TMT relationships have been found to influence the firm's explorative and exploitative learning (Atuahene-Gima & Murray, 2007), strategic decisions (Geletkanycz & Hambrick, 1997), and performance (Collins & Clark, 2003). To my knowledge, however, there is an absence of literature examining the effects of social relationships at the TMT level on firm internationalisation. This study seeks to address this gap in our current understanding.

As noted above, social capital theory (Nahapiet & Ghoshal, 1998) explains how TMTs can utilise their relationships to pursue higher degrees of firm internationalisation. Social capital is comprised of numerous, multifaceted dimensions (Lee, 2009), which can broadly be categorised into structural, relational, and cognitive components of social capital (Nahapiet & Ghoshal, 1998). Because the current study focusses specifically on the relationships between

individual TMT members and other parties, rather than their network as a whole, it is the relational component of social capital that is of particular relevance. Brunie (2009, p. 253) argued that relational social capital can be derived at the individual level and is "the product of an intentional investment in relationships with others, and its utility lies in the differential access to resources it provides to actors". Therefore, TMT relationships are expected to provide more relational capital when the TMT members have close contact with the other actors, invest resources into maintaining and strengthening the relationships, and learn substantially from the relationships (Atuahene-Gima & Murray, 2007).

Strong TMT *intra-firm relationships* can facilitate the flow of information within the firm (Collins & Clark, 2003, p. 741). Any resources which can enhance information flow are particularly valuable for firm internationalisation. The increased complexity and costs associated with coordinating and controlling activities across geographically diverse locations can place downward pressure on firm financial performance (Geringer, Beamish, & daCosta, 1989). This, in turn, may discourage firms from pursuing higher levels of internationalisation. The presence of strong intra-firm relationship can enhance the acquisition and subsequent transfer of knowledge and increase the ease of controlling and coordinating activities within the organisation (Taylor, 2007). This highlights that strong intra-firm relationships can reduce some of the key challenges and deterrents associated with firm internationalisation. Furthermore, strong TMT intra-firm relationships can "provide opportunities to exploit information their firm already holds" (Collins & Clark, 2003, p. 741). Exploitation of internally held ownership advantages has been identified as a prominent motive of international expansion (Dunning, 1988). From this, strong intra-firm relationships may encourage TMTs to increase their firm's degree of internationalisation.

TMT members also often have intra-industry and extra-industry relationships with actors outside of their firm. A clear differentiation of the value provided by these relationship

types is provided by Atuahene-Gima and Murray (2007). Executives within the same industry are familiar with industry-specific opportunities and threats and are likely to possess knowledge regarding appropriate responses to handle them. Executives from other industries are more likely to utilise dissimilar mental models and provide access to a greater range of non-redundant information, which can be valuable for exploration activities. In either case, TMT external relationships represent a source of information and resources that could potentially be used to increase firm internationalisation (Kotabe, Jiang, & Murray, 2011). For instance, after noting that "the question of how international opportunities are identified remains under-explored", Ellis (2011, p. 101) revealed that the social ties of senior management provide information and resources that are valuable in identifying new international opportunities. Once the TMT has seized these opportunities and entered new foreign markets, the capital gained from TMT relationships continues to be beneficial for the ongoing expansion into that market (Freeman & Cavusgil, 2007). As noted above, managerial uncertainty and insufficient knowledge are considered barriers to firm internationalisation (Johanson & Vahlne, 1978). By revealing international opportunities and reducing the uncertainty associated with foreign markets, TMT external relationships may be an important precursor to firm internationalisation.

In sum, TMT intra-firm, intra-industry, and extra-industry relationships may each provide TMTs with the relational capital necessary for increasing firm internationalisation. From this, it is hypothesised that:

Hypothesis 1e: The extent of TMT intra-firm relationships is positively related to firm internationalisation.

Hypothesis 1f: The extent of TMT intra-industry relationships is positively related to firm internationalisation.

Hypothesis 1g: The extent of TMT extra-industry relationships is positively related to firm internationalisation.

TMT behavioural integration and firm internationalisation

As noted earlier, a central implication of upper echelons theory is that researchers will be well served by focussing on the characteristics of a firm's TMT, rather than the individual top executive (e.g CEO) alone (Hambrick & Mason, 1984). Due to the complexity of organisational leadership, CEOs are expected to share the burden of strategic decision making with the entire TMT (Hambrick, 2007). This, however, assumes that there is at least some communication and cooperation amongst the TMT members. In response to this, Hambrick (1994) proposed a meta-construct, labelled *behavioural integration*, which captures both the social and task processes often emphasised in the literature. Behavioural integration comprises a team's level of collaborative behaviour, information exchange, and joint decision-making (Simsek et al., 2005, p. 69). Accordingly, TMT behavioural integration represents "an all-inclusive TMT process construct" (Lubatkin et al., 2006, p. 647), which has been found to influence a range of firm-level outcomes (Carmeli & Halevi, 2009; Carmeli & Schaubroeck, 2006; Lubatkin et al., 2006; On et al., 2013; Raes et al., 2013).

TMT behavioural integration remains a relatively new construct and one which was not fully operationalised until recently (Simsek et al., 2005). An emerging body of literature has begun to examine the influence of TMT behavioural integration on outcomes, including: organisational decline (Carmeli & Schaubroeck, 2006); organisational ambidexterity (Carmeli & Halevi, 2009); employee work outcomes (Raes et al., 2013); and international joint venture performance (On et al., 2013). To my knowledge, however, there is no empirical research examining the relationship between TMT behavioural integration and firm internationalisation.

Although the literature is yet to examine the relationship between TMT behavioural integration and firm internationalisation, there are strong theoretical arguments as to why a relationship would exist between these two variables. For example, increasing levels of firm internationalisation heightens the complexity faced by managers as it exposes the TMT to a broader range of novel and unfamiliar environments. Effective team processes are particularly valuable within such environments as they necessitate improved information exchange and the combination of various thought processes, which can help navigate such novelty (Marks, Mathieu, & Zaccaro, 2000). Of particular importance to firm internationalisation, TMT behavioural integration has been found to improve firm strategic ambidexterity, whereby the firm is able to simultaneously exploit existing competencies while exploring new opportunities (Lubatkin et al., 2006). As discussed earlier, Dunning's (1988, 2001, 2009) eclectic paradigm emphasises exploitation of ownership advantages and exploration for location advantages as the initiators of firm internationalisation. Therefore, it is hypothesised that:

> **Hypothesis 1h:** TMT behavioural integration is positively related to firm internationalisation.

In sum, hypotheses 1a-1h seek to address Research Question One: "*What TMT characteristics are associated with firm internationalisation?"* These hypothesised relationships are summarised in Figure 2.2 below. Following this, the potential mediating role of competence of the TMT on each of these relationships is discussed.

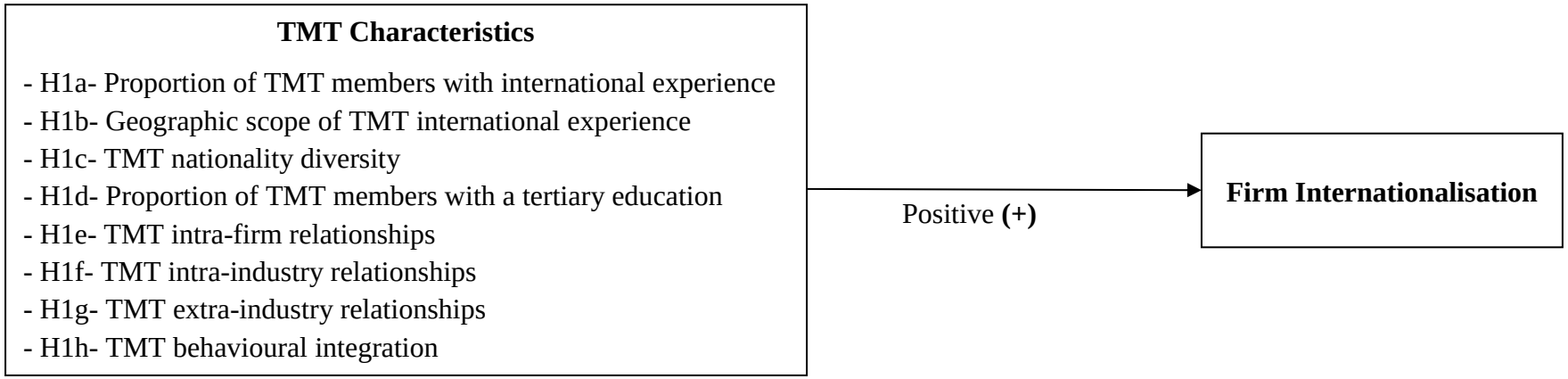


Figure 2.2: Hypothesised Relationships between TMT Characteristics and Firm Internationalisation

The Mediating Role of the Competence of the TMT

> *"Future research on TMTs needs to identify important intervening processes that can mediate the relationship between TMT characteristics and internationalization"* (Lee & Park, 2006, p. 196)

Most business theories suggest mediated relationships, whereby the effect of an independent variable (IV) on a dependent variable (DV) is transmitted via a mediator variable (MacKinnon et al., 2012). Upper echelons theory is no exception to this (Hambrick, 2007). Empirical research seeking to identify mediating variables, however, remains rare within the TMT literature (Talke et al., 2010). This has been widely referred to as the *black box problem* (Carmeli & Halevi, 2009; Hambrick, 2007). Indeed, when seeking to contribute to the IB upper echelons literature, it has been argued that "the search for moderating and mediating variables represents a step in the right direction" (Kaczmarek & Ruigrok, 2013, p. 514).

The majority of TMT literature, to date, has focussed on those easily measurable TMT variables which can be found in publicly available data sources (Carmeli, Tishler, & Edmondson, 2012). This is perhaps because obtaining information directly relating to the TMT's underlying values, preferences, cognitive bases, and capabilities would require an increased level of participation from senior business executives. These individuals are generally difficult to collect data from (Hambrick, 2007). Although Hambrick and Mason (1984) initially encouraged the use of TMT characteristics in upper echelons research, these characteristics may not be automatically translated into the TMT's cognitive frames and preferences. Therefore, it is argued that any relationship between such TMT characteristics and firm-level outcomes is likely to be indirect, with more proximal TMT-variables playing a mediating role (Wood & Michalisin, 2010).

TMT outcomes may act as the mechanism through which TMT characteristics affect firm-level outcomes. A number of TMT outcomes have been proposed as potential mediators. For example, the effects of TMT behavioural integration on firm-level outcomes have been found to be mediated via various TMT outcomes, including: the perceived quality of strategic decisions (Carmeli & Schaubroeck, 2006), TMT behavioural complexity (Carmeli & Halevi, 2009), ambidextrous orientation (Lubatkin et al., 2006), and TMT potency (Carmeli et al., 2011). Each of these examples has demonstrated the indirect relationship between TMT characteristics and firm-level outcomes. That being said, because these mediated relationships represent an emerging research stream (Talke et al., 2010), a number of potential mediators, such as competence of the TMT, remain unexamined.

Arguably, each of the TMT characteristics, relationships, and processes examined in this study should lead to the development of the competence of the TMT. Competence of the TMT is defined as a combination of *environment scanning capabilities* and *resilience when faced with challenges*. As such, the competence of the TMT is likely to play a central role in driving a firm's global initiatives (Ling & Jaw, 2006) and may drive firm internationalisation (Knight & Kim, 2009). IB upper echelons literature, however, is yet to extensively examine the mediating role of TMT outcomes, such as the competence of the TMT, on the relationship between TMT-level characteristics and firm-level outcomes. One reason for this is that "the ability of the top management team to deal with the challenges of firm international operations and make sound managerial decisions is a latent construct, which is not directly observable and therefore difficult to measure" (Nielsen, 2010b, p. 187). As a result, to my knowledge, the current study is the first to address this problem by empirically examining whether the competence of the TMT mediates the relationships between each of the above mentioned TMT characteristics and firm internationalisation. The theoretical arguments for these indirect effects are outlined below.

The competence of the TMT and firm internationalisation

Prior TMT research within the IB field has examined the association between firm international activities and antecedent TMT characteristics (Athanassiou & Roth, 2006; Lee & Park, 2006, 2008; Nielsen, 2010b; Sambharya, 1996; Tihany et al., 2000; Wally & Becerra, 2001). It is possible, however, that it is the competence of the TMT which potentially results from such characteristics, rather than the characteristics themselves, that drives firm internationalisation. This logic is best explained by disaggregating the competence of the TMT and explaining how it may both *encourage* and *enable* firm internationalisation.

Competent TMTs are able to absorb worldwide information and identify international opportunities (Ling & Jaw, 2006). From an IE theory perspective, a key driver of firm internationalisation is the ability of management to identify and pursue opportunities, wherever they may be in the world (Andersson, 2011). This perspective views firm internationalisation as an entrepreneurial process (Schweizer, Vahlne, & Johanson, 2010). In fact, cognitive characteristics of managers, and the resulting consequences for firm internationalising, has been a topic of central focus within the IE literature (Jones et al., 2011). For instance, Oviatt and McDougall (2005) noted that the global business environment consists of: foreign opportunities; technology which enables firms to pursue these opportunities; and competitive pressures motivating them to do so. They concluded, however, that it is the way in which managers perceived these external conditions which ultimately determines the firm's internationalisation. Therefore, from an IE perspective, a TMT which is able to scan the global business environment and perceive foreign opportunities is an important precursor of firm internationalisation.

While the TMT's ability to effectively scan its external environment and identify potentially lucrative opportunities is important, this alone is not sufficient to drive firm internationalisation. The U-model of internationalisation suggests that firm

internationalisation progresses only through the acquisition of knowledge about foreign markets, which can be gained via experience (Johanson & Vahlne, 1992). It is, however, not the knowledge itself which influences firm internationalisation, but rather the way in which it is integrated and used throughout the decision-making process (Johanson & Vahlne, 1977). Therefore, it is the capabilities and competence that experiential knowledge brings with it that is valuable, not the knowledge per se. This was explained by Johanson and Vahlne (2009, p. 1421) who suggested that such knowledge encourages management to pursue internationalisation because it "instils in them greater confidence in their ability to cope with psychic distance". From this, it can be seen that resilience to cope with the added complexity and challenges of internationalisation may enable and encourage firms to expand into foreign markets.

Drawing on upper echelons theory, IE theory, and the U-model perspective of internationalisation, it is the contention of this study that competence of the TMT is a mediator of the relationships between TMT characteristics and firm internationalisation. It is through increases to the competence of the TMT that the TMT characteristics may *indirectly* drive firm internationalisation. Each of these mediated relationships will be discussed below.

TMT international experience and the competence of the TMT

> "*International experience enhances the collective ability of a top management team to absorb and process complex information related to internationalization. Therefore, it enables TMTs to better cope with cultural distance added per unit of time in the international expansion process"* (Hutzschenreuter & Horstkotte, 2013, p. 263)

While the association between TMT international experience and the competence of the TMT is often alluded to, it is typically assumed to be a 'given', rather than empirically

examined. Consequently, where the literature has argued that the relationship between TMT international experience and firm internationalisation is transmitted by some form of TMT competence or capabilities, it is only the direct relationship that is instead hypothesised and tested (e.g. Rivas, 2012). For instance, Athanassiou and Nigh (2002) outlined a process whereby TMT international experience influenced the construed reality of the team members, leading them to perceive better opportunities and make higher quality internationalisation decisions. This, in turn, was said to subsequently result in higher levels of firm internationalisation. This logic would suggest a mediated relationship between TMT international experience and firm internationalisation. The authors, however, instead hypothesised, and found support for, a positive relationship between TMT international experience and firm internationalisation. The mediating effect of TMT outcomes were neither hypothesised nor tested.

Similarly, Herrmann and Datta (2005, p. 70) explicitly acknowledged that the "psychological factors (beliefs, knowledge, assumptions and values) are of central significance to upper-echelons theory". While the authors conceptually linked TMT international experience to international orientation, cross-cultural awareness, and managerial competency, their empirical analysis was once again focussed on the direct relationship with firm internationalisation. Because of these omissions, when examining the role of TMTs on firm internationalisation, "the main concern is the need to access the 'black box' to better understand the intervening mechanisms between TMT characteristics and organizational outcomes" (Lee & Park, 2008, p. 963).

Once again drawing on theories of human capital (Becker, 1962; Strober, 1990) and social capital (Inkpen & Tsang, 2005), and referring back to the arguments put forth earlier in this chapter, it is argued that international experience can provide TMTs with greater business acumen, increased understanding of the global business environment (Doherty & Dickmann,

2005), and more comprehensive awareness of foreign opportunities (Tihany et al., 2000). Collectively, these outcomes would indicate increased TMT global environment scanning and resilience to global challenges, which are key components of the competence of the TMT (Ling & Jaw, 2006). It is this competence of the TMT which would then encourage the firm to achieve higher levels of internationalisation. Therefore it is hypothesised that:

Hypothesis 2a: *The competence of the TMT mediates the relationship between the proportion of TMT members with international experience and firm internationalisation.*

Similarly, the geographic scope of TMT international experience may also be indirectly related to firm internationalisation, with this effect mediated by the competence of the TMT. As noted above, the geographic scope of international experience represents the number of different countries and regions that experience has been gained in (Clarke et al., 2013). This spread of experience provides the TMT with a distinct set of benefits. For instance, when a TMT possesses greater geographic scope of international experience, the social ties gained through those experiences (Dickmann & Doherty, 2010) are more likely to be spread across a broader range of foreign locations. Given that social ties assist managers identify international opportunities (Ellis, 2011), being able to draw upon social ties that are located across a broader range of foreign markets could enhance the TMT's ability to absorb worldwide information and identify foreign opportunities.

Greater geographic scope of internationalisation experience is also expected to instil TMTs with a broader range of perspectives and approaches to dealing with strategic challenges (Athanassiou & Roth, 2006). At the TMT level, this "diversity of mindsets and experiences leads to a broader set of data sources in the information seeking process" and can improve strategic decision-making (Rivas, 2012, p. 555). Accordingly, breadth of experience

within a TMT can assist with overcoming the challenges associated with operating within unpredictable environments (Hambrick & Mason, 1984). This is particularly relevant when operating within the global business environment, where firms are often placed in non-routine situations and TMT novelty and adaptability is especially important (Sambharya, 1996). Thus, TMTs with a greater geographic scope of international experience may be better equipped to cope with hardship and deal with emergencies quickly and efficiently.

From these arguments, possessing international experience across a broader range of foreign markets is argued to enhance the competence of the TMT. Once again drawing upon the arguments outlined above, it follows that the competence of the TMT would then encourage TMTs to pursue higher levels of firm internationalisation. Therefore, it is hypothesised that:

> **Hypothesis 2b:** *The competence of the TMT mediates the relationship between the geographic scope of TMT international experience and firm internationalisation.*

TMT nationality diversity and the competence of the TMT

> *"TMT nationality diversity is best utilized when companies face serious challenges in the internationalization process, i.e. when their exposure in terms of revenues and assets to foreign markets and their institutional environments is high. In such cases, nationally diverse TMTs can serve as conduits of cultural awareness and knowledge, and in consequence facilitate the necessary processes of organizational learning and adaptation"* (Kaczmarek & Ruigrok, 2013, p. 528)

The theoretical arguments for proposing a relationship between TMT nationality diversity and the competence of the TMT are similar to those presented above when proposing a relationship between TMT international experience and the competence of the

TMT. It is important, however, to note that while the advantages of these two variables are similar (Nielsen, 2010b), they are not identical (Kaczmarek & Ruigrok, 2013; Nielsen & Nielsen, 2011).

As noted earlier, the role of national culture has been a prominent focus within literature investigating multinational teams (Nielsen & Nielsen, 2013). In a world where managers were not faced with cultural differences between nations, "standard, culture-free business practices would eventually emerge, and inefficiencies and complexities associated with divergent beliefs and practices in the past era would disappear" (Leung, Bhagat, Buchan, Erez, & Gibson, 2005, p. 358). Alas, culture remains a considerable challenge for management as they seek to operate competently within the global business environment. Indeed, business systems, structures, and management processes also differ depending on the national context (Athanassiou & Roth, 2006; Crossland & Hambrick, 2007, 2011). Because culture and various aspects of the national context are instilled within an individual at a young age, and continuously reinforced throughout their development (Hambrick et al., 1998), foreign natives possess "natural advantages in processing information pertaining to their home countries and in finding solutions that improve information processing" (Luo, 2005, p. 34). These advantages make TMT members acutely aware of opportunities and challenges in their home nation. When a TMT is comprised of members from a broader range of nationalities, their global environment scanning abilities should improve.

TMT nationality diversity may also enhance the TMT's ability to cope with hardship and effectively deal with challenges. For instance, many of the challenges of firm internationalisation can be categorised as liabilities of foreignness (Zaheer & Mosakowski, 1997). Being a national of a particular country allows TMT members to overcome many of these challenges. As noted earlier, nationality diversity also brings with it different approaches to the decision-making process itself (Kirkman, Lowe, & Gibson, 2006). This

holds true for the strategic decision-making conducted by the management of internationalised firms (Dimitratos, Petrou, Plakoyiannaki, & Johnson, 2011). Having team members who perceive, and subsequently address, strategic problems through various approaches is likely to increase debate and improve the quality of decision reached (Hambrick et al., 1996). This is particularly important in regards to international strategic decision-making, which is notoriously complex and non-routine (Kaczmarek & Ruigrok, 2013). In cases such as this, in which "strategic decision making is a task characterised by high complexity, uncertainty, and lack of routines, nationality diversity is likely to improve the comprehensiveness and quality of TMT strategic decisions" (Nielsen & Nielsen, 2013, p. 375). Therefore, when confronted with challenges and hardship, nationally diverse TMTs may be better able to develop timely and effective responses.

In sum, higher levels of TMT nationality diversity can help overcome some of the liabilities of foreignness, provide comprehensive understanding of foreign markets and result in the adoption of more rigorous decision-making processes. These benefits could improve the competence of the TMT which, in turn, is expected to increase firm internationalisation. Therefore, it is hypothesised that:

Hypothesis 2c: Competence of the TMT mediates the relationship between TMT nationality diversity and firm internationalisation.

TMT education and the competence of the TMT

"Greater information-processing capabilities, willingness to change, and open-mindedness, which result from higher levels of educational attainment, can hasten a firm's internationalization efforts. These characteristics prepare TMT members to deal with imminent uncertainties and risks of international expansion" (Kirca, Hult, Deligonul, Perryy, & Cavusgil, 2012, p. 507)

From a theoretical perspective, education is an important source of managerial *human capital* (Becker, 1964), which can constitute a valuable *firm resource* (Barney, 1991). The mechanisms through which TMT member education affects firm internationalisation, however, have not yet been clarified. Managerial education at any level performs multiple important functions. At the tertiary level, increased education seeks to ensure students are 'work-ready', develop intellectual abilities and perspectives, improve critical reasoning skills, and enhance autonomy and integrity (Stewart, 2010; Watty, 2006). It is arguable that when a large proportion of TMT members possess these traits, the competence of the TMT may be improved and this may subsequently drive firm internationalisation.

On the other hand, Livingston (1971) casted doubt on the relationship between tertiary education and the competence of managers and instead suggested that other sources of knowledge, such as on-the-job learning, may be more conducive to manager performance than formal education. In essence, his contention was that "how effectively a manager will perform on the job cannot be predicted by the number of degrees he holds, the grades he receives in school" (p.79). Instead, it is possible that knowledge acquired through day-to-day operations, such as learning from the results of one's own actions and learning from interactions with other managers, could prove to be greater contributors to managerial development than formal education (Conant, 1996).

Within the TMT literature, however, education is typically expected to result in positive outcomes. When taken together, the benefits of TMT tertiary education can be seen to contribute to the competence of the TMT. For instance, greater levels of education may provide a TMT with the capabilities required to seek and evaluate opportunities (Herrmann & Datta, 2005). In addition to this, "a higher educational level of TMT members is likely to influence a TMT's ability to manage complexity arising from international expansion" (Hutzschenreuter & Horstkotte, 2013, p. 268). Therefore, possessing high levels of formal

education can potentially enable a TMT to both identify foreign opportunities and cope with the complexity of firm internationalisation. Further still, once the strategic decisions are made, high levels of education can also improve the implementation capabilities of the team (Bantel & Jackson, 1989). This may assist the TMT in responding quickly and efficiently to challenges that arise. Each of these skills constitutes important aspects of the competence of the TMT. The proportion of TMT members with a tertiary education is, therefore, likely to be associated with the competence of the TMT and indirectly associated with firm internationalisation. Therefore, it is hypothesised that:

Hypothesis 2d: *The competence of the TMT mediates the relationship between proportion of TMT members with a tertiary education and firm internationalisation.*

TMT relationships and the competence of the TMT

As discussed earlier, social relationships can be an important source of information for senior managers and executives (Eberhard & Craig, 2013; Ellis, 2011). The *social capital* gained from these relationships can be used to improve: managerial effectiveness (Bamel, Rangnekar, Stokes, & Rastogi, 2013); strategic flexibility (Fernández-Pérez, Verdú-Jóver, & Benitez-Amado, 2013); and international opportunity identification (Eberhard & Craig, 2013; Ellis, 2011). For these reasons, the RBV perspective of the firm views the relationships possessed by management as a valuable resource, which can provide a source of sustained competitive advantage (Barney, 1991). Building on this, TMT relationships could also be used to enhance the competence of the TMT. To my knowledge, however, these relationships are yet to be examined.

Because of their unique position at the apex of the firm, TMTs with strong intra-firm relationships "are able to affect the information flow within the organization by gathering and

redistributing information" (Collins & Clark, 2003, p. 741). When individuals have strong relationships with others from the same firm, they are better able to engage in information sharing with other employees who may be culturally or geographically distant (Taylor, 2007). When TMTs possess strong intra-firm relationships, they may therefore be better able to absorb information from various areas of the firm and coordinate the firm's efforts more efficiently. Furthermore, by accessing greater amounts of information, the TMT will be able to improve the quality of its decision-making. Supporting this, Bamel et al. (2013) found that possessing effective interpersonal relationships with others from within the firm can increase the managerial effectiveness of executives, enabling them to overcome obstacles and achieve their goals.

Having strong relationships with actors located outside the firm can also provide important benefits to TMT members, potentially increasing the competence of the TMT. For example, Fernández-Pérez et al. (2013) found that managers with large networks comprised of strong relationships achieved higher levels of strategic flexibility. Strategic flexibility refers to the ability to continuously adapt and respond to substantial changes in the business environment (Aaker & Mascarenhas, 1984). Senior managers can achieve this by using their external relationships to acquire valuable information and knowledge about the environment, which can be used to mitigate uncertainties and improve strategic decision-making (Fernández-Pérez et al., 2013). Thus, external relationships may assist TMTs to cope with hardships and respond to emergencies quickly and efficiently as they arise.

Another benefit of external relationships is the information that they can provide about opportunities in foreign markets. The exploration of international opportunities is an important component of the competence of the TMT (Ling & Jaw, 2006) and a key driver of firm internationalisation (Eberhard & Craig, 2013). As noted earlier, the opportunities that are identified through managerial social relationships are rated more importantly than those

opportunities identified via other means (Ellis, 2011). Therefore, when TMTs possess strong intra-industry and extra-industry relationships, they may be better able to absorb worldwide information and identify opportunities in foreign markets. Given that social relationships result in the identification of *high quality* international opportunities (Ellis, 2011), this may subsequently encourage the TMT to pursue higher degrees of firm internationalisation.

In sum, the information that TMTs gain from their internal and external relationships can be used to overcome hardships, deal with emergencies, and identify global opportunities. These outcomes each reflect increased competence of the TMT, which is then expected to drive firm internationalisation. From this, it is hypothesised that:

Hypothesis 2e: *Competence of the TMT mediates the relationship between TMT intra-firm relationships and firm internationalisation*.

Hypothesis 2f: *Competence of the TMT mediates the relationship between TMT intra-industry relationships and firm internationalisation*.

Hypothesis 2g: *Competence of the TMT mediates the relationship between TMT extra-industry relationships and firm internationalisation*.

TMT behavioural integration and the competence of the TMT

"[I]t is argued that behaviorally integrated TMTs are likely to produce more quality decisions than those with low behavioral integration. This is because a behaviorally integrated TMT works as a team, namely, a group of people who realize the nature of integration and the value of exploiting complementary personalities, values, skills, experience, and knowledge for making optimal strategic decisions" (Carmeli, 2008, p. 718)

Recently, increased attention has been paid to the pivotal role of TMT behavioural integration in driving various TMT-, and firm-, level outcomes (Carmeli & Halevi, 2009; Carmeli & Schaubroeck, 2006; Lubatkin et al., 2006; On et al., 2013; Raes et al., 2013). To my knowledge, however, the relationship between TMT behavioural integration and the competence of the TMT is yet to be examined. That being said, the literature provides valuable insights into how TMT behavioural integration may positively affect the competency of the TMT.

TMT behavioural integration has been found to drive organisational strategic ambidexterity, allowing firms to pursue exploration and exploitation strategies (Lubatkin et al., 2006). Within the context of firm internationalisation, exploration can be a valuable strategy for firms, as it facilitates learning and provides the firm with knowledge of foreign markets (Barkema & Drogendijk, 2007). Consequently, TMTs with higher levels of behavioural integration may be better able to *explore* the global marketplace, absorb worldwide information, and identify global business opportunities.

Arguably, TMT behavioural integration could also improve the TMT's ability to respond to emergencies quickly and efficiently. Hambrick et al. (1996) found that TMTs are slower to respond to changes in the external environment when their decision-making is hindered by conflict and information blockages. As such, when a TMT "is not a team at all, but rather a mere constellation of senior executives pursuing their own agendas, with a minimum of collaboration of exchange among them," they are less able to adapt to turbulent and competitive environments (Hambrick, 1995, p. 111). This highlights the importance of effective TMT processes in allowing the TMT to share information and rapidly respond to unexpected challenges as they arise.

Finally, TMT behavioural integration is also argued to give rise to greater TMT behavioural complexity, whereby TMTs are able to carry out a range of leadership roles and adapt their leadership roles as the organisational context changes (Carmeli & Halevi, 2009). This flexibility may enable TMTs to better respond to challenges as they arise. Indeed, empirical studies have typically found TMT behavioural integration to be associated with positive outcomes. For example, in an examination of 116 firms, Carmeli and Schaubroeck (2006) found that TMTs with high levels of behavioural integration made better quality decisions, which enabled them to mitigate organisational decline. Based on these arguments, TMT behavioural integration is expected to enable the TMT to better cope with pressure and hardship.

In sum, TMT behavioural integration is expected to increase the TMT's ability to: absorb worldwide information; identify global business opportunities; quickly and efficiently respond to challenges; and cope with pressure and hardship. Taken together, this suggests that TMT behavioural integration should be positively associated with the competence of the TMT (Ling & Jaw, 2006) and indirectly drive firm internationalisation. From this, it is hypothesised that:

Hypothesis 2h: *Competence of the TMT mediates the relationship between TMT behavioural integration and firm internationalisation*.

In sum, hypotheses 2a-2h seek to address Research Question Two: "*Does the competence of the TMT mediate the relationship between TMT characteristics and firm internationalisation".* This represents the second step in the development of the conceptual model which is presented in below in Figure 2.3 below. This is followed by a discussion of the potential financial performance outcomes of firm internationalisation.

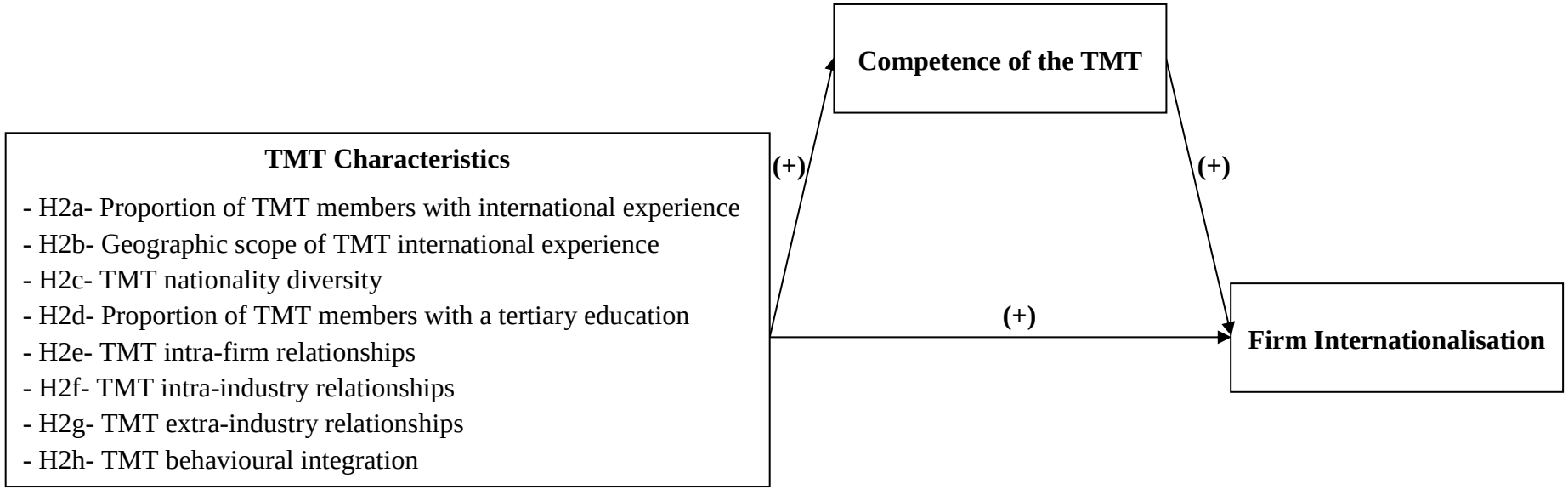


Figure 2.3: Hypothesised Mediated Relationships between TMT Characteristics and Firm Internationalisation via Competence of the TMT

The Firm Internationalisation – Firm Financial Performance Relationship

> "*The very field of international business studies rests upon the meta-hypothesis that increasing internationalisation will generally augment company profits, other things being equal*" (Contractor, 2007, p. 454)

The arguments above are based on the assumption that firm internationalisation is a desirable state for businesses and one which will be pursued by competent management. Indeed, the assumption that firm internationalisation is conducive to improved firm financial performance is the foundation of the IB field (Contractor, 2007). As such, the I/P relationship has been a topic of keen interest over the past 40 years (Glaum & Oesterle, 2007; Tsao & Lien, 2013). After more than 100 empirical investigations into the I/P relationship (Hennart, 2007), the literature is comprised of a range of inconsistent and conflicting findings (Hutzschenreuter & Horstkotte, 2013; Nielsen & Nielsen, 2010; Xiao et al., 2013). Given that "the question of how firm internationalization can be systematically related to firm performance is central to the field of international business theory and practice" (Assaf et al., 2012, p. 192), the I/P relationship remains a pertinent question for both IB researchers and practitioners (Nielsen & Nielsen, 2010). Therefore, the financial performance outcomes of firm internationalisation will be tested in the current study.

Performance has been identified as "the ultimate variable of interest for researchers concerned with just about any area of management" (Richard et al., 2009, p. 719) and within the IB field it has been labelled the "key dependent variable of interest" (Hult et al., 2008, p. 1064). Firm performance, however, is a broad and complex construct which can incorporate *financial* performance, *operational* performance, and *organisational effectiveness* (Venkatraman & Ramanujam, 1986). The challenge of capturing the full complexity of performance is exacerbated when examining international businesses (Hult et al., 2008).

When conceptualising the performance outcomes of firm internationalisation, the intended objectives of that internationalisation should be a key consideration (Hitt, Bierman, Uhlenbruck, & Shimizu, 2006a). Because the majority of IB scholars subscribe to the view that financial performance outcomes are the ultimate objectives of international businesses (Bouquet et al., 2009; Dunning & Lundan, 2008), firm financial performance will be the focus of the current study.

A summary of the literature examining the I/P relationship is presented in Table 2.1 below. As noted in the *Introduction* chapter, the literature has provided support for a range of I/P relational forms, including: positive and linear (Papadopoulos & Martin, 2010; Tsao & Chen, 2012; Tsao & Lien, 2013); negative (Chen & Tan, 2012; Lin et al., 2011); U-shaped (Assaf et al., 2012; Capar & Kotabe, 2003); inverted U-shaped (Gomes & Ramaswamy, 1999; Hitt et al., 1997; Jung & Bansal, 2009); and sigmoid (Contractor et al., 2003; Nielsen, 2010b; Xiao et al., 2013). Others have found only weak or non-significant relationships (Collins, 1990; Morck & Yeung, 1991; Singla & George, 2013; Tallman & Li, 1996). As shown below, there are numerous positive and negative outcomes associated with firm internationalisation and it is the extent to which firms experience these outcomes that determines the shape of the I/P relationship. This is discussed in detail below.

Table 2.1: Summary of Internationalisation-Performance Relationship Findings

Relationship	Explanation	Studies
Linear Positive	Firms benefit from internationalisation due to: • Economies of scale and scope; • Access to cheap and rare country resources; • Knowledge gained from foreign markets; • Exploitation of intangible resources; and • Diversification of risk and accumulation of market power	- Tsao and Lien (2013) - Tsao and Chen (2012) - Papadopoulos and Martin (2010) - Grant (1987) - Grant, Jammine, and Thomas (1988) - Daniels and Bracker (1989) - Gande, Schenzler, and Senbet (2009) - Kim, Hwang, and Burgers (1989) - Tallman and Li (1996)
Linear Negative	The benefits of internationalisation are outweighed by the associated costs • Unfamiliarity with culture and business systems; • Increased coordination costs; and • Inability to transfer resources	- Lin et al. (2011) - Chen and Tan (2012) - Michel and Shaked (1986) - Siddharthan and Lall (1982) - Click and Harrison (2000) - Denis, Denis, and Yost (2002)
U-shape	• Performance decreases initially due to liabilities of foreignness as the firm is forced to learn and adapt to new markets • Performance then improves due to learning processes allowing the firm to better capitalise on the benefits of internationalisation	- Assaf et al. (2012) - Lu and Beamish (2001) - Contractor, Kumar, and Kundu (2007) - Capar and Kotabe (2003) - Ruigrok and Wagner (2003)

(Table continues.)

(Table continued.)

Relationship	Explanation	Studies
Inverted U-shape	• Performance increases initially as the firm expands into a limited number of psychically and geographically proximal markets • Performance then declines as firms over-internationalise due to increased coordination and governance costs from entering increasing numbers of distant and unfamiliar markets	- Jung and Bansal (2009) - Geringer et al. (1989) - Gomes and Ramaswamy (1999) - Hitt et al. (1997)
Sigmoid	• Firm performance initially decreases due to liabilities of foreignness • Performance then increases as the organisation learns and capitalises on foreign opportunities • Performance plateaus and declines due to rising coordination costs	- Xiao et al. (2013) - Lu and Beamish (2004) - Nielsen (2010b) - Ruigrok et al. (2007) - Contractor et al. (2003) - Sullivan (1994a)
No Relationship	When comparing domestic and multinational firms, no significant differences in the performance of the groups were found.	- Singla and George (2013) - Collins (1990) - Morck and Yeung (1991) - Brewer (1981)

Theoretically, firm internationalisation may provide numerous benefits, potentially justifying a positive I/P relationship. Some of these benefits can be explained through the RBV perspective (Barney, 1991, 2001; Barney, Wright, & Ketchen Jr, 2001), the emergence of which has been a key development in recent IB literature (Peng, 2001). From this perspective, internationalisation allows firms to exploit their existing internal capabilities across a larger market (Dunning, 2000; Hitt et al., 1997). Once a firm has developed advantages such as propriety assets, marketing skills, and production innovations in their domestic market, these can be transferred across national borders, allowing the firm to capitalise on market imperfections (Dastidar, 2009). As noted earlier, this can be seen as capitalising on ownership advantages, under Dunning's (1981) eclectic paradigm. This allows firms to achieve economies of scale and scope through the exploitation of intangible, firm-specific assets such as advanced production techniques, brand reputation and technical 'know-how' across a global market, which can be transferred internationally at negligible costs (Grant et al., 1988).

Internationalisation can also be an effective strategy for enhancing a firm's resource composition, providing access to a range of domestically unavailable foreign resources such as production factors, human resources, and distribution facilities (Qian, Li, Li, & Qian, 2008). Firms operating internationally are able to access and then exploit sources of competitive advantage that are not available to domestic firms, due to differences in resource abundance and the presence of cheap or specialised labour supply in specific markets (Contractor et al., 2003; Thomas & Eden, 2004). This constitutes the seeking of location advantages under Dunning's (2009) eclectic paradigm.

Further, internationalisation can also enhance a firm's international knowledge resources. Due to the idiosyncratic nature of country environments, internationalisation can facilitate learning, enhance firm capabilities, and increase profits. Operating in a range of

contexts results in firms being exposed to a greater range of ideas and events (Huber, 1991). Through international expansion, firms can gain critical knowledge resources which can be transferred from foreign markets back to the home, and other, markets (Gaur & Kumar, 2009). In addition to being an important resource in itself, this knowledge can also enhance the value a company can derive from its other resources.

Beyond the capitalisation and acquisition of resources, internationalisation can also benefit firms by increasing their market power and ability to diversify risk (Siddharthan & Lall, 1982). Such market power can provide a range of benefits which allow the firm to: establish preferable industry standards; generate global brand equity; and, in extreme cases, potentially cartelise their industry to achieve super-normal profits (Contractor, 2007; Kogut, 1985). Further, global presence can allow international firms to pursue a 'cross-subsidisation' strategy whereby finances accumulated in one market can be used to gain competitive advantage in other markets (Hamel & Prahalad, 1985). As a result, international firms are able to protect themselves from the strategic initiatives of rivals, reduce the threat of new entrants into the market, and enjoy higher profits (Grant, 1987). By expanding across multiple national markets, firms can also potentially improve their risk/return performance because economic activity across markets is imperfectly correlated (Annavarjula & Beldona, 2000). This allows international firms to diversify their risk and reduce vulnerability to threats associated with political instability, fluctuating exchange rates and national disruptions (Contractor et al., 2007). Each of these arguments could support a positive I/P relationship.

There are, however, also a number of costs associated with internationalisation. As firms increase their degree of internationalisation, they experience greater transaction costs (Hitt et al., 1997). Transaction cost theory (Williamson, 1985) is focussed on the organisation of economic activity and considers the circumstances in which a particular organisational

structure will be chosen over alternative structures (Hennart, 2010). Transaction cost theory has been widely utilised when studying the economic aspects of internationalisation (Schwens & Kabst, 2009) and is primarily concerned with whether transactions can be performed more efficiently within the firm, or by external contractors (Geyskens, Steenkamp, & Kumar, 2006). From a transaction cost perspective, firms would be expected to perform better when operating in markets which are culturally similar to, and economically integrated with, their domestic market (Hennart, 2007). Acheiving high levels of internationalisation, however, often requires firms to move into a range of diverse, culturally disimilar markets (Cavusgil, 1980; Johanson & Vahlne, 1978). This can dramatically increase the cost of conducting transactions.

The aforementioned liabilities of foreingness, which place foreign firms at a disadvantage compared to native competitors (Zaheer, 1995; Zaheer & Mosakowski, 1997), can also inhibit the performance of firms as they internationalise. For example, Insch and Miller (2005) found that U.S. managers tended to stereotype countries on the basis of their similarity or disimilarity to their domestic market, discriminating against those from culturally distant markets. This potentially increases the costs of conducting transactions on an international scale. Further, when operating in psychically, culturally, institutionally, and geographically distant markets, the costs associated with firm governance rise as management require large amounts of information to efficiently direct, observe, and monitor the behaviour of their employees (Hennart, 2007). When the cost of conducting and coordinating transactions across geographically diverse units outweighs the benefits derived from international expansion, negative performance outcomes are the result (Hitt et al., 1997).

From an RBV perspective, Cuervo-Cazurra, Maloney, and Manrakhan (2007) explained that firms may lack the complementary resources required to be successful abroad, while their existing resources that provide competitive advantages in their domestic market

can lose their advantage in foreign markets. As explained earlier, in order to provide competitive advantages, resources need to be valuable, inimitable, unsubstitutable, and rare (Barney, 1991). The extent to which resources meet these criteria differs across foreign markets and, as such, the advantage they provide is context-dependent (Tallman, 1992). Resources valuable in one market may be less valuable in another due to difference in competition, business processes, and customer demands (Hu, 1995). Thus, resources providing advantage domestically may not be advantageous when transferred to foreign markets, which is referred to as *inability to tranfer advantage* by Cuervo-Cazurra et al. (2007).

In addition, some resources which serve a firm well in their domestic market may suffer *'the disadvantage of transfer'* and become liabilities when utilised in a new country (Cuervo-Cazurra et al., 2007). Nations differ significantly in terms of the industry structure and competition in which their firms learn, develop, and adapt their resources and strategy (Porter, 1990). Firms may pursue international expansion in an attempt to transfer and replicate the knoweldge internationally in order to expand their market (Kogut & Zander, 2003). Due to differences in national cultures (Hofstede, 1983), the knowledge and resulting business practices transfered across nations may be inapropriate for a given market, leading to negative reactions from employees and consumers. This can be detrimental to firm financial performance.

Consequently, the literature has found both positive (Daniels & Bracker, 1989; Gande et al., 2009; Grant, 1987; Grant et al., 1988; Kim et al., 1989; Tallman & Li, 1996) and negative I/P relationships (Click & Harrison, 2000; Denis et al., 2002; Michel & Shaked, 1986; Siddharthan & Lall, 1982). Seeking to address this inconsistency, more recent I/P studies have investigated the possibility of curvilinear relationships, arguing that the degree

of a firm's internationalisation affects the extent to which positive and negative consequences are experienced.

The curvilinear U-shaped I/P relationship purports that internationalisation initially results in negative performance consequences up to a certain point, after which further international expansion has positive performance outcomes (Capar & Kotabe, 2003; Contractor et al., 2003; Lu & Beamish, 2001). This relationship has its foundations in organisational learning theory, whereby organisational learning is comprised of the acquisition of knowledge and the impact of that knowledge on organisational routines and practices (Saka-Helmhout, 2010). In the initial stages of internationalisation, firms need to undertake a process of learning in order to adapt to foreign markets which, in turn, facilitates stronger future performance at higher levels of internationalisation (Ruigrok & Wagner, 2003). Thus, before the performance benefits of internationalisation can be experienced, firms must undergo a period of adaption and restructuring, which places downward pressure on performance. This specific form of I/P relationship has been found in studies conducted in both developed and emerging markets (Contractor et al., 2007; Lu & Beamish, 2001) and across product and service firms (Capar & Kotabe, 2003; Ruigrok & Wagner, 2003).

Another section of the IB literature purports a curvilinear, but inverted-U shaped, I/P relationship (Geringer et al., 1989; Gomes & Ramaswamy, 1999; Hitt et al., 1997). This is characterised by increased performance outcomes being associated with the initial stages of firm internationalisation before their performance plateaus and then eventually diminishes. This relationship emphasises an optimal level of internationalisation which has been labelled the 'optimal threshold' (Gomes & Ramaswamy, 1999) and the 'critical internationalisation threshold' (Geringer et al., 1989). The inverted-U shaped relationship is underpinned by transaction cost theory (Hitt, Hoskisson, & Ireland, 1994; Rugman & Verbeke, 2005). At low levels of internationalisation a firm is able to manage and coordinate its operations relatively

easily and at low cost. As firms expand into markets characterised by increased psychic and geographic distance, however, costs relating to coordination and control begin to escalate, leading to the erosion of profits and need for new structures and controls (Geringer et al., 1989). As with the I/P forms previously discussed, the inverted U-shaped relationship has also received support within the literature (Garbe & Richter, 2009; Geringer et al., 1989; Gomes & Ramaswamy, 1999; Hitt et al., 1994; Li & Qian, 2005; Qian, 2002).

Recently, an avenue of I/P investigation that has attempted to reconcile the inconsistent findings in the literature and provide a more holistic explanation has emerged (Nielsen & Nielsen, 2010). These studies have purported a 'sigmoid', or horizontal S-shaped, relationship (Contractor, Hsu, & Kundu, 2005; Contractor et al., 2003; Lu & Beamish, 2004; Sullivan, 1994b). To my knowledge, this relational form was first reported by Sullivan (1994b) who found that the I/P relationship included a 'local minima' and 'local maxima' leading to the conclusion of a more complex and dynamic I/P relationship than had previously been presented by the literature. In their study of Japanese multinationals, Lu and Beamish (2004) arrived at a similar conclusion, finding support for the horizontal S-shaped relationship. Confident of their findings, Lu and Beamish (2004, p. 606) argued that the sigmoid I/P relationship resolved much of the inconsistency in the literature and suggested future research would be well served by moving beyond measuring its form towards assessments of its moderators and boundaries.

A strong supporter of the S-shaped relationship, Contractor et al. (2007) also suggested that the seemingly contradictory results obtained in regards to the I/P relationship are not conflicting, but instead represent different stages of the sigmoid relationship. This relationship form has also been referred to as 'a three-stage theory of international expansion' and these stages were defined by Contractor (2007) as: 1) an initial negative slope in which the costs and barriers to internationalisation outweigh the benefits gained; 2) a positive slope

in which the benefits of international expansion increase and begin to outweigh the associated costs; and 3) another negative slope in which the firm expands beyond its optimal threshold of internationalisation and the costs of further expansion once again outweigh the associated benefits.

Evidence for the S-shaped I/P relationship, however, has not been conclusive. Focussing on extreme degrees of internationalisation (both high and low), Ruigrok et al. (2007) suggested that the horizontal S-shaped relationship may still be unable to capture the full complexity of the relationship. For instance, Lu and Beamish (2004) noted that stage 3 of the relationship, where the relationship is negative, can be arrested if management can learn to handle the coordination and complexity problems. This would, instead, lead to continued positive performance outcomes being associated with international expansion. Extending this logic to the initial stage of internationalisation, management may be able to avoid negative performance outcomes by undertaking extensive planning and pre-emptive adaptation to the differences across national contexts. From this, it is arguable that increased firm internationalisation may result in positive financial performance outcomes for firms at any degree of internationalisation.

In summary, despite amassing a substantial body of empirical research, the I/P field remains fragmented. As the field is now mature, researchers have begun attempting to consolidate the literature through meta-analyses. For example, Yang and Driffield (2012) conducted a meta-analysis of 54 studies. They found I/P effects to be context-dependent and heavily influenced by the selection of analytical technique, the firms sampled, and the way in which key variables were measured. Another meta-analysis conducted by Ruigrok and Wagner (2004) synthesised the findings from 62 studies (174 samples, N= 35,631). At the aggregate level, this analysis found support for a weak, context-dependent, *positive* I/P

relationship. Interestingly, curvilinear relationships were also tested, but were found to be non-significant. These findings were supported by Bausch and Krist (2007), who conducted a meta-analysis of 36 studies (41 samples, N = 7,792). Once again, the findings revealed a weak *positive* aggregate I/P relationship, which was moderated by firm size, firm age, country of origin, R&D intensity, and product diversification. From these studies, it would appear that the existence of a positive I/P relationship has received the most support.

Given the inconsistent and conflicting findings which are prevalent in the I/P literature and the apparent inability of curvilinear relationships to consolidate the I/P field, this study takes a step back and seeks to address the fundamental proposition which underpins the broader IB field. Trading-off the RBV, organisational learning, and transaction cost theories, it is expected that the ability to achieve economies of scale and scope, gains of knowledge and learning, and access to high quality, unique, and/or cheap resources will outweigh the costs of internationalisation leading to superior firm financial performance. Therefore, the penultimate hypothesis of the current study is:

Hypothesis 3: *Firm internationalisation is positively related to firm financial performance.*

In sum, hypothesis 3 seeks to address Research Question Three of the current study: "*Is firm internationalisation associated with firm financial performance".* This represents the third step in the development of the conceptual model which is presented in below in Figure 2.4 below. Following this, the potential relationship between competence of the TMT and firm financial performance will be discussed.

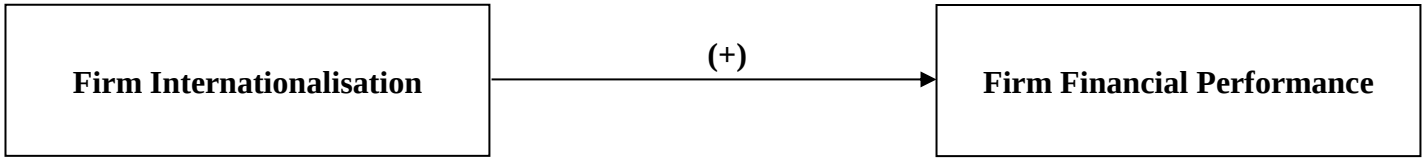


Figure 2.4: Hypothesised Relationship between Firm Internationalisation and Firm Financial Performance

The Competence of the TMT and Firm Financial Performance

> *"There are few more important subjects to strategy scholars, or for that matter to practitioners, than the link between the people at the strategic apex of the organization and that organization's performance"* (Pitcher & Smith, 2001, p. 1)

As with the IB field, firm financial performance is the ultimate variable of interest in the strategic management field (Richard et al., 2009) and for those studies examining the firm-level outcomes of TMT-level variables (Boone & Hendriks, 2009). This field of examination has continued to develop and mature and "each year brings more new insights and fresh evidence of the effects of top executives on organizational strategy and performance" (Hambrick, 2007, p. 337). Despite its relative maturity, the influence of TMTs on firm performance remains a central topic of interest within the strategic management and IB fields (Homberg & Bui, 2013; Kaczmarek & Ruigrok, 2013; Nielsen & Nielsen, 2013). For this reason, it would be remiss for this study to ignore the influence that TMTs may have on firm financial performance.

TMTs have been found to influence firm financial performance in a variety of ways and across a range of settings. One stream of research has focussed on the role of TMT demographics in driving firm performance. For instance, using moderated regression analysis, Auden, Shackman, and Onken (2006) found TMT functional background heterogeneity and TMT age homogeneity to be positively related to firm performance, with both of these relationships moderated (intensified) by international risk management. Another more recent example comes from the study conducted by Nielsen and Nielsen (2013) which found TMT nationality diversity to be positively related to firm performance, with that relationship stronger for longer tenured teams, when those teams manage highly internationalised firms, and when the firms operate in munificent environments.

Another stream of research has moved beyond the examination of TMT demographics, instead focussing on TMT cognitive characteristics, skills, and competencies. For instance, focussing specifically on TMT involvement in innovation, Rapp, Schillewaert, and Hao (2008) highlighted the pervasive role played by TMTs in driving firm performance. They found that TMTs play an important role in influencing innovation and customer relationship performance, which were, in turn, found to be related to organisational performance. Wood and Michalisin (2010) found that TMT entrepreneurial drive and the entrepreneurial orientation of the TMT's strategic choices were both important drivers of superior firm performance. In a vastly different context, Carmeli (2006) investigated the effect of managerial skills (cleverness, conceptual skills, creativity, diplomacy and tact, fluency in speaking, knowledge of group tasks, organisation [administrative ability], persuasiveness, and social skills) possessed by top management teams on the performance of municipal organisations in Israel. Once again, positive TMT cognitive characteristics were found to significantly affect firm performance.

Within the literature, it is widely accepted that the competence of the TMT is a valuable resource for firms to possess (Ling & Jaw, 2006). As such, the competence of the TMT could be expected to be an important driver of firm financial performance. RBV provides a useful perspective for framing this argument. RBV suggests that firms can gain sustained competitive advantage from possessing those resources which allow them to implement "strategies that exploit their internal strengths, through responding to environmental opportunities, while neutralising external threats and avoiding internal weaknesses" (Barney, 1991, p. 99). The attributes that make up the competence of the TMT align closely to both of these objectives and thus represent sources of competitive advantage. Once a firm possesses competitive advantages, these can be translated into performance outcomes. Therefore, based on RBV and upper echelons theory, the final hypothesis of this study is:

Hypothesis 4: The competence of the *TMT is positively related to firm financial performance*

Summary of Literature Review Chapter

This chapter has provided a critical review of the firm internationalisation and upper echelons literature. From this, 18 hypotheses have been developed that address the four research questions of the current study. TMT characteristics were presented as potential antecedents to firm internationalisation. The competence of the TMT was then suggested to be a mediator of those relationships. Finally, firm internationalisation and the competence of the TMT were argued to be drivers of firm financial performance, which is the ultimate objective of international businesses. This chapter is concluded with the presentation of a conceptual model presenting the hypotheses derived throughout the chapter (see Figure 2.5 below). This is followed by the *Method* chapter which will outline the research design of the current study and the data collection method that was undertaken.

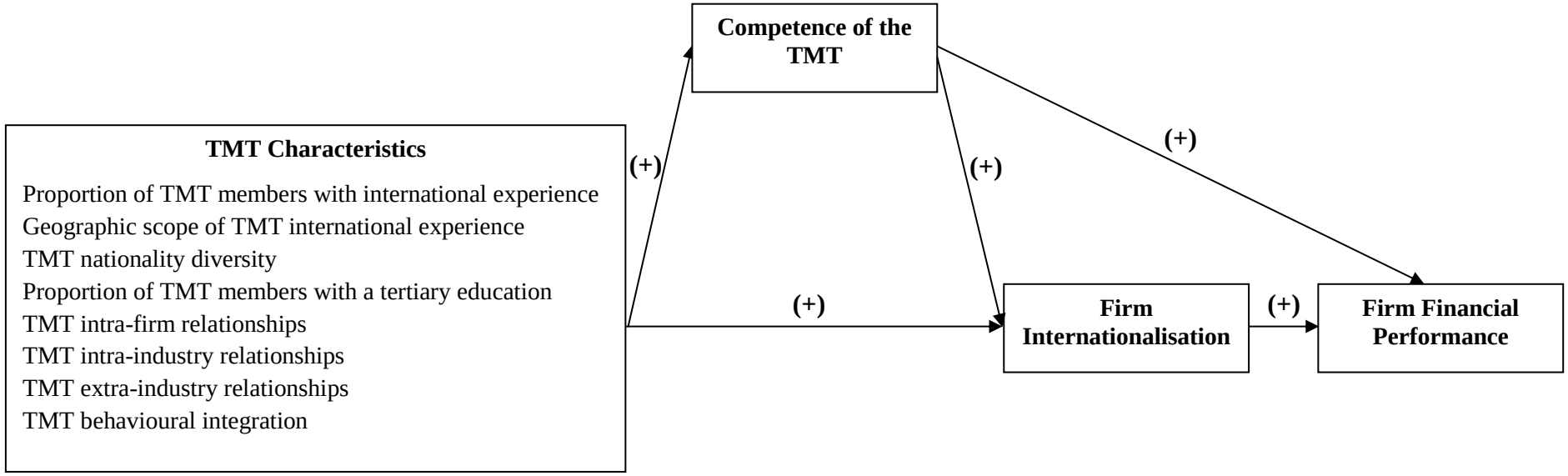


Figure 2.5: Conceptual Model Summarising the Hypothesised Relationships of the Current Study

Chapter Three: Method

The preceding chapter presented a critical review of the firm internationalisation and upper echelons literature. This led to the development of the current study's research questions and hypotheses. Chapter Three will now outline the research methodology utilised in the current study. In doing so, this chapter will discuss the study's research design, sample, response rate, method of data collection, and questionnaire development.

Research Design

The need to test theoretically grounded hypotheses, with tightly defined measures, necessitated a quantitative, positivist, approach to the current study (Creswell, 2003; Tharenou, Donohue, & Cooper, 2007). Specifically, a cross-sectional correlational field study was undertaken. The study was cross-sectional in that data were collected from each respondent at a single point in time (Bryman & Bell, 2007; De Vaus, 2001). It is acknowledged that cross-sectional designs are limited in their ability to provide information regarding the chronological order of events, which limits internal validity as compared to longitudinal designs (Gravetter & Forzano, 2009).

It was determined that cross-sectional data collection provided numerous advantages that were of particular salience to the current study. From the researcher's perspective, cross-sectional research provides efficiencies in both time and cost when compared to longitudinal studies. This was important due to the temporal and financial constraints placed upon this research project. From the respondent's perspective, the cross-sectional approach reduces the longevity of commitment and burden associated with participation (Bryman & Bell, 2007; Gravetter & Forzano, 2009). This was seen as important because senior executives are difficult to access (Carmeli et al., 2012) and are typically reluctant in providing data

(Hambrick, 2007). Although the information provided by cross-sectional designs are correlational in nature, theoretical arguments can be drawn upon to imply the temporal order of events, consistent with causation (Tharenou et al., 2007).

Data for this study were collected using a survey design. Self-administered questionnaires were used because they: allow data to be obtained simultaneously from a large number of geographically dispersed respondents; allow respondents the time to consult their records before responding; enable data to be collected on variables that are not directly observable; and encourage the provision of potentially sensitive information through the guarantee of anonymity and confidentiality (Czaja & Blair, 2005).

The survey design of the current study resulted in the collection of *primary data*. This was deemed to be necessary in order to obtain information relating to some of the study's central variables. When using *secondary data*, the selection of measures is constrained by the availability of information contained within pre-existing reports and databases. As these sources are often developed for reasons other than academic research, the data included may not be suitable. For instance, while it may have been possible to gather pre-existing data on some TMT-, and firm-, level characteristics, this would not have been the case for TMT behavioural integration (Simsek et al., 2005), TMT relationships (Atuahene-Gima & Murray, 2007), or the competence of the TMT (Ling & Jaw, 2006). The importance of these variables to the current study necessitated the collection of primary data.

The survey design resulted in the collection of subjective, and perceptual, data from respondents. At the firm level of analysis, the use of subjective measures is encouraged when accurate objective data is unavailable (Dess & Robinson, 1984; Hult et al., 2008). For instance, in the case of firm performance, researchers are advised to rely on subjective data when studying private firms who are not required to report their financial outcomes and when

management is reluctant to provide objective performance data to parties external to the firm (Hult et al., 2008). It is, therefore, not uncommon for organisational measures such as performance to be measured subjectively (Robinson & Pearce, 1988). Because subjective measures of firm outcomes have been found to share moderate to strong correlations with objective measures, Richard et al. (2009, p. 737) emphasised that "researchers should not view the choice of subjective measures as a second-best alternative but, instead, should weigh the tradeoffs between subjective and objective measures against the research context to determine which is more favorable under the circumstances".

Researchers have typically struggled to apply measures that adequately capture the complexity of the two key firm-level outcomes of interest to the current study: *firm internationalisation* and *firm financial performance* (Hult et al., 2008; Pangarkar, 2008; Sullivan, 1994a). Using subjective measures to capture these variables "allows them to be strongly tailored to the dimensionality of the context of interest" (Richard et al., 2009, p. 734). Thus, the collection of primary, subjective, survey data in this study allowed both firm internationalisation and firm financial performance to be measured using pre-validated instruments, with demonstrated psychometric properties. The following section will outline the sample and method of data collection of study.

Sample and Data Collection

The target population for the current study was firms that were located in Australia and that had undertaken international operations. *International activities* referred to both inward and outward forms of internationalisation (Welch & Luostarinen, 1993). As noted in the *Introduction* chapter, the Australian context varies considerably to the North American context which has dominated the IB upper echelons literature. This provides a point of difference for the current study. The *Dun & Bradstreet Company 360 database*, the

Australian Exporters Directory, and the *ASX list of companies* were filtered so as to retain only those firms that met the abovementioned inclusion criteria of the current study. From each of these databases, mailing lists were generated that contained subsets of the retained firms. These lists provided the sampling frame for the current study.

To collect data, questionnaires were mailed to the highest ranking executive of each firm. This method was selected over an online survey because the mailing lists obtained for the current study did not provide the personal email addresses of the intended respondents. When examining firm-level outcomes, Hambrick (1981) advised that when only one respondent can be accessed, data should be collected from the highest ranking executive. Recent TMT studies have followed this recommendation and limited their data collection to the survey of the firm's highest ranking individual manager (Mihalache, Jansen, Van den Bosch, & Volberda, 2012; On et al., 2013; Reuber & Fischer, 1997; Simsek et al., 2005; Souitaris & Maestro, 2010). These respondents are favoured because they are assumed to be the most knowledgeable informant for both TMT characteristics and firm-level outcomes (Souitaris & Maestro, 2010), and "selecting knowledgeable and confident informants is crucial to the key informant technique" (Simsek et al., 2005, p. 73). Therefore, in the current study, questionnaires were sent to the highest ranking manager of each firm.

Due to the anticipated difficulties in collecting survey data from senior executives (Carmeli et al., 2012; Hambrick, 2007), restraints were not placed on the sample in regards to industry or firm size. All firms contained in the sampling frame were invited to participate in the study. Before any potential respondents were contacted, ethical clearance was sought and obtained from the Monash University Human Research Ethics Committee (see appendix 1). Following this, three waves of data collection were then undertaken within the 2011 financial year (between October 2011 and June 2012).

The first wave of data collection commenced in October 2011. For this wave, a mailing list containing 1,250 firms was obtained from the *Dun and Bradstreet Company 360 database*. This database provides company records for companies operating across Australia and New Zealand, and provides the mailing details for corporate headquarters. Questionnaire packages were sent using envelopes addressed personally to the most senior executive and included: a personalised explanatory statement (see appendix 2); a questionnaire (see appendix 3); and a reply paid envelope for the questionnaire to be returned. Following Dillman (1978), personalised follow-up letters were sent one (see appendix 4) and three (see appendix 5) weeks after the initial questionnaire mail-out.

Wave two data collection was undertaken in March 2012. For the second wave, a mailing list was generated containing 200 firms from the *Australian Exporters Directory*. This list was checked to ensure that it did not contain any firms that had been contacted in the first wave of data collection. Due to the limitations of this mailing list, each questionnaire and cover letter was addressed to the "Chief Executive Officer". Other than this, wave two of data collection was identical to the first wave. This procedure was once again undertaken in June 2012. For the third wave of data collection, a mailing list was developed that contained 125 firms from the *ASX list of companies*. Once again, the list was checked to ensure that it did not contain firms that had previously been contacted. For this wave of data collection, the questionnaires and cover letters were personally addressed to the most senior executive. This third wave was, therefore, identical to the first wave undertaken. The response rate for each wave of data collection will be discussed directly below.

Response Rate

This section will outline the response rate for each of the three waves of data collection undertaken in the current study. Wave one of data collection resulted in 110 responses, while wave two resulted in 27 responses and wave three resulted in 15 responses.

These equate to response rates of 8.8%, 13.5%, and 12.0%, respectively. The overall response rate for this study was approximately 10% (9.7%). This response rate is relatively consistent with those obtained in previous studies. For instance, when surveying CEOs from western cultures, Hambrick, Geletkanycz, and Fredrickson (1993, p. 407) noted that, within the American context, a response rate of 10% - 12% was "typical for mailed survey's to top executives". In accordance with this, Hsu and Pereira (2008) obtained a response rate of 10.5% from their sample of American firms operating in foreign countries and explained that the senior executives surveyed in their study may have been overwhelmed with survey requests in recent years.

It is unlikely that average response rates would have improved in the time since these studies were undertaken, given that there has been a general trend of reducing response rates within social science research. An examination of 175 management studies published within the 1975-1995 period revealed that response rates were in decline (Baruch, 1999). Reiterating this trend, a more recent meta-analysis of the response rates from 231 studies published in high-level management journals in the 1992-2003 period also revealed a declining response rate (Cycyota & Harrison, 2006). Therefore, a response rate of 9.7% for this study is perhaps unsurprising.

When response rate is low, there is potential for non-response bias. Dillman (1991) noted, however, that “a low response rate, however, does not necessarily entail nonresponse error”. To address this concern, the potential presence of non-response bias was tested. The majority of the data (72.4%) were collected in the first wave. The mailing list for this wave contained the information necessary to test for non-response bias in regards to the size of their firm, as measured by the number of employees. This measure is commonly used to assess non-response bias within the TMT literature (Carmeli & Schaubroeck, 2006; Carmeli et al., 2012). A test was undertaken comparing the percentages of *respondents from wave one*

to those of the *sampling frame for wave one* across each category of the variable (see Figure 3.1 below). Due to the nature of the data provided in the mailing list, for the purposes of this test, firm size was categorised as: 1) less than 100 employees; 2) between 100-499 employees; 3) 500-999 employees; and 4) more than 1000 employees. This test revealed that the distribution of firm size was relatively consistent across the two samples and indicated that there was not a substantial non-response bias for this wave of data collection. The mailing lists used in wave two and wave three did not provide information regarding firm size. Response bias was further assessed by comparing the firms sampled across each wave of data collection. Results from Mann-Whitney U Tests indicated that the size of the firms sampled in wave one did not significantly differ to those sampled in either wave two ($U = 1327.50$, $p > .05$) or wave three ($U = 797.50$, $p > .05$). This provided further evidence that the sample was not unduly influenced by response bias. The following section will provide a description of the firms in the sample of the current study.

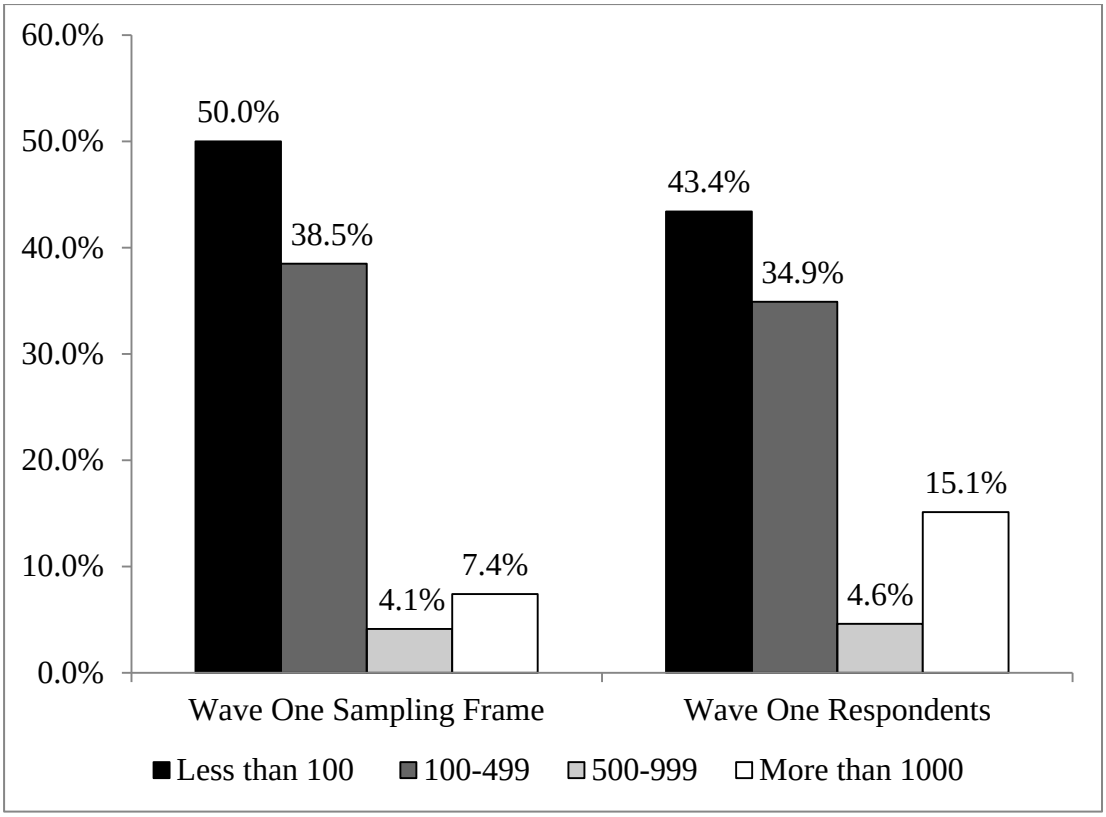


Figure 3.1 Distribution of Firm Size (by Number of Employees) for the Sampling Frame and Respondents in Wave One of Data Collection

Description of Sample

The final sample size for the current study was 152 firms. The firms that comprised the sample were diverse in regard to their: TMT size; firm size; firm age; form of incorporation; foreign activities undertaken; locations of their foreign activities; and industries in which they primarily competed. Each of these characteristics of the sample will be discussed below.

TMT size. The mean TMT size was 5.79 members (SD = 2.47), ranging from 2 to 16 members. The majority of TMTs (88.8%) were comprised of eight members or less. As noted earlier, the definition of TMT adopted in the current study was similar to that used by Nielsen (2010b). In Nielsen's (2010b) study, the mean TMT size was 6.07 (SD = 2.64), which is reasonably consistent with the sample of the current study.

Firm size. The firms were diverse in regard to their size, as measured by the number of employees. A large percentage of firms employed less than 100 employees (43.4%). In comparison, only 19.7% of firms had more than 500 employees. This pattern is reflective of the broader population of Australian firms, which is largely comprised of small and medium enterprises (Australian Bureau of Statistics, 2013b).

Firm age. The mean age of the firms in this sample was 41.20 years (SD = 36.03), ranging from 1 year to 188 years. Previous surveys which have examined the internationalisation of Australian firms (How, Khoo, Ng, & Verhoeven, 2002) have found similar distributions in the age of the firms (mean = 45.36, SD = 38.00).

Form of incorporation. The majority of firms (78.9%) were Proprietary Limited, which is reflective of the broader population of Australian firms (Australian Securities and Investments Commission, 2012). That being said, publicly traded companies (Limited

Liability and No Liability) and unincorporated businesses were also represented. Firms had a range of ownership structures and would therefore have various reporting requirements imposed upon them.

Forms of international activities. In terms of outward internationalisation activities, direct exporting (77.0%) and exporting through an intermediary (41.4%) were the most common. There were also notable percentages of firms undertaking international contracting (25.0%), licensing (23.0%), joint venture direct investment (15.1%), and solo venture direct investment (13.2%). The majority of firms also undertook inward internationalisation in the form of importing (63.8%). This corresponds with previous empirical studies of the internationalisation of Australian firms (Fletcher & Bohn, 1998) which have revealed the outward and inward international activities to be dominated by direct exporting (72.2%) and importing (55.6%), respectively. In the current study, a large percentage of the firms (83.7%) undertook multiple forms of international activities.

Location of international activity. The vast majority of firms included in this sample derived at least some sales from Australia (92.8%) and thus had some form of domestic base. Asia was the continent in which the largest percentage of firms derived foreign sales (77.0%), followed by North America (38.8%), and Europe (38.2%). This pattern is broadly reflective of the internationalisation patterns pursued by the broader population of Australian firms as Asian and North American markets are amongst Australia's most prominent trading partners (Department of Foreign Affairs and Trade, 2012).

Industry type. The sample was comprised of firms operating across a range of industries. Manufacturing was the most prominent industry (40.1%), followed by agriculture, forestry, and fishing (11.2%), professional, scientific, and technical services (10.5%), and

then mining (7.2%). The prominence of manufacturing firms in the sample is relatively reflective of the broader population of Australian firms that undertake international activities. For instance, of all the Australian firms that *directly* undertake international trade, a considerable percentage (19.6%) is manufacturing firms. This proportion is second only to wholesalers (26.10%) (Australian Bureau of Statistics, 2013a). Given that manufacturing firms may also opt to export *indirectly via wholesalers*, the prominence of manufacturing firms within the broader population of Australian businesses undertaking international activities may increase when *indirect* international involvement is taken into account.

In sum, the sample is relatively reflective of previous empirical literature and the broader population of Australian firms that undertake international activities. A summary of the abovementioned descriptive statistics is provided in Table 3.1 below. This is followed by discussion of the questionnaire development process undertaken in the current study.

Table 3.1: Profile of the Sample

Variable	N	%
Team size (by members)		
2	4	2.6
3	16	10.5
4	27	17.8
5	31	20.4
6	30	19.7
7	15	9.9
8	12	7.9
9	1	0.7
10	4	2.6
11	3	2.0
12	2	1.3
13	1	0.7
14	2	1.3
16	1	0.7
Missing	3	2.0
Firm size (by number of employees)		
< 20	12	7.9
20-49	16	10.5
50-99	38	25.0
100-499	53	34.9
500-999	7	4.6
> 1000	23	15.1
Missing	3	2.0
Firm age (by years)		
< 10	12	7.9
10-19	34	22.4
20-29	27	17.8
30-39	17	11.2
40-49	12	7.9
50-59	14	9.2
60-69	10	6.6
70-79	5	3.3
80-89	5	3.3
90-99	2	1.3
> 100	11	7.2
Missing	3	2.0

(Table continues.)

(Table continued.)

Variable	N	%
Form of incorporation		
No Liability	2	1.3
Limited	25	16.4
Proprietary Limited	120	78.9
Unlimited Proprietary	0	0.0
Unincorporated Business	2	1.3
Missing	3	2.0
Foreign activities undertaken*		
Import	97	63.8
Direct export	117	77.0
Export through an intermediary	63	41.4
Solo venture direct investment	20	13.2
Joint venture direct investment	23	15.1
Licensing of a product or service	35	23.0
Contracting	38	25.0
Franchise	1	0.7
Other	6	3.9
Missing	3	2.0
Location of foreign activities (by region)*		
Australia / New Zealand	141	92.8
Africa	44	28.9
Asia	117	77.0
North America	59	38.8
South America	33	21.7
Europe	58	38.2
Middle East	54	35.5
Missing	3	2.0
Industry		
Agriculture, Forestry, and Fishing	17	11.2
Mining	11	7.2
Manufacturing	61	40.1
Construction	6	3.9
Retail Trade	3	2.0
Transport, Postal, and Warehousing	4	2.6
Financial and Insurance Services	2	1.3
Rental, Hiring & Real Estate Services	2	1.3
Professional, Scientific & Technical Services	16	10.5
Other	27	17.8
Missing	3	2.0

* Multiple responses. Percentages do not equal 100%

Questionnaire Development

Questionnaire quality and length is imperative so as to maximise the response rate and the quality of data obtained. Ensuring that items are clear and concise, reducing respondent apprehension about participation, and ensuring respondent anonymity can each help to reduce the presence of CMV in the data collected (Podasakoff, MacKenzie, Lee, & Podsakoff, 2003). Accordingly, significant care was taken when developing the questionnaire with careful attention paid to the: provision of instructions; selection of construct measures; order and wording of questions; and presentation of the overall questionnaire.

The questionnaire was kept as clear and concise as possible. In regards to clarity, definitions of key concepts and general instructions for completing the questionnaire were provided. Additionally, instructions for responding to specific sections were integrated throughout the questionnaire. The length of the questionnaire was carefully managed to ensure that it was concise, while maintaining the quality of data obtained. This reduced the burden placed on respondents when completing the questionnaire (De Vaus, 2001). The final questionnaire was expected to take respondents 10-15 minutes to complete.

Pilot test of questionnaire

To ensure the effectiveness of the questionnaire before final administration, a multi-phased pilot test was conducted (De Vaus, 2001). Following the process outlined by Converse and Presser (1986), this pilot test included: 1) specific question development, 2) overall questionnaire development, and 3) final polishing of the questionnaire. Stage one assessed: the wording of questions; whether all of the items were relevant; and whether each item would be properly interpreted and understood. To achieve this, feedback from academics with expertise in the IB field was sought. Given that the questionnaire itself was developed for completion by senior executives, feedback from Australian business executives

was also sought. This ensured that the language used in the questionnaire could be easily understood and correctly interpreted. Following this, Stage two sought to develop and refine the questionnaire as a whole. This stage focussed on questionnaire flow, length, and salience. To achieve this, personal contacts from a leading global research agency were utilised to provide feedback on design issues. From this, refinements were made in regards to question ordering and formatting so as to increase clarity and ease of completion. Stage three entailed a final review of the updates resulting from the preceding two phases. The measures included in the questionnaire are outlined below.

Measures

Selection of adequate measures is crucial in obtaining accurate and valid information and therefore making relevant interpretations. This study utilised pre-validated instruments, with demonstrated psychometric properties, where possible. Some measures were, however, adapted in response to concerns raised throughout the pilot testing process. For instance, because senior executives "are notoriously unwilling to submit themselves to scholarly poking and probing" (Hambrick, 2007, p. 337), measures that would originally have required the CEO to provide information about each *individual* TMT member (e.g. *geographic scope of TMT international experience* and *TMT nationality diversity*) were adapted. Specifically, they were designed so that respondents could provide responses at the team-level. This section will outline the measures selected for each of the variables included in the current study, which are included in Appendix 1.

Proportion of TMT members with international experience. Following previous studies, the proportion of TMT members with previous international experience was used to gauge the amount of international experience contained within the TMT (Herrmann & Datta, 2005; Hutzschenreuter & Horstkotte, 2013; Nielsen & Nielsen, 2013; Nielsen, 2010b; Sambharya, 1996; Wally & Becerra, 2001). In separate questions, the respondents were asked

how many members were currently in their TMT and how many of the TMT members had previous international experience. These values were used to calculate the proportion of TMT members with international experience. It should be noted that international experience is a broad concept, which can incorporate the number, length, scope, intensity, and purpose (work versus non-work) of international travel experiences (Clarke et al., 2013; Greve et al., 2009; Takeuchi, Tesluk, Yun, & Lepak, 2005). As such, there are numerous ways that TMT international experience can be measured. There is evidence, however, of relatively high correlations between these measures. For instance, Sambharya (1996) found that the proportion of TMT members with international experience was strongly correlated, according to Cohen's (1988) guidelines, with both the TMT's mean number of years of international experience (r = .80) and the heterogeneity of TMT member international experience (r = .70). Therefore, the proportion of TMT members with international experience was considered a sufficient indicator of TMT international experience for the current study.

Geographic scope of TMT international experience. To capture the geographic scope of TMT international experience, the current study used an adaptation of Athanassiou and Nigh's (2002) measure of *TMT career geographic experience*. The original measure was designed to capture the "experience gained on international assignments in each region" (Athanassiou & Nigh, 2002, p. 167). This measure, therefore, suited the needs of the current study. In its original form, this measure requested *each member to the TMT* to describe their level of business experience in each geographic region using a five-point Likert scale (ranging from 1 = low experience to 5 = extensive experience). For this measure to provide relevant information, it required data to be provided by all members of a TMT. The measure was adapted in the current study so that data on the geographic scope of TMT international experience could be collected from the most senior executive alone. It was expected that these respondents would be knowledgeable of their TMT members' pervious international

work experiences. Using the seven continent model (Saarinen, Parton, & Billberg, 1996), respondents were asked to identify whether *any members of their TMT* had previously worked in: Africa; Asia; North America; South America; Europe; and/or the Middle East. Australia / New Zealand was omitted from this list because all firms were located in Australia. The geographic scope of TMT international experience was then calculated as the proportion of the continents in which TMT members had at least some experience. Adapting the measure in this way reduced the cognitive burden placed on respondents, while still capturing the geographic scope of the TMT's international experience.

TMT nationality diversity. To capture TMT nationality diversity, existing approaches were adapted so as to reduce the cognitive burden placed on respondents. Blau's (1977) index of group heterogeneity is commonly used to capture various aspects of TMT diversity (Nielsen, 2010a). This approach allows researchers to assess "the dispersion of team members across all possible categories of a certain dimension (i.e. different nationalities represented on the top management team)" (Nielsen, 2010b, p. 194). Calculation of Blau's (1977) index, however, requires data to be obtained on each individual member of the TMT. This approach is best suited to studies conducted in countries that require the nationality of TMT members to be included in annual reports (e.g. Nielsen & Nielsen, 2013). Gathering primary data on each TMT member is considerably more challenging. Consequently, the current study measured TMT nationality diversity by asking respondents if any members of their company's current TMT were born in the following continents: Australia / New Zealand, Africa, Asia, North America, South America, Europe, and/or the Middle East. TMT nationality diversity was then calculated as the proportion of these continents in which at least one TMT member was born.

Proportion of TMT members with a tertiary education. TMT education can be measured in a variety of different ways, with each measure capturing specific aspects of the

TMT's cognitive base and psychological preferences. For instance, previous studies have adopted measures such as TMT: education level (Bantel & Jackson, 1989; Herrmann & Datta, 2005; Simsek et al., 2005; Wally & Becerra, 2001); diversity of education discipline (Cannella et al., 2008; Lee & Park, 2008); average years of formal education (Abebe, 2010); diversity of years of formal education (Simsek et al., 2005); and average education obtained from elite institutions (Tihany et al., 2000). Because this study is specifically interested in the benefits of possessing a tertiary education, the proportion of TMT members who have obtained a tertiary education was measured. This marks a point of differentiation for the current study.

TMT intra-firm relationships. To measure TMT intra-firm relationships, Atuahene-Gima and Murray's (2007) 4-item *intra-industry managerial ties* scale was adapted for use in the current study. The original measure was specifically designed to ask CEOs about the social relationships possessed by their TMT members. In Atuahene-Gima and Murray's (2007) study, CEOs were asked to indicate: the extent to which their TMT members are connected with members of their industry; the strength of these relationships; the learning outcomes of these relationships; and the amount of resources committed to the cultivation of these networks. For the current study, each item was altered to refer to relationships with parties *within the company*, rather than within the industry. As an example, the original item of "TMT members put a lot of effort in building relationships with other *knowledgeable executives in our industry"* (Atuahene-Gima & Murray, 2007, p. 24) was changed to 'TMT members put a lot of effort in building relationships with *knowledgeable employees and managers within our company*'. Using a 5-point scale, respondents were asked to indicate the extent to which they agreed or disagreed with each of the four statements (from 1 = strongly disagree to 5 = strongly agree). Because only minimal changes were made, it was expected

that this measure would demonstrate similar psychometric properties to the original scale, which will be discussed directly below.

TMT intra-industry relationships. To measure TMT intra-industry relationships, Atuahene-Gima and Murray's (2007) 4-item *intra-industry managerial ties* scale was used in its original form. As outlined above, respondents were asked to indicated the extent to which they agreed or disagreed with each of the four statements (from 1 = strongly disagree to 5 = strongly agree). In the original study of Atuahene-Gima and Murray (2007), this scale produced an acceptable Cronbach's alpha of .75. Evidence of unidimensionality was also obtained with items found to load strongly onto a single factor (with loadings of .73, .70, .69, and .65).

TMT extra-industry relationships. To measure TMT extra-industry relationships, the 3-item *extra-industry managerial ties* scale devised by Atuahene-Gima and Murray (2007) was utilised. Following earlier work of Geletkanycz and Hambrick (1997), this measure focuses on TMT member relationships with knowledgeable people outside of their industry. Specifically, respondents were presented with statements regarding: the connections that their TMT members have top executives from firms not operating in our industry; the strength of those relationships; and resources committed into cultivating those relationships. Using a 5-point scale, respondents were asked to indicated the extent to which they agreed or disagreed with each of the statements (from 1 = strongly disagree to 5 = strongly agree). In the original study by Atuahene-Gima and Murray (2007), this scale produced an acceptable Cronbach's alpha of .71. Factor analysis conducted by Atuahene-Gima and Murray (2007) provided evidence of unidimensionality, with the items for this scale loading onto a single factor (.85, .60, and .57).

TMT behavioural integration. TMT behavioural integration was measured using Simsek et al's (2005) 9-item scale. In their study, Simsek et al. (2005)Simsek et al. (2005)Simsek et al. (2005) operationalised TMT behavioural integration as a second-order construct, comprised of three separate, but related, first-order latent variables. Each of the nine items was rated on a 5-point scale. To capture collaborative behaviour (three items) and information exchange (three items), respondents indicated the extent to which they agreed or disagreed with each statement (from 1 = strongly disagree to 5 = strongly agree). To capture joint decision-making (three items), respondents rated the effectiveness of various TMT decision-making dimensions (from 1 = very low to 5 = very high). In regard to content validity, this measure was developed based on the seminal work of Hambrick (1994) and captures the three central components of behavioural integration: 1) collaborative behaviour; 2) information exchange; and 3) joint decision-making. Simsek et al. (2005) found evidence of this measure's convergent validity as it was positively correlated with theoretically related constructs such as *number of meetings per year* ($r = .16$, $p < .001$) and evidence of divergent validity as it was negatively related to theoretically different constructs such as *withholding of effort* ($r = -.40$, $p < .001$).

In their scale development study, Simsek et al. (2005) found this scale to have adequate internal consistency reliability ($\alpha = .85$), based on a sample of small-to-medium sized privately owned companies. More recent literature has found evidence of similar internal consistency reliabilities for this measure across samples consisting of: small-to-medium sized firms ($\alpha = .90$) (Lubatkin et al., 2006); firms from a variety of industries ($\alpha = .94$) (Carmeli & Schaubroeck, 2006); and service firms ($\alpha = .97$) (Carmeli, 2008). Consequently, this has become the generally accepted measure of TMT behavioural integration.

Competence of the top management team. Competence of the TMT was measured using the 4-item *competency of top management team* measure developed by (Ling & Jaw, 2006). This measure captures the TMT's ability to: absorb worldwide information; identify international business opportunities; deal with emergencies quickly and efficiently; and cope with hardship and pressure. In regards to content validity, the skills and abilities captured by this measure are typically considered to be important attributes of competent managers (Adler & Bartholomew, 1992; Bartlett & Ghoshal, 1992). In the original study, Ling and Jaw (2006) found this scale to have adequate internal consistency reliability ($\alpha = .84$). Using exploratory factor analysis (EFA), Ling and Jaw (2006) also found evidence of the measure's unidimensionality with these items loading on a single factor.

Firm internationalisation. Although firm internationalisation can take many complex forms (Giovannetti et al., 2013), a number of studies examining its antecedents and outcomes have relied on single-item measures (Capar & Kotabe, 2003; Hsu, 2006; Qian, 2002; Ruigrok et al., 2007; Thomas, 2006). To date, Sullivan (1994a, 1996) has provided the most comprehensive attempt at developing a degree of internationalisation scale. However, Sullivan's (1994a, 1996) measure was not used in the current study because it includes top management international experience as a component of firm-level internationalisation. Instead, Reuber and Fischer's (1997) adaptation of Sullivan's (1994a) degree of internationalisation scale was utilised. Because Reuber and Fischer (1997) included top management international experience as a separate theoretical variable in their study, it was not incorporated into their measure of firm internationalisation. This made their measure ideal for use in the current study.

The 3-item scale of Reuber and Fischer (1997) measures the ratio of foreign sales to total sales (FSTS), the percentage of employees spending over 50% of their time on international activities, and the geographic scope of sales. In regards to content validity, this

scale captures the performance, structural, and attitudinal components (Sullivan, 1994a, 1996), as well as the depth and breadth (Contractor et al., 2003; Hitt et al., 2006b; Qian & Li, 2002) of firm internationalisation. Reuber and Fischer (1997) found this scale to have acceptable internal consistency reliability (α = .78). Providing evidence of the measure's unidimensionality, factor analysis conducted by Reuber and Fischer (1997) indicated that the items loaded strongly onto a single, unambiguous factor.

Firm financial performance. Financial performance is the ultimate objective of many international firms as "it is widely recognized that they are fundamentally concerned with accounting results" (Bouquet et al., 2009, p. 118). Accordingly, reviews of the IB literature examining firm performance have revealed that "the largest body of studies (44.8% or 43/96) focussed on the firm level of analysis and used financial measures of performance" (Hult et al., 2008, p. 1069). Consistent with this, the current study adopted the *profitability* component of Vorhies and Morgan's (2005) *overall performance* measure. This 4-item scale measures return on sales (ROS), return on investment (ROI), profitability, and achievement of financial goals. For each item, respondents were asked to rate their firm's performance relative to that of their main competitors over the previous 12 months, using a 7-point Likert scale (from 1 = Much worse to 7 = Much better). In terms of content validity, ROS, ROI and profitability items account for much of the content covered in the I/P literature (Capar & Kotabe, 2003; Geringer et al., 1989; McGahan & Victer, 2010; Thomas, 2006), while the *achievement of financial goals* takes into account any financial measures that may have been omitted.

In the original study, Vorhies and Morgan (2005) demonstrated the convergent and divergent validity of this measure through the use of confirmatory factor analysis (CFA). This revealed that their profitability measure fitted well with other *performance* constructs (evidence of convergent validity), but not *environmental* constructs or *marketing capability* constructs (evidence of divergent validity). This scale was originally found to have strong

internal consistency reliability (α = .95) by Vorhies and Morgan (2005). Similar high internal consistency reliability (α = .91) for this scale was later obtained by Schilke, Reimann, and Thomas (2009).

Firm size. Firm size was included as a control variable in the current study. Smaller firms experience liabilities of smallness (Zhou et al., 2007) that are not experienced by large firms. As a result, firm size is likely to influence both firm internationalisation (Chetty & Holm, 2000) and firm financial performance (Richard et al., 2009). Accordingly, firm size is a commonly included control variable for studies examining the antecedents of both firm internationalisation and financial performance (Assaf et al., 2012; Chen & Tan, 2012; Tsao & Lien, 2013; Xiao et al., 2013). Following previous studies in this area of research, the number of employees was used to measure firm size (Nielsen, 2010b; Qian et al., 2008; Ruigrok & Wagner, 2003). Specifically, respondents were asked to identify how many people their company employs worldwide (less than 20 employees, 20-49 employees, 50-99 employees, 100-499 employees, 500-999 employees, or 1,000 or more employees).

Firm age. Firm age is another firm-level characteristic that is often included as a control variable in studies examining firm internationalisation and/or financial performance (Fernhaber & Li, 2010; Gaur & Kumar, 2009; Qian et al., 2008; Tongli, Ping, & Kwok, 2005). The strategy and performance of young firms are often constrained by liabilities of newness (Freeman, Carroll, & Hannan, 1983; Mudambi & Zahra, 2007), which subside as the firm matures. As firms age, they are able to build up their brand awareness and reputation (Tongli et al., 2005). These valuable intangible assets can then be used to benefit a firm's financial performance. Firm age can also influence propensity "to internationalize and grow because older firms typically have more resources and a greater number of network relationships to rely on" (Fernhaber & Li, 2010, p. 13). Firm age was measured as the amount

of years the firm has been in existence and was calculated by subtracting the year of establishment from 2012.

R&D intensity. R&D intensity was also included as a control variable in the current study and was measured as the percentage of company revenue invested in R&D over the last financial year. As with the previously mentioned control variables, R&D intensity can also have considerable effects on both firm internationalisation and financial performance. R&D can act as a *push factor* of internationalisation, driving firms to expand into foreign markets as they seek to achieve greater sales volumes and recoup expenditure (Etemad, 2004). Once firms do internationalise, the innovation capabilities gained through R&D allow them to better capitalise on the advantages of firm internationalisation (Kotabe, Srinivasan, & Aulakh, 2002). As such, it is common for R&D intensity to be controlled in studies examining firm internationalisation and financial performance outcomes (Chari, Devaraj, & David, 2007; Hsu & Boggs, 2003; Thomas & Eden, 2004).

Industry. The final control variable included in this study was *industry* type. The survey asked respondents to identify the industry in which their firm primarily competes. Industries vary in regards to the opportunities they provide, their potential for profitability, and the degree to which they are globalised (Zahra, Ireland, & Hitt, 2000). As such, industry can influence both firm internationalisation and firm financial performance and is routinely controlled in studies examining these outcome variables (Greve et al., 2009; Ruigrok & Wagner, 2003). Because manufacturing was found to be the largest industry in the sample of the current study (as shown in Table 3.1 above), the effect of industry was controlled for via the inclusion of a dummy variable that took into account whether a firm was primarily competing in manufacturing (coded 1) or another industry (coded 0).

Reporting requirements. For the current study, *reporting requirements* refers to those requirements placed on the firm as a result of its ownership structure. This was included as a marker variable for testing the presence of CMV (discussed in depth in the following chapter). This required the inclusion of a variable that was expected to be theoretically unrelated to all other variables examined in the study. Such a variable can be difficult to identify, especially when the study examines firm financial performance. To my knowledge, however, there are no theoretical reasons to expect that reporting requirements is related to the other variables examined in the current study. This measure is similar to the marker variable used by Kemper, Engelen, and Brettel (2011) in their upper echelon study. First, data were gathered in regards to the firms' form of incorporation. Respondents were asked to indicate which type of business entity best describes their firm: 1) No Liability (NL), 2) Limited (Ltd.), 3) Proprietary Limited (Pty. Ltd.), 4) Unlimited Proprietary (Pty.), or 5) Unincorporated Business. This measure captures all forms of incorporation possible for Australian firms. The data were then converted to an ordinal scale by grouping the forms of incorporation into unincorporated businesses, private companies, and public companies. These three groups were ordered in regards to the degree of reporting requirements placed upon them due to their ownership structure (low, medium, and high, respectively).

Summary of Method Chapter

This chapter has outlined the research design of the current study and the method of data collection undertaken. Specifically, a correlational field study was undertaken to collect primary, cross-sectional, and subjective data. Data were collected from 152 senior executives of firms located in Australia and that undertook international activities. The firms that comprised the sample were relatively reflective of the broader population of firms located in Australia and that undertook international activities. The questionnaire used in this study was

carefully developed so as to ensure the use of quality measures, clarity of instructions, and appropriateness of length. As a preliminary step, a process of pilot testing was undertaken. This was followed by the mail out of the questionnaire packages and two subsequent follow-up letters. These efforts resulted in a response rate of approximately 10%. The following chapter will outline the methods of analysis that were applied to the data.

Chapter Four: Analysis

The preceding chapter outlined the research design, sampling, and method of data collection used in the current study. This chapter will now present the methods of analysis that were applied to the data. First, the process undertaken for implementing structural equation modelling (SEM) will be outlined. Next, the analysis used to establish the validity and reliability of measures will be discussed. Following this, the methods of analysis applied for testing hypotheses 1a-1h, hypotheses 2a-2h, hypothesis 3, and hypothesis 4 will be presented. This will include explanations of the techniques used to detect direct and indirect (mediated) effects. Finally, the analytical techniques used to detect the presence and magnitude of CMV will be explained.

Structural Equation Modelling Implementation Process

SEM was the primary form of analysis utilised in the current study. SEM is essentially "a combination of multiple regression and factor analysis" (Tharenou et al., 2007, p. 237). It is comprised of a *measurement model* which allows several observed variables to serve as indicators of a latent variable and a *path model* which relates the independent IVs to the dependent variables DVs (Hair, Black, Babin, & Anderson, 2010). SEM was used in the current study, as opposed to multiple regression, because SEM does not assume that the IVs have perfect reliabilities, but instead allows measurement error to be explicitly represented, estimated and controlled in the analysis (Kline, 2013). In addition, SEM also allows multiple outcome variables to be analysed simultaneously (Kline, 2011). This study followed Anderson and Gerbing's (1988) two-step approach to SEM. First, a measurement model was specified and tested using CFA. Structural models for hypothesis testing were then specified and tested. To ensure the consistency and rigor of the analysis undertaken in the current study,

the steps outlined in Hoyle's (2012) *SEM implementation framework* were followed each time SEM was undertaken. This involved a process of: specification; estimation; evaluation of fit; and interpreting and reporting.

Specification stage

The first stage of SEM is always the specification of a model. The *model* is "a formal statement of the mechanisms assumed to have given rise to the observed data" (Hoyle, 2012, p. 8). In the current study, model specification was based on substantive theories and empirical literature. Structural models were constructed within the AMOS20 program. The objective of the specification stage is to arrive at a model that is *theoretically derived*, *parsimonious*, and *demonstrates good fit with the data* (Chou & Huh, 2012; Kline, 2011).

Estimation stage

Once a model had been specified, estimation then sought to "find values for the free parameters that minimise the discrepancy between the observed covariance matrix and the estimated, or implied, covariance matrix given the model and the data" (Hoyle, 2012, p. 9). Full information maximum likelihood estimation (FIML) was utilised in the current study. Maximum likelihood estimation (MLE) is an iterative process (Hair et al., 2010), whereby an initial solution is derived and then subsequent iterations seek to gradually improve the estimates and the overall fit of the model (Kline, 2011). Of the estimation methods available to researchers, MLE is by far the most commonly used in SEM and is the default method for most SEM computer programs (Hoyle, 2012; Tabachnick & Fidell, 2013). FIML is a form of MLE in which predicted values for missing data are generated by regressing a given variable on to the other variables in the model (Enders, 2001). FIML does not impute the predicted values of missing data, but instead uses this information to estimate model parameters and standard errors which are derived using all of the data that is available (Enders, 2001). The treatment of missing data in FIML has been found to have considerably better statistical

performance, under conditions of substantial missing data, than other popular missing data techniques such as pairwise and listwise deletion (Enders & Bandalos, 2001).

Evaluation of fit stage

After estimation had taken place, the goodness-of-fit between the model and the data was evaluated. There are numerous goodness-of-fit indices available to researchers. Due to a lack of consistent guidelines for selecting which fit indices to report, this decision often comes down to the researcher's personal preference (Hair et al., 2010). As a result, the indices reported for any given model tend to be those which provide the best evidence of good fit for that particular model (Hair et al., 2010). That being said, a good fitting model is expected to produce consistent, and favourable, results on multiple indices (Tabachnick & Fidell, 2013). Following Hair et al. (2010), model fit was assessed using a combination of: 1) the Chi square χ^2 value and the associated degrees of freedom; 2) at least one *incremental fit index;* and 3) at least one *absolute fit index.* Specifically, the current study utilised: the χ^2 goodness-of-fit test and the ratio of χ^2 to degrees of freedom (*df*); the Comparative Fit Index (CFI) and the Tucker-Lewis Index (TLI) (incremental fit indices); and the Root Mean Square Error of Approximation (RSMEA) (absolute fit index).

The χ^2 statistic reflects "the differences between the observed and estimated covariance matrices", where low χ^2 values indicate better fit (Hair et al., 2010, p. 666). The associated *p*-value relates to the null hypothesis (H_0) that the model fits well and can be considered valid (Byrne, 2001). Therefore, it is the failure to reject the H_0 which indicates good model fit (Kline, 2011). χ^2 has a tendency to reject models which have a large sample size and/or a large number of observed variables (Hair et al., 2010). Because of this, it has been suggested that "no matter what the χ^2 result, the researcher should always complement it with other GOF [Goodness-of-fit] indices" (Hair et al., 2010, p. 670). Despite its flaws, χ^2 is reported in almost all SEM analyses because it is a central component of almost all other fit

indices (Kline, 2011). For this reason, it is reported in the current study but will not be heavily relied upon when determining the adequacy of model fit.

Because large sample sizes are often preferable for SEM analysis, researchers have sought to address the sensitivity of χ^2 to sample size variation (Byrne, 2001). One way that this is achieved is by dividing χ^2 by *df*, to arrive at the normed chi-square value (Kline, 2011). This model fit index is commonly reported, with ratios of 3:1 or less said to indicate a good fitting model (Hair et al., 2010). Following convention, this index will also be reported in the current study.

CFI is an incremental fit index (Hair et al., 2010) which is able to provide accurate estimates of model fit when sample size is small (Tabachnick & Fidell, 2013). CFI is complementary to the χ^2 test, because it is less sensitive to sample size (Hair et al., 2010). Consequently, CFI is also commonly reported. Values above .90 and .95 are commonly suggested to be representative of a well-fitting model (Bentler, 1992; Hu & Bentler, 1999). Taking into account the influence of sample size on this index, Hair et al. (2010) suggested that values of .92 or greater provided evidence of good model fit in models with a sample size below 250. Because of the strengths of this index, it will also be reported in the current study.

TLI was first introduced by Tucker and Lewis (1973) and is another incremental fit index for which higher values are representative of better fit (West, Taylor, & Wu, 2012). This index is commonly reported in SEM studies (Kline, 2011). With the exception of extreme cases, values on the TLI index will typically be positive and range from zero to one. That being said, it is possible for the value to be negative if the model is extremely misspecified, or exceed one if model fit is extremely high (West et al., 2012). According to Bentler and Bonnet (1980), a TLI value above .90 indicates good model fit. This is the cut-off criterion adopted for the TLI in the current study.

Finally, the RMSEA provides a representation of the fit between the model and the population, rather than between the model and the sample used for estimation (Hair et al., 2010). This is presented as a value per degree of freedom (Byrne, 2001). The RMSEA corrects for both sample size and model complexity (Hair et al., 2010), which makes it particularly relevant to the current study. The RMSEA is a *badness-of-fit* index, whereby lower values indicate better fit (Kline, 2011). RMSEA values of less than .06 indicate good fit (West et al., 2012), values between .06 less than .08 indicate reasonable fit (Browne & Cudeck, 1993), values between .08 and .10 indicate mediocre fit, and values greater than .10 indicate poor fit (MacCallum, Browne, & Sugawara, 1996). This index is well suited to the current study because each of the models specified are complex and because it corrects for sample size. Therefore, this index was also reported.

In sum, multiple fit indices were examined and compared against the specified *cut-off* values. These are summarised in Table 4.1 below. That being said, Hair et al. (2010) stressed that these values should be considered only as guidelines, not absolute rules. Each index can provide some insight into a model's goodness-of-fit, however "no specific value on any index can separate models into acceptable and unacceptable fits" (Hair et al., 2010, p. 672).

Table 4.1: Goodness-of-Fit Indices and Cut-off Scores Used in this Study

Index	Cut-off value	Reference
χ^2/df	< 3:1	Hair et al. (2010)
CFI	> .92, when n < 250	Hair et al. (2010)
TLI	> .90	Bentler and Bonnet (1980)
RMSEA	< .06	West et al. (2012)

Interpretation and reporting stage

A SEM model is only considered to be adequate when "it consists of a compact set of parameters supported by substantive theories and has acceptable model fit" (Chou & Huh, 2012, p. 232). Once a model is deemed to be both *parsimonious* and *demonstrate good fit* with the data, the results derived from the estimation stage can then be interpreted and reported. To assess the impact that each IV had on the DV, beta weights (β) were used. Also referred to as standardised regression coefficients, β indicates the change in the IV in standard deviation units while controlling for the effects of other predictor variables in the model (Kline, 2011). As opposed to unstandardised regression coefficients, the use of β overcomes the problems associated with dealing with different units of measurement and allows comparability of the impact that various IVs have on the DV of interest (Hair et al., 2010).

While there has been debate regarding the ability of SEM to address causality, Pearl (2012, p. 68) explained that "a huge logical gap exists between 'establishing causation', which requires careful manipulative experiments, and 'interpreting parameters as causal effects', which may be based on firm scientific knowledge or on previously conducted experiments". It is, therefore, acknowledged that correlation does not prove causation. Although there is a large body of literature supporting the directionality of the relationships hypothesised in the *Literature Review* chapter, it is also possible that changes in a firm's degree of internationalisation may result in changes to its TMT's characteristics (Greve et al., 2009) and that firm financial performance may lead to changes in a firm's degree of internationalisation (Jung & Bansal, 2009). Due to its cross-sectional design, the current study was limited to looking at statistical relationships between variables. Any inferences

regarding the temporal order of events that are derived from cross-sectional analysis need to be made with caution (Pearl, 2012; Tharenou et al., 2007).

Analysis for Validating Measures

All of the multi-item measures used in this study had previously demonstrated adequate validity and reliability in their respective studies. This, however, does not guarantee that these measures will perform the same way in the context of the current study. To ensure that validity and reliability of these measures held true in this study, factor analysis was conducted. Factor analysis aims "to define the underlying structure among the variables in the analysis" (Hair et al., 2010, p. 94). It does so by reducing numerous measured variables into a smaller amount of factors, based on the closeness of their relationships to each other (Tharenou et al., 2007). Observed variables (indicators) which are intended to capture the same concept would be expected to load onto the same factor, helping to establish construct validity (Sekaran & Bougie, 2010).

There are two key types of factor analysis: EFA and CFA. These types of factor analysis differ in terms of their process and the conditions to which they are best suited. While EFA is suited to situations where little is known about the possible links between the observed and latent variables, CFA is appropriate when there is theory and/or empirical research which provide knowledge of the latent variable structure (Byrne, 2001). Because there was pre-existing empirical evidence of the latent variable structure, the observed variables for this study were subjected to CFA.

The CFA model's goodness-of-fit and the factor loadings for each item were tested. For each observed variable, its factor loading indicates the extent to which the scores for that indicator reflect the latent variable factor (Kline, 2011). Within CFA, these factor loadings are typically interpreted as regression coefficients (Kline, 2011). Factor loadings can

theoretically range from -1 to +1. According to Hair et al. (2010), factor loadings of ±.30 to ±.40 are conventionally considered to be the minimally acceptable level. These levels resonate through the literature (Ford, MacCallum, & Tait, 1986; Kim & Mueller, 1978; Tharenou et al., 2007). For instance, Ford et al. (1986) highlighted that the .40 criterion is commonly used to determine whether a variable is loading significantly onto a factor. Accordingly, the more stringent ±.40 cut off was set as the minimum criterion for keeping an item in a scale in the current study.

Reliability is another important consideration because the use of reliable measures provides more meaningful solutions than when unreliable measures are used (Tabachnick & Fidell, 2013). There are numerous forms of reliability which can be used under various conditions (Tharenou et al., 2007). Because this study uses cross-sectional survey data, internal consistency reliability was tested. Internal consistency reliability refers to the consistency between scores for the individual items contained within a single measure (Kline, 2011). Items that are indicative of the same underlying variable should be relatively homogeneous (Sekaran & Bougie, 2010). Cronbach's alpha (α) was used to test the internal consistency reliability of the multi-item measures in the current study (Tharenou et al., 2007).

Conventionally, a value of .70 has been adopted as the cut-off criteria for what is considered to be an acceptable Cronbach's alpha. That being said, Kline (2011, p. 70) noted that there is no gold standard for determining when reliable is considered to be acceptable. Instead, he suggested that "values *around* [emphasis added] .70 are adequate". Because internal consistency reliability is positively related to the length of the scale, scales comprising a larger number of items can more easily achieve higher scores (Tabachnick & Fidell, 2013). In contrast, scales comprised of only three items may struggle to meet the .70 threshold. Because this study used some measures comprised of three and four items, the .70 criterion was applied as a guide, rather than absolute rule. Once the validity and reliable of

the multi-item measures were tested, analysis was undertaken to test the hypotheses of the current study. The following section presents the analysis undertaken to test direct effects.

Analysis for Detecting Direct Effects

Addressing hypotheses 1a-1h, 3, and 4 required the analysis of direct effects between their respective IVs and DVs. Similarly, the mediation analysis undertaken to test hypotheses 2a-2h required estimates of two direct paths (discussed in detail below). To achieve this, structural models were specified that represented the relationships which were hypothesised in the *Literature Review* chapter. The directionality and significance level of each effect was then checked to determine whether the relationship was positive and statistically significant at the conventional $p < .05$ level. If this was found to be the case, the hypothesis was supported. The following section outlines the analysis undertaken to test indirect effects.

Analysis for Detecting Indirect Effects

SEM was used to derive the estimates required for testing indirect effects because it has been found to demonstrate superior performance and allow for more potential extensions, as compared to regression (Iacobucci, Saldanha, & Deng, 2007). As explained in the *Literature Review* chapter, a mediator variable is one which transmits the effect of an IV onto a DV (MacKinnon, Fairchild, & Fritz, 2007). Because there are many analytical methods available for testing the mediation processes (MacKinnon et al., 2012), it is important for researchers to carefully consider the strengths and weaknesses of each method.

The most commonly used method for analysing mediation is the causal steps approach introduced by Judd and Kenny (1981) and built upon by Baron and Kenny (1986). Under this approach, three conditions must be met in order for mediation to be established. First, the IV must significantly affect the outcome DV (*path c*). In the context of the current

study, this would necessitate a statistically significant relationship between a given TMT characteristic and firm internationalisation. Second, each variable in the sequence must affect the variable that follows it when all variables preceding it are controlled (Baron & Kenny, 1986). In other words, the IV must significantly affect the mediator (*path a*) and the mediator must then significantly affect the DV (*path b*) (Baron & Kenny, 1986). In the context of the current study, a given TMT characteristic would need to be significantly related to the competence of the TMT and the competence of the TMT would then need to be significantly related to firm internationalisation. Finally, the previously significant effect of the IV on the DV (*path c*) should no longer hold true when paths *a* and *b* are controlled (Baron & Kenny, 1986). This approach has almost become convention, with a recent count revealing that the work of Baron and Kenny (1986) has received over 20,000 citations (Tofighi & MacKinnon, 2011).

The popularity of this method, however, should not grant it immunity from criticism and nor does it. Recently, researchers have put forth conceptual and statistical criticisms of the causal steps approach (MacKinnon et al., 2007; MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). A key difference between the causal steps approach and other contemporary methods for analysing mediation is the requirement for a statistically significant IV-DV relationship (MacKinnon & Fairchild, 2009). It is on this requirement that much criticism has been levelled. For instance, James, Mulaik, and Brett (2006) highlighted that mediation can be established in SEM without *path c* being specified in the model. They also argued that this approach can be favourable as it results in the specification of a more parsimonious model.

Conceptually, "there are many cases where significant mediation exists but the requirement of a significant relation of X to Y [IV to DV] is not obtained" (MacKinnon et al., 2007, p. 601). MacKinnon and Fairchild (2009) provide two exemplar scenarios to illustrate this point. First, it is possible that a sample may consist of subgroups of respondents, for each

of which the mediated effect is characterised by the opposite sign (positive versus negative). In this scenario, it is possible that despite the presence of mediation effects, *path c* could be zero for the pooled data. Second, there may be the scenario where the sign of a statistically significant indirect effect is different to that of a statistically significant direct effect. In these inconsistent mediation models, the *overall effect* of the IV on the DV may be non-significant. In each of these cases, the causal steps approach would fail to detect the presence of an indirect effect.

Because of this limitation, the requirement of a significant IV-DV effect reduces the power of the causal steps method for detecting mediating effects (MacKinnon & Fairchild, 2009, p. 17). For instance, MacKinnon et al. (2002) conducted a simulation study comparing 14 methods of mediation analysis, including the causal steps approach. They found that the methods put forth by Judd and Kenny (1981) and Baron and Kenny (1986) underperformed in regards to both Type I error rates and statistical power, as compared to alternate analytical techniques. It is, therefore, possible that this approach may reject hypotheses of mediation, even when an indirect effect is present. In order to overcome these weaknesses, large effect sizes and/or sample sizes would be required.

When the sample size is not large, and the effect sizes are not known, Fritz and MacKinnon (2007) recommended the use of either the: *joint significance test*; *bias-corrected bootstrap test*; or the *distribution-of-the-product asymmetric confidence intervals test (PRODCLIN).* Each of these tests has more power than the causal steps approach. Of the 14 methods compared by MacKinnon et al. (2002), the test of joint significance was seen to provide the best balance of Type I error rates and statistical power across all scenarios in their simulation. The test of joint significance, which is a variation of the causal steps approach, focusses only on *path a* and *path b* to test for mediation effects (Fritz & MacKinnon, 2007). Using this method, mediation is established when both of these paths are statistically

significant (MacKinnon et al., 2002). This method, therefore, provides an accurate representation of the conceptual process of mediation, whereby changes in an IV are postulated to cause changes in the mediator, which then causes changes in the DV (MacKinnon et al., 2012). For these reasons, the joint significance test was utilised in the current study.

A limitation of the test of joint significance, however, is that it does not provide a measure of effect size (strength of the effect) or a confidence interval for the indirect effect (MacKinnon et al., 2002). Therefore, while the test of joint significance can be used to establish whether the necessary conditions for mediation were met, it is beneficial to complement this with a test of mediation which provides a confidence interval for the indirect effect (MacKinnon et al., 2002). The various bootstrapping and distribution of the product methods can be used to derive confidence intervals for indirect effects. Bootstrapping is a commonly used technique for building confidence intervals for indirect effects (MacKinnon et al., 2012). Bootstrapping is a resampling technique in which regression weights are produced over many replications, with a large number of samples drawn with replacement from the observed data (Tabachnick & Fidell, 2013). Bias-corrected bootstrapping corrects for both the potential skew in the population and the bias created by the central tendency of the estimate (Fritz & MacKinnon, 2007). Of the various bootstrapping methods, bias-corrected bootstrapping has been found to produce the most accurate confidence intervals for indirect effects (MacKinnon, Lockwood, & Williams, 2004).

Tests of indirect effects that are based in the distribution of the product have also been found to produce accurate confidence intervals for those effects (MacKinnon et al., 2012). A number of computer programs have been developed to assist with this task. For instance, MacKinnon et al. (2007) introduced a *PRODCLIN program* for calculating the product confidence limits for indirect effects. This program has been argued to build accurate

confidence intervals (Fritz & MacKinnon, 2007). Tofighi and MacKinnon (2011) introduced an updated program (*Rmediation*) for building confidence intervals for mediated effects. *Rmediation* uses the unstandardized estimates and standard errors of *path a* and *path b* to calculate a confidence interval for the indirect effect (Tofighi & MacKinnon, 2011). For mediation to be established, the confidence interval should be exclusive of zero. The magnitude of the indirect effect can then be calculated as the product of the regression coefficients for *path a* and *path b*.

The bias-corrected bootstrapping and PRODCLIN approaches have both generally been found to perform well in terms of power and Type 1 error (MacKinnon et al., 2012). These methods each outperform traditional tests of indirect effects that are based on the normal distribution (Fritz & MacKinnon, 2007; MacKinnon et al., 2004), such as Sobel's (1982) test. While either of these approaches are acceptable (MacKinnon et al., 2012), bias-corrected bootstrapping has been found to provide inaccurate confidence intervals in some cases (MacKinnon et al., 2004; Tofighi & MacKinnon, 2011). Consequently, it is argued that "the distribution-of-the-product method [PRODCLIN] has the best statistical performance of existing methods" (Tofighi & MacKinnon, 2011, p. 692). The current study, therefore, used the PRODCLIN method to derive confidence intervals for indirect effects.

In sum, two tests of mediation were used for testing the mediating role of competence of the TMT on the relationships between TMT characteristics and firm internationalisation (hypothesis 2a-2h). First, the test of joint significance was used to determine whether the conditions for mediation had been met. If these conditions were found to have been met, the PRODCLIN method was then conducted using the *Rmediation* program to test the statistical significance of the indirect effect. Mediation was only considered to be established if both tests provided support for the indirect effect.

Analysis of for Detecting Common Method Variance

Because this study used single-source data, it is possible that the results may have been influenced by CMV (Richardson, Simmering, & Sturman, 2009). CMV is a widespread issue within the IB field and an issue that researchers should handle with care (Chang, Van Witteloostuijn, & Eden, 2010). Responses to CMV can occur on an *ex ante* or *ex post* basis (Podasakoff et al., 2003; Podsakoff, MacKenzie, & Podsakoff, 2012). This section will focus on the *ex post* (statistical) responses which were undertaken.

Harman's single factor test is one of the most commonly used techniques for detecting CMV. Conducting this test involves entering all observed variables into an exploratory factor analysis and then examining the results of an unrotated factor solution (Podasakoff et al., 2003). If the results reveal a single dominant factor which explains the majority of the covariance amongst the items, it is possible that CMV is present in the data (Sharma, Yetton, & Crawford, 2009). An alternate approach to this test that is commonly used in the SEM literature involves specifying a measurement model in which all items are loaded onto a single latent variable (Carmeli et al., 2012; Lubatkin et al., 2006). A good fitting model would be interpreted as a possible indication of CMV. According to Podasakoff et al. (2003, p. 889), this use of CFA represents "a more sophisticated test of the hypothesis that a single factor can account for all of the variance in their data". It was, therefore, this approach that was undertaken in the current study.

Despite the appeal of the single-factor test, however, it has been criticised because it "actually does nothing to statistically control for (or partial out) method effects" (Podasakoff et al., 2003, p. 889). It is, therefore, prudent to complement this approach with other tests of CMV, such as the marker variable approach. As a result, the presence and magnitude of CMV was also assessed using a variation of the marker variable technique discussed by

Lindell and Whitney (2001). This required the identification of a marker variable that was expected, for theoretical reasons, to be unrelated to the other variables in the study. Because the marker variable is theoretically unrelated to all of the other variables, the relationships it has with the other variables represent a reasonable estimate of the CMV in the data. Including the marker variable into a structural model is, then, a means of partialling out the influence of the CMV. Because the marker variable is expected to have only minimal influence on the other variables, its inclusion in a structural model should not create substantial changes to that model. This analysis was undertaken by running each SEM model twice: once with the marker variable excluded and then again but with the marker variable included as a control. The results of the two models were then compared. If the inclusion of the marker variable has only negligible effects on the model's overall fit with the data, then CMV would not be considered problematic. As noted in the *Method* chapter, *reporting requirements* was used as the marker variable for the current study because it was not expected to be theoretically related to the other variables in the study.

Summary of Analysis Chapter

In sum, a range of analytical techniques were employed in the current study to: establish the validity and reliability of measures; test for the presence of direct and indirect effects between the IVs and DVs; and to check for the presence of CMV in the data. SEM was the primary analytical method utilised in this study. To ensure that SEM was implemented in a consistent and rigorous manner, Hoyle's (2012) SEM implementation framework was followed. CFA was undertaken to determine the validity of multi-item measures used in this study. Direct effects were analysed using standardised estimates. These were also used in the analysis of indirect effects. Because of the weaknesses associated with the causal steps approach to mediation analysis, this study opted for the use of the test of joint

significance and the PRODLIN method of analysis when testing for indirect effects. Mediation was deemed to be established if support was provided by both tests. For each model, the presence of CMV was tested. The following chapter will present the results from this analysis.

Chapter Five: Results

This chapter will present the results of the analyses which were outlined in Chapter Four. To begin, the results of the CFA will be reported and the validity and reliability of each multi-item measure outlined. Next, results regarding hypothesis testing will be presented, including: the relationships between TMT characteristics and firm internationalisation (hypotheses 1a–1h); the mediating role of competence of the TMT on those relationships (hypotheses 2a–2h); the relationship between firm internationalisation and firm financial performance (hypothesis 3); and the relationship between competence of the TMT and firm financial performance (hypothesis 4). Results of the CMV tests will be integrated throughout the chapter.

Confirmatory Factor Analysis

This section will present the results of the CFA for multi-item measures. First, results of the checks undertaken to ensure the data were suitable for CFA will be reported. Second, the model fit of the CFA measurement model and the factor loadings for each observed variable will be presented.

Assumptions of confirmatory factor analysis

For CFA to provide robust results, a number of assumptions must be met. Before the CFA was conducted, data were screened and each of the assumptions were tested. The results of these tests are presented below.

Sample size. A sufficiently large sample size is a necessity if factor analysis is to be undertaken reliably. There remains debate, however, over the minimum number of respondents required for factor analysis (MacCallum, Widaman, Zhang, & Hong, 1999;

Parsian & Dunning, 2009). Tabachnick and Fidell (2013) suggested that 300 cases could be considered the minimum requirement for a CFA characterised by low commonalities, a small number of factors, and a just a few indicators for each of the factors. That being said, the authors noted that when these conditions are improved, smaller sample sizes may be sufficient. Others have suggested that sample sizes in the range of 100-200 should suffice (Comrey & Lee, 1992; MacCallum et al., 1999). This is reiterated by common rules of thumb which suggest that, when using SEM, at least 100 cases are required (Gorsuch, 1983; Kline, 1979). As such, the sample of 152 was considered sufficient for the analysis.

Missing data. The proportion and pattern of missing data were checked. Tabachnick and Fidell (2013) stated that if 5% or less of total data is missing, and is missing at random, then this is unlikely to be problematic. Under such conditions, similar performance would be expected regardless of the missing data technique applied (Tabachnick & Fidell, 2013). Hair et al. (2010) suggested that missing data is generally ignorable when the proportion of data missing is less than 10% of the total data and the data is missing at random. The sample size for the CFA in the current study was reduced from 152 to 134, equating to 11.8% missing data.

To determine whether the data were missing in a systematic manner, Little's (1988) missing completely at random (MCAR) test was used. The results of this test were non-significant (chi-square = 273.42, df = 245, $p > .05$), meaning that the null hypothesis that data were missing completely at random could not be rejected. Therefore, while slightly over 10% of data were missing, there was no evidence to suggest that these were missing in a systematic, non-random way. The FIML technique used in the current study is particularly effective, compared to more traditional deletion and imputation approaches, at handling missing data that is MCAR (Enders, 2001). As such, 11.8% missing data, that was missing at random, was not considered to be problematic.

Multivariate normality. The assumption of multivariate normality requires all univariate distributions to be normal and the joint distributions between all possible combinations of variables to be bivariate normal (Kline, 2011). Because it is often impractical to examine the bivariate frequency distribution of each possible pair of variables (Kline, 2011), it has been suggested that univariate normality can be interpreted as an indicator of multivariate normality (Hair et al., 2010; Kline, 2011). Inspection of univariate distributions can allow researchers to detect many instances of multivariate non-normality (Kline, 2011). If variables are found to be univariate normal, any deviations from multivariate normality are likely to be inconsequential (Hair et al., 2010).

Univariate normality was assessed by examining values of skewness and kurtosis for each of the observed variables included in the CFA and the examination of histograms (Hair et al., 2010). A distribution is considered to be severely non-normal if the absolute skewness value exceeds 3 and/or the absolute kurtosis value exceeds 10 (Kline, 2011). None of the observed variables included in the CFA approached these thresholds, so it was concluded that the data did not violate the assumption of normality. This conclusion was reiterated by the examination of the histograms, which did not indicate the presence of univariate non-normality. The scarcity of multivariate outliers (discussed directly below) provided further evidence that the assumption of multivariate normality was not violated by the data.

Outliers. The Mahalanobis distance statistic was used to test for the presence of multivariate outliers (Tharenou et al., 2007). The values were compared to the critical chi-square value at the 0.001 level as recommended by Tabachnick and Fidell (2013). When a dummy variable (i.e. the ID number designated to each case) was regressed on the 31 observed variables included in the CFA, only one case was seen to be an outlier as it had an Mahalanobis distance score (65.47) greater than the critical value of 61.10.

Outliers are only problematic when they have a substantial influence on the results of analysis (Tabachnick & Fidell, 2013). To test the influence of the outlying case, the CFA model was run twice: once with the outlying case included and again with it removed. The results from these models were then compared to determine the influence that the outlier was having on the model. This comparison revealed that there was no substantial change in any of the standardised estimates (factor loadings) (maximum $\Delta\beta = .03$, mean $\Delta\beta = .01$) and there was only a negligible difference in the fit indices of the models ($\Delta\chi 2/df = 0.01$, $\Delta CFI = .00$, $\Delta TLI = .00$, $\Delta RMSEA = .00$). Therefore, it was concluded that the outlying case was not having a substantial impact on the data and so it was retained in the data for analysis.

Linearity and homoscedasticity. The assumptions of linearity and homoscedasticity are important because the estimates generated in SEM are based on linear relationships (Kline, 2011). Linearity and homoscedasticity were tested via bivariate scatterplots, which were constructed at the observed variable level (Kline, 2011). Due to the considerable number of potential observed variable combinations, a 5% subset of these were randomly selected and checked. For each combination, the resulting scatterplots revealed roughly linear and oval-shaped distributions. This indicated that the assumptions of linearity and homoscedasticity were not violated. In sum, based on the results of these assumption tests, the data were deemed to be adequate for CFA. Next, the results of the CFA model will be presented.

The confirmatory factor analysis model

The CFA model specified in the current study comprised seven latent variables, with each composed of multiple items (observed variables): TMT intra-firm relationships (four items); TMT intra-industry relationships (four items); TMT extra-industry relationships (three items); TMT behavioural integration (nine items); competence of the TMT (four items); firm internationalisation (three items); and firm financial performance (four items).

Following Simsek et al. (2005), TMT behavioural integration was specified as a second-order variable, with the nine items loaded onto three separate, but related, first-order latent variables: collaborative behaviour (three items); information exchange (three items); and joint decision-making (three items).

The overall model fit (χ^2 [df = 411] = 599.16, χ^2/df = 1.46, CFI = .91, TLI = .90, RMSEA = .06) was deemed to be acceptable. With the exception of the CFI, the values of each fit index reported in the current study met the criteria set out in the *Analysis* chapter. Although the CFI value (CFI = .91) did not meet the criteria set out in the *Analysis* chapter, this fell only marginally below the designated cut-off value of .92 for a sample size of below 250 (Hair et al., 2010). Because the cut-off scores for the various fit indices are provided as general guidelines rather than absolute rules (Hair et al., 2010; Kline, 2011) and all other indices exceeded their designated cut-off values, the CFA model was deemed to have acceptable overall fit and provide evidence of construct validity for each of the latent variables. The results for the CFA are summarised in Table 5.1 below.

Table 5.1: Results from Confirmatory Factor Analysis

Item	CO	IE	JD	BI**	FP	FI	FR	IR	ER	CT
When a TMT member is busy, other team members often volunteer to help manage the workload	.70									
TMT members are flexible about switching responsibilities to make things easier for each other	.80									
TMT members are willing to help each other complete jobs and meet deadlines	.88									
TMT members usually let each other know when their actions affect another team member's work		.78								
TMT members have a clear understanding of the joint problems and needs of other team members		.71								
TMT members usually discuss their expectations of each other		.62								
Quality of ideas			.77							
Quality of solutions			.77							
Level of creativity and innovation			.76							
TMT collaboration*				.83						
TMT information exchange*				.90						
TMT joint decision-making*				.69						
Return on sales					.94					
Return on investment					.90					
Profitability					.91					
Reaching financial goals					.86					

(Table continues)

(Table continued)

Item	CO	IE	JD	BI**	FP	FI	FR	IR	ER	CT
Geographic scope of foreign sales						.40				
Ratio of foreign sales to total sales						1.00				
Percentage of internationally focused employees						.62				
TMT members maintain close contact with employees and managers within our company							.72			
TMT members learn a lot from their interactions with employees and managers within our company							.79			
TMT members have social interaction with employees and managers within our company about conditions in our industry							.64			
TMT members put a lot of effort into building relationships with knowledgeable employees and managers within our company							.80			
TMT members maintain close contact with founders of other firms in our industry								.58		
TMT members have social interaction with other top executives with knowledge about conditions in our industry								.71		
TMT members learn a lot from interactions with top executives in our industry								.79		
TMT members put a lot of effort into building relationships with other knowledgeable executives in our industry								.73		

(Table continues)

(Table continued)

Item	CO	IE	JD	BI**	FP	FI	FR	IR	ER	CT
TMT members have connections with top executives from firms not operating in our industry									.78	
TMT members have strong relationships with top executives who serve on boards in firms not operating in our industry									.89	
TMT members put a lot of resources into cultivating relationships with top executives of firms outside our industry									.77	
The TMT is good at absorbing worldwide information from customers, suppliers or competitors										.59
The TMT is good at identifying global business opportunities										.58
The TMT is good at dealing with emergency situations quickly and efficiently										.62
The TMT is good at coping with pressure or hardship										.64

$\chi 2$ (df = 411) = 599.16, $\chi 2$/df = 1.46, CFI = .91, TLI = .90 RMSEA = 0.06

Note. * = First order variable. ** = Second order variable. Standardised coefficients are reported. CO = TMT collaboration, IE = TMT information exchange, JD = TMT joint decision-making, BI = TMT behavioural integration, FP = Firm financial performance, FI = Firm internationalisation, FR = TMT intra-firm relationships, IR = TMT intra-industry relationships, ER = TMT extra-industry relationships, CT = Competence of the TMT.

TMT behavioural integration. The CFA supported the second-order structure of TMT behavioural integration, with each item loading strongly onto their designated factors of TMT collaboration (.70, .80, and .88; with an average of .79), TMT information exchange (.78, .71, and .62; with an average of .70), and TMT joint decision-making (.77, .77, and .76;

with an average of .77). In Table 5.1 above, it can also be seen that each of these first-order factors then loaded strongly onto the second-order factor TMT behavioural integration (.83, .90, and .69 respectively, with an average loading of .81).

TMT intra-firm relationships. As shown in Table 5.1 above, the CFA indicated that the four items intended to measure TMT intra-firm relationships each loaded strongly on the same factor (.72, .79, .64, and .80), with an average factor loading of .74.

TMT intra-industry relationships. The CFA demonstrated that the four items intended to measure TMT intra-industry relationships also loaded strongly onto the expected factor. Factor loadings for these items were .58, .71, .79, and .73, producing an average factor loading of .70.

TMT extra-industry relationships. The CFA presented in Table 5.1 above also indicated that the three items of the TMT extra-industry relationships scale loaded strongly on the same factor (.78, .89, and .77), resulting in an average factor loading of .81.

Competence of the TMT. The CFA demonstrated that the items intended to measure competence of the TMT loaded strongly onto a single factor. The factor loadings for these items were .59, .58, .62, and .64, with an average factor loading of .61.

Firm internationalisation. As with the TMT-level variables, the CFA also supported the construct validity of the firm-level variables in the current study. This held true for firm internationalisation, which is the centrepiece of this study (see Table 5.1 above). Geographic scope of foreign sales, FSTS, and percentage of employees spending over 50% of their time on international activities each loaded onto the firm internationalisation factor (.40, 1.00, and .62, respectively), with an average factor loading of .67. The loading for FSTS (1.0) sits at the upper limit for what is theoretically possible. Further, although the factor loading for

geographic scope of foreign sales (.40) was lower than that of other items, it met the 0.4 threshold for what is typically considered to be a significant factor loading (Hair, et al. 2010).

Firm financial performance. For firm financial performance, the items of ROS, ROI, profitability, and reaching financial goals each loaded strongly onto the predicted factor (.94, .90, .91, and .86), with an average factor loading of .90.

Reliability Analysis

This section reports the results of the reliability analysis conducted for each of the multi-item measures used in the current study. As can be seen in Table 5.2 below, the alpha coefficient for firm internationalisation ($\alpha = .68$) fell only slightly below the .70 cut off for established measures proposed by Nunnally (1978). The alpha coefficients for all of the other multi-item measures included in the current study exceeded this criterion. From this, the reliability of the multi-item measures were deemed to be acceptable for hypothesis testing. The following section presents the results of the hypothesis testing undertaken in this study.

Table 5.2: Internal Consistency of the Multi-Item Measures

Variable	Number of items	Cronbach's alpha (α)
Competence of the TMT	4	.71
TMT behavioural integration	9	.86
TMT intra-firm relationships	4	.82
TMT intra-industry relationships	4	.79
TMT extra-industry relationships	3	.85
Firm internationalisation	3	.68
Firm financial performance	4	.94

Hypothesis Testing using Structural Equation Modelling

The measures included in this study demonstrated adequate validity and reliability. They were, therefore, considered to be acceptable for hypothesis testing. Hypotheses were

tested with SEM. Before SEM was undertaken, the data were checked to determine whether they were suitable for this analytical technique. Then, structural models were specified, interpreted, and reported. Finally, the potential influence that CMV had on the results of each of the models was tested. The results of each of these steps are presented below.

Assumptions of structural equation modelling

Before hypotheses were tested using SEM, the data were again tested to determine whether they were suitable for analysis. This time, the assumptions of SEM were tested with all *single item* IVs and controls included. The results from these tests are presented below.

Sample size. SEM is a large sample technique (Kline, 2011). That being said, in some cases, SEM is able to provide valid and stable results with sample sizes as low as 50 cases (Hair et al., 2010; Tabachnick & Fidell, 2013). While it is not unheard of for SEM to be conducted in small sample studies (MacCallum & Austin, 2000), a sample of less than 100 would usually be seen as cause for concern (Kline, 2011). According to Kline (2011, p.12) "a 'typical' sample size in studies where SEM is used is about 200 cases". An often cited rule is that a sample of between 100 and 200 would be considered *medium* for the purpose of SEM (Kline, 2005). From this, the sample of 152 cases in the current study was considered to be adequate.

Missing data. With all controls and IVs included in the missing data analysis, the sample was reduced from 152 to 130 cases. This represented 14.5% missing data. The result of Little's MCAR test was non-significant (chi-square = 454.29, $df = 420$, $p > .05$) and, therefore, it was not possible to reject the null hypothesis that the data were not missing completely at random. Given the ability of the FIML to perform effectively under conditions of substantial missing data that is missing completely at random (Enders, 2001), the

proportion and pattern nature of missing data in this study were not considered to be problematic.

Multivariate normality. As outlined earlier, because of the lack of direct tests of multivariate normality, univariate normality was tested in its place (Hair et al., 2010). This time, the skewness and kurtosis values and histogram distributions of all single-item IVs and controls was also examined. Of these single-item measures, only one failed to meet the requisite criteria. No other variables violated the assumption of univariate normality.

Firm R&D intensity, which is included as a control variable, had an absolute skewness value of 3.93 and a kurtosis value of 20.33. This indicated a *positively skewed* and *highly peaked* distribution. Substantial non-normality can decrease the robustness of statistical inferences (Bradley, 1982). That being said, because inferential statistics are often quite robust to violations of normality (Tabachnick & Fidell, 2013), transformations aimed at remedying non-normality should only be undertaken when conditions are sufficiently compelling (Tharenou et al., 2007). Given the severe non-normality of the distribution of R&D intensity, transformation was considered to be necessary. Depending on the severity of non-normality, a positively skewed distribution may be subjected to either a *square root* or *logarithm* transformation (Tabachnick & Fidell, 2013). Beginning with the milder alternative, a square root transformation was conducted first. The absolute skewness value of this newly transformed variable was .55 and the absolute kurtosis value was 1.62. Thus, both of these values now adhered to the criteria mentioned above.

The transformation was deemed appropriate and the newly created variable was included in the subsequent analysis. Following this transformation, no variables violated the assumption of univariate normality, any deviation from multivariate normality was assumed

to be inconsequential (Hair et al., 2010). This was reiterated by the scarcity of multivariate outliers (discussed directly below).

Outliers. As before, the Mahalanobis distance statistic was used to check for the presence of multivariate outliers (Tharenou et al., 2007). In the regression of firm internationalisation on the eight TMT characteristics, the competence of the TMT, and the four controls, two cases had a Mahalanobis distance (35.43 and 34.91) greater than the critical value of 34.53. These outliers did not have a substantial influence on any of the hypothesis testing structural models specified in the current study in regards to standardised estimates (maximum $\Delta\beta = .06$, mean $\Delta\beta = .01$) or fit with the data (maximum $\Delta\chi 2/df = 0.01$, maximum $\Delta CFI = .00$, maximum $\Delta TLI = .01$, maximum $\Delta RMSEA = .00$). Therefore, the outlying cases were not having a substantial impact on the results and were retained in the data for analysis. When firm financial performance was regressed on firm internationalisation, competence of the TMT, and the four controls, no cases had a Mahalanobis distance exceeding the critical distance at the 0.001 level.

Linearity and homoscedasticity. As noted above, the assumptions of linearity and homoscedasticity were checked through the use of bivariate scatterplots. Again, it should be noted that, due to the inordinate number of potential item combinations, a 5% subset of these was randomly checked. In each of these combinations of variables, the resulting scatterplots revealed roughly oval-shaped distributions. This indicated that the assumptions of linearity and homoscedasticity were not violated.

Multicolinearity. Ideally, there should be strong correlations between the IVs and DVs, but not amongst the IVs themselves (Hair et al., 2010). When IVs are highly correlated, it can cause computational and interpretational problems (Tharenou et al., 2007). According to Tabachnick and Fidell (2013) variables may become redundant when there is a bivariate

correlation of .70 or more and can create statistical problems when correlations of .90 or higher are present. Examination of the correlation matrix (see Table 5.3 below) revealed that the strongest bivariate correlation in the data was that between the proportion of TMT members with international experience and the geographic scope of TMT international experience (r = .61). The magnitude of the bivariate correlations suggested that the data did not suffer from problematic multicolinearity. Once the data were deemed to be adequate for SEM, structural models were specified and tested. These models are presented below.

Table 5.3: Means, Standard Deviations, and Correlation Coefficients between Variables

Variables		M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	IEP	0.38	0.28															
2	IES	0.34	0.25	.61**														
3	ND	0.27	0.13	.22**	.49**													
4	EDU	0.67	0.31	.44**	.34**	.18*												
5	FR	4.01	0.66	.09	.05	.02	.09											
6	IR	3.47	0.71	.11	.15	.09	.10	.34**										
7	ER	2.92	0.88	.06	.03	.05	.12	.17*	.46**									
8	BI	3.71	0.55	.07	.15	.04	.12	.53**	.42**	.24**								
9	CT	3.98	0.54	.19*	.26**	.19*	.34**	.32**	.37**	.23**	.57**							
10	FI	0.00	2.35	.44**	.33**	.17*	.33**	.05	.05	.01	.12	.31**						
11	FFP	4.73	1.42	.01	-.10	.04	-.08	.24**	.01	-.05	.23**	.18*	.05					
12	AGE	41.20	36.03	.00	.10	.10	.00	-.03	-.09	.09	-.08	.03	-.03	.05				
13	SIZE	3.64	1.40	.20*	.34**	.37**	.13	.05	-.03	-.05	.00	.11	.04	.12	.40**			
14	R&D	2.58	1.90	.09	.09	.06	.20*	.09	.10	.12	.04	.07	.17*	-.15	-.10	-.14		
15	IND	0.41	0.49	-.16	-.01	-.01	-.12	-.05	-.18*	-.04	-.04	-.01	-.04	-.06	.14	-.01	-.20*	
16	RR	2.17	0.41	.32**	.16*	.14	.27**	-.09	.01	-.11	.05	.08	-.08	.23**	-.03	-.01	.15	-.18*

Note: * $p \leq .05$, ** $p \leq .01$. Firm internationalisation measured using standardised item values. IEP = Proportion of TMT members with international experience, IES = Geographic scope of TMT international experience, ND = TMT nationality diversity, EDU = Proportion of TMT members with a tertiary education, FR = TMT intra-firm relationships, IR = TMT intra-industry relationships, ER = TMT extra-industry relationships, BI = TMT behavioural integration, CT = Competence of the TMT, FI = Firm internationalisation, FFP = Firm financial performance, AGE = Firm age, SIZE = Firm Size, R&D = R&D intensity, IND = Industry, and RR = Reporting requirements (marker variable).

Structural equation model for testing hypothesis 1a – 1h

This section outlines the SEM results testing the hypotheses falling under research question one (hypotheses 1a–1h). In order to test the relationships between TMT characteristics and firm internationalisation, a structural model was specified that comprised: eight TMT IVs (proportion of TMT members with international experience, geographic scope of TMT international experience, TMT nationality diversity, proportion of TMT with a tertiary education, TMT intra-firm relationships, TMT intra-industry relationships, TMT extra-industry relationships, and TMT behavioural integration); a single DV (firm internationalisation); and four controls (firm size, firm age, R&D intensity, and industry). All estimates derived from this model were of direct effects. The fit between this model and the data ($\chi 2$ [df = 361] = 469.48, $\chi 2/df$ = 1.30, CFI = .93, TLI = .91, RMSEA = .05) was acceptable across all fit indices reported in this study.

Figure 5.1 below shows the results of the model. Of the eight TMT characteristic variables, two were significantly and positively related to firm internationalisation. The proportion of TMT members with internationalisation experience had the strongest relationship with firm internationalisation (β = .41, p < .01), followed by TMT behavioural integration (β = .36, p < .05). Therefore, hypotheses 1a and 1h were supported. The remaining six TMT characteristics were not significantly related to firm internationalisation: TMT nationality diversity (β = .13, p > .05); geographic scope of TMT international experience (β = -.11, p > .05); TMT intra-firm relationships (β = -.15, p > .05), TMT intra-industry relationships (β = -.20, p > .05); TMT extra-industry relationships (β = -.01, p > .05); and proportion of TMT members with a tertiary education (β = .14, p > .05). Therefore, hypothesis 1b, 1c, 1d, 1e, 1f, and 1g were not supported.

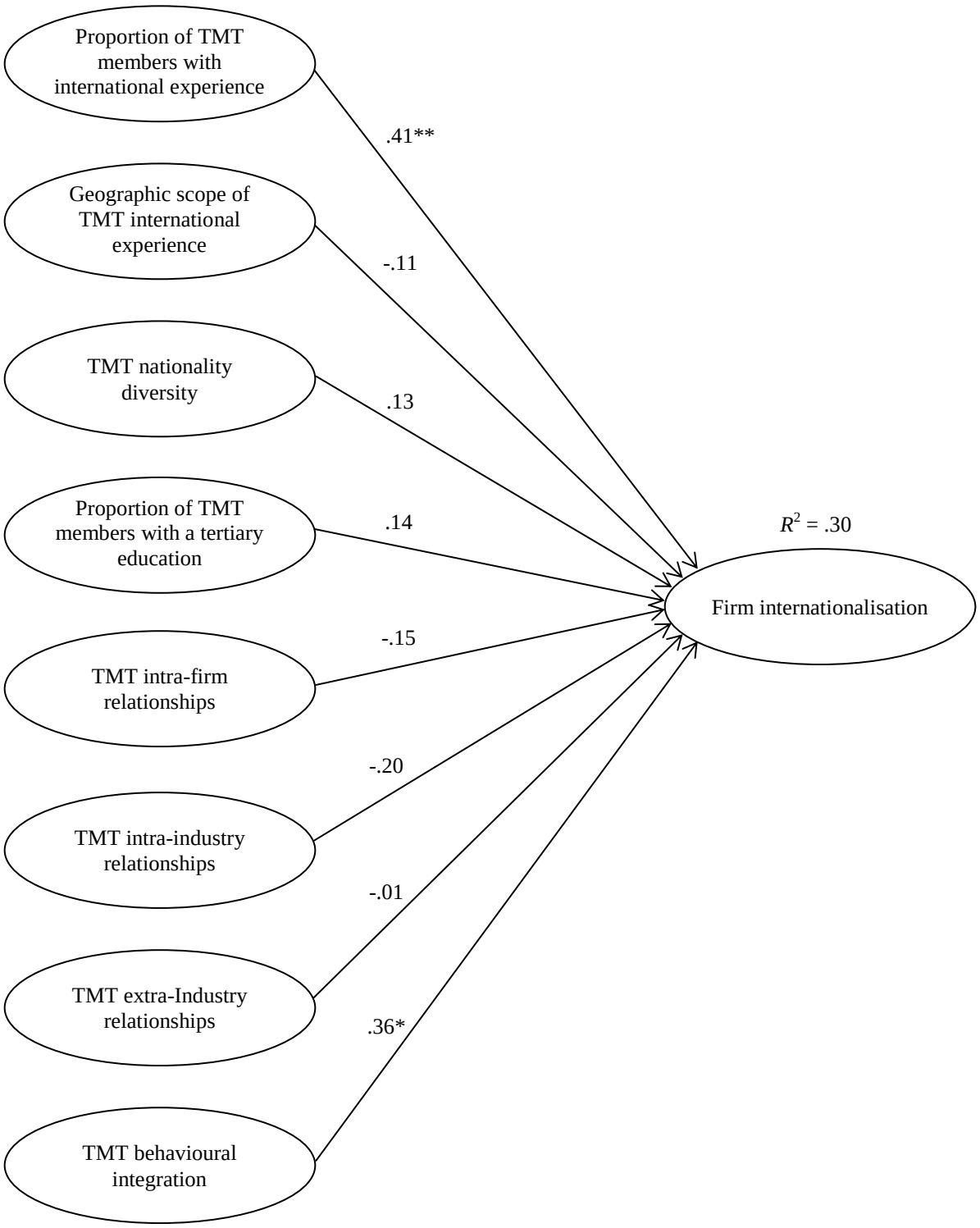


Figure 5.1 Results of Structural Equation Model for Testing Hypotheses 1a–1h

Note: * $p \leq .05$, ** $p \leq .01$. This is a simplified version of the actual model. It does not show controls, error terms, or covariances between IVs. Firm age, firm size, R&D intensity and industry are controlled in each relationship. Standardised coefficients shown.

Firm age, firm size, R&D intensity and industry were controlled for in each relationship. Of these, only R&D intensity was found to be significantly related to firm internationalisation ($\beta = .19$, $p < .05$). Firm age ($\beta = .01$, $p > .05$), firm size ($\beta = -.13$, $p > .05$), and industry ($\beta = .00$, $p > .05$) were not found to be related to firm internationalisation. Overall, this model explained 30.3% of the variance in firm internationalisation ($R^2 = .30$). According to Cohen's (1988) guidelines, this represents a large proportion of explained variance.

Common method variance in results for hypothesis 1a–1h. To test whether the results based on the abovementioned model were unduly influenced by CMV in the data, a measurement model was specified in which each of the observed variables were loaded onto a single latent variable. The fit of the single factor model ($\chi 2$ [$df = 434$] = 1375.15, $\chi 2/df$ = 3.17, CFI = .42, TLI = .34, RMSEA = .12) was poor across each of the fit indices reported in the current study, indicating that a single factor did not account for all of the variance in the data. This provides some evidence that there was not a substantial amount of CMV present in the data. The influence of CMV was then tested through the comparison of two SEM models: 1) The SEM model used to test hypothesis 1a – 1h (see Figure 5.1 above), and 2) the same model but with the marker variable also controlled for. As shown in the correlation matrix (Table 5.3 above), reporting requirements was generally only weakly related to the other variables of the study (average $r = .13$). This provides an estimate of the effect of the CMV and indicates that CMV was not having a substantial influence on the data. In support of this, a chi-square difference test revealed that the inclusion of the marker variable did not result in a significant change in the model's fit ($\Delta \chi^2 = 15.04$: $p > .05$, $\Delta \chi^2/df = 0.02$, Δ CFI = .00, Δ TLI = .00, Δ RMSEA = .00). From this, it was concluded that the results of the model were not substantially influenced by CMV.

Structural equation model testing hypothesis 2a–2h, 3, and 4

In order to test the remaining hypotheses, another structural model was specified. This model consisted of: eight TMT characteristics as predictors of firm internationalisation; competence of the TMT as the mediator of those relationships; and firm financial performance as a direct outcome of both firm internationalisation and the competence of the TMT. Once again, firm age, firm size, R&D intensity, and industry were controlled for in all relationships.

There are two ways of specifying mediation models using SEM. Under the first approach, complete mediation is assumed in the baseline model (James et al., 2006). In SEM, complete mediation represents the most basic and parsimonious mediation model as it comprises just two direct paths: one from the IV to the mediator and another from the mediator to the DV (James et al., 2006). Because the aim of specification in SEM is to arrive at the most parsimonious model that adequately fits the data (Chou & Huh, 2012; Kline, 2011), this approach takes precedence when theory and prior literature suggest that complete mediation should be hypothesised (James et al., 2006). The second approach requires a direct path from the IV to the DV to also be included for each mediation chain (Iacobucci et al., 2007). Although this approach results in a less parsimonious model, it allows for both partial and complete mediation to be tested. Because mediation processes in the social sciences are likely to be only partially mediated (MacKinnon et al., 2007), this more conservative approach was followed when specifying the baseline mediation model in the current study.

The *evaluation of fit* stage of the SEM implementation process (Hoyle, 2012) revealed that, for the baseline model ([$df = 610$] = 846.18, $\chi 2/df = 1.39$, RMSEA = .05, TLI = .88, CFI = .90), *both* the TLI and CFI values fell below the designated criteria set in the current study (.90 and .92 respectively) (Bentler & Bonnet, 1980; Hair et al., 2010). In response to concerns regarding the model's parsimony and marginal goodness-of-fit, the model was

trimmed of all non-significant paths. If an IV was left with no remaining relationships with any DVs, it was removed from the model. However, controls were kept in the model to hold constant their potential confounding effects. This process resulted in a more parsimonious, and better fitting, model. Unlike the baseline model, the fit between the trimmed model and the data ($\chi 2$ [df = 282] = 396.59, $\chi 2$/df = 1.41, CFI = .93, TLI = .90, RMSEA = .05) was acceptable across all fit indices reported in the current study. The trimmed model was, therefore, not only more parsimonious than the baseline model, but it also demonstrated adequate fit with the data.

The mediated relationship between TMT characteristics and firm internationalisation, via competence of the TMT. Figure 5.2 below shows the model. Three TMT characteristics had positive and significant relationships with the competence of the TMT: TMT behavioural integration ($\beta = .77$, $p < .01$); proportion of TMT members with a tertiary education ($\beta = .25$, $p < .01$); and TMT nationality diversity ($\beta = .17$, $p < .05$). The competence of the TMT was, in turn, found to have a statistically significant positive relationship with firm internationalisation ($\beta = .27$, $p < .01$). Taken together, these results show that hypothesis 2c, 2d, and 2h were supported using the test of joint significance. These results were supported by the PRODCLIN analysis (see Table 5.4 below). The confidence intervals for the indirect effect between the proportion of TMT members with a tertiary education (indirect effect = .07, 95% CI [0.01, 0.12]), TMT behavioural integration (indirect effect = .21, 95% CI [0.03, 0.21]), and TMT nationality diversity (indirect effect = .05, 95% CI [0.001, 0.23]) and firm internationalisation were each *exclusive* of zero. Therefore, hypothesis 2c, 2d, and 2h were supported. Overall, this model explained 73.5% of the variance in the competence of the TMT ($R^2 = .74$) and 29.4% of variance in firm internationalisation ($R^2 = .29$). These represent large proportions of the variance explained

(Cohen, 1988), especially the proportion of variance explained by TMT behavioural integration.

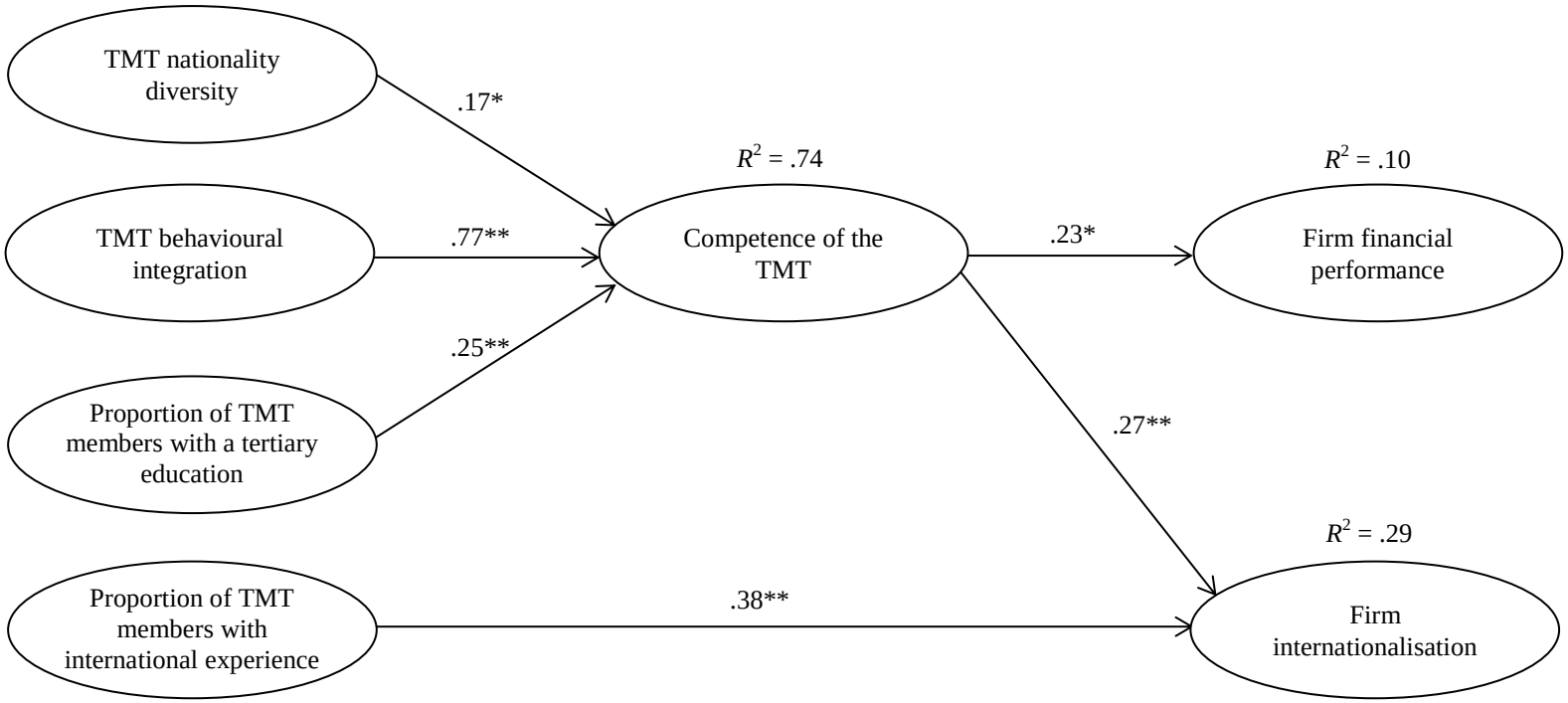


Figure 5.2: Results of Structural Equation Model for Testing Hypotheses 2a–2h, Hypothesis 3, and Hypothesis 4

Note: * $p \leq .05$, ** $p \leq .01$. This is a simplified version of the actual model. It does not show controls, error terms, or covariances between IVs. Non-significant paths have been trimmed. Firm age, firm size, R&D intensity and industry are controlled in each relationship. Standardised coefficients shown.

Table 5.4: Results of PRODCLIN Analysis for Hypotheses 2c, 2d, 2h

	Indirect effect on firm internationalisation	95% confidence interval	
		Lower limit	Upper limit
TMT education	.07*	0.01	0.12
TMT nationality diversity	.05*	0.001	0.23
TMT behavioural integration	.21*	0.03	0.21

Note: * $p \leq .05$, ** $p \leq .01$. TMT education = Proportion of TMT members with tertiary education. Firm age, firm size, R&D intensity, and industry were controlled.

Controlling for competence of the TMT, TMT nationality diversity ($\beta = .07$, $p > .05$), proportion of TMT members with tertiary education ($\beta = .03$, $p > .05$), and TMT behavioural integration ($\beta = -.01$, $p > .05$) were not related to firm internationalisation. These non-significant paths were, therefore, trimmed from the final model. Thus, competence of the TMT *fully mediated* (James et al., 2006) the effects that the proportion of TMT members with tertiary education, TMT behavioural integration, and TMT nationality diversity each had on firm internationalisation. As can be seen in Figure 5.2 above, *only* the proportion of TMT members with international experience was left with a direct, unmediated, positive effect on firm internationalisation ($\beta = .38$, $p < .01$).

Five of the eight TMT characteristics had non-significant relationships with the competence of the TMT: proportion of TMT members with international experience ($\beta = .05$, $p > .05$); geographic scope of TMT international experience ($\beta = -.06$, $p > .05$); TMT intra-firm relationships ($\beta = -.18$, $p > .05$); TMT intra-industry relationships ($\beta = .11$, $p > .05$); and TMT extra-industry relationships ($\beta = -.05$, $p > .05$). Therefore, no mediation was observed for these relationships and hypotheses 2a, 2b, 2e, 2f, and 2g were not supported. This was

reiterated by PRODCLIN analysis, as the confidence intervals for each of these indirect effects were inclusive of zero. As noted, these paths were trimmed from the final model.

Firm age, firm size, R&D intensity, and industry were controlled for in each direct and indirect relationship. Firm age, firm size, and industry were not significantly related to the competence of the TMT (β = .07, -.05, and .04 respectively; $p > .05$ for each), firm internationalisation (β = -.01, -.11, and .01; respectively; $p > .05$ for each), or firm financial performance (β = .01, .06, and -.11 respectively; $p > .05$ for each). R&D intensity had a statistically significant positive relationship with firm internationalisation (β = .17, $p < .05$) and a statistically significant negative relationship with firm financial performance (β = -.19, $p < .05$). R&D intensity was not significantly related to the competence of the TMT (β = .00, $p > .05$).

Firm internationalisation and the competence of the TMT as antecedents to firm financial performance. Firm internationalisation was not found to have a statistically significant positive linear relationship with firm financial performance (β = .05, $p > .05$). Therefore, hypothesis 3 was not supported. The competence of the TMT was, however, positively related to firm financial performance (β = .23, $p = < .05$). Therefore, hypothesis 4 was supported. In total, this model explained 10% of the variance in firm financial performance ($R^2 = .10$).

As noted in the *Literature Review* chapter, the IB literature has presented many conceptualisations of the I/P relationship, including both linear and curvilinear explanations. Ad hoc analysis was performed to test potential curvilinear, quadratic, effects using the *uncontstrained approach* outlined by Marsh, Wen, and Hau (2004, 2006). This analysis required a number of steps to be taken. First, standardised scores (z-scores) were created for each of the three items of the firm internationalisation measure. Obtaining z-scores for each

item is important for implementing this approach. It is a form of mean centring, which reduces the collinearity between the original variables and their squared terms. These newly created standardised items were then entered into a SEM model, loading onto a single latent variable. Next, the squared value for each of the standardised items was obtained. These squared values represent the quadratic term. These newly created squared items were then entered into the SEM model, loading onto a separate single latent variable. These two latent variables were then linked to the DV (firm financial performance). Using this approach, covariances between the IVs are not included in the model.

The directionality and significance of the quadratic term for firm internationalisation and firm financial performance was then tested. A significant positive effect would indicate the presence of a U-shaped relationship and a significant negative effect would indicate the presence of an inverted U-shaped relationship. A significant negative quadratic effect between firm internationalisation and firm financial performance ($\beta = -.19$, $p < .05$) was detected, indicating an inverse U-shaped relationship. As can be seen in Figure 5.3 below, low-to-medium levels of firm internationalisation had a positive relationship with firm financial performance. At high levels of firm internationalisation, firm financial performance begun to plateau and eventually decrease.

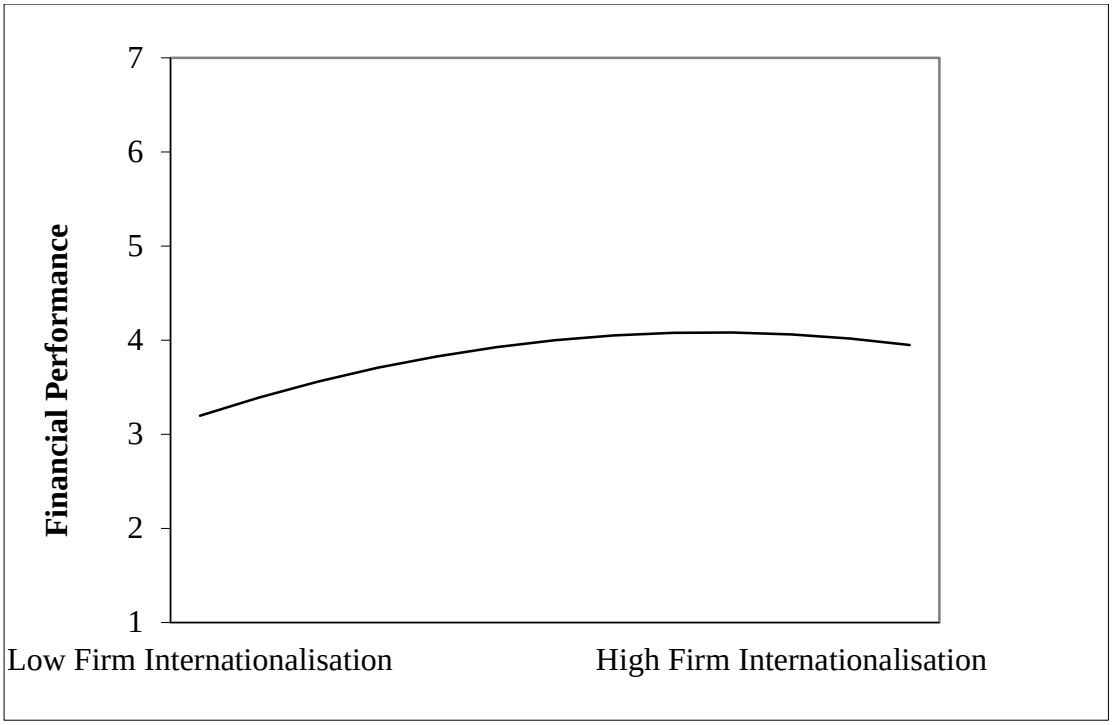


Figure 5.3: The Negative Quadratic I/P Relationship

Common method variance in results hypothesis 2a–2h, 3, and 4. To test whether the results based on the abovementioned model were unduly influenced by CMV in the data, a single-factor model was run which included *all* observed variables. The results revealed that the fit of the single-factor model ($\chi 2$ [df = 324] = 1294.96, $\chi 2/df$ = 4.00, CFI = .38, TLI = .27, RMSEA = .14) was poor across all fit indices reported in the current study, indicating that a single factor did not account for all of the variance in the data and that there was not a substantial amount of CMV present in the data. The influence of CMV was then tested through the comparison of two SEM models: 1) the trimmed mediation model (see Figure 5.2 above); and 2) the same model but with the marker variable also controlled for. A chi-square difference test revealed that controlling for the marker variable did not result in a significant change in the model's fit ($\Delta \chi^2$ = 15.85: $p > .05$, $\Delta \chi^2$/df = 0.02, Δ CFI = .00, Δ TLI = .00, Δ RMSEA = .00). From this, it was concluded that there was not a substantial amount of CMV in the data.

Summary of results for hypothesis testing

In sum, both the proportion of TMT members with international experience and TMT behavioural integration were related to firm internationalisation. Therefore, hypothesis 1a and 1h were supported. The geographic scope of TMT international experience, TMT nationality diversity, proportion of TMT members with a tertiary education, TMT intra-firm relationships, TMT intra-industry relationships, and TMT extra-industry relationships were not related to firm internationalisation. Therefore, hypothesis 1b, 1c, 1d, 1e, 1f, and 1g were not supported.

TMT nationality diversity, the proportion of TMT members with a tertiary education, and TMT behavioural integration each had statistically significant indirect effects on firm internationalisation, fully mediated by the competence of the TMT. Therefore, hypothesis 2c,

2d, and 2h were supported. The proportion of TMT members with international experience, geographic scope of TMT international experience, TMT intra-firm relationships, TMT intra-industry relationships, and TMT extra-industry relationships did not have statistically significant indirect effects on firm internationalisation, via the competence of the TMT. Therefore, hypothesis 2a, 2b, 2e, 2f, and 2g were not supported.

Firm internationalisation did not have a positive linear association with firm financial performance, meaning that hypothesis 3 was not supported. Ad hoc analysis, however, detected a statistically significant negative quadratic (inverted U-shaped) effect. Competence of the TMT was significantly related to firm financial performance, supporting hypothesis 4. These results are summarised in Table 5.5 and Figure 5.4 below.

Table 5.5: Summary of Results of Hypothesis Testing

Hypothesis	Finding
H1a- The proportion of TMT members with international experience is positively related to firm internationalisation.	√
H1b- The geographic scope of TMT international experience is positively related to firm internationalisation.	×
H1c- TMT nationality diversity is positively related to firm internationalisation.	×
H1d- The proportion of TMT members with a tertiary education is positively related to firm internationalisation.	×
H1e- The extent of TMT intra-firm relationships are positively related to firm internationalisation.	×
H1f- The extent of TMT intra-industry relationships are positively related to firm internationalisation.	×
H1g- The extent of TMT extra-industry relationships are positively related to firm internationalisation.	×
H1h- TMT behavioural integration is positively related to firm internationalisation.	√
H2a- Competence of the TMT partially mediates the relationship between TMT international experience and firm internationalisation.	×
H2b- Competence of the TMT mediates the relationship between the geographic scope of TMT international experience and firm internationalisation.	×
H2c- Competence of the TMT mediates the relationship between TMT nationality diversity and firm internationalisation.	√
H2d- Competence of the TMT mediates the relationship between the proportion of TMT members with a tertiary education and firm internationalisation.	√
H2e- Competence of the TMT mediates the relationship between the extent of TMT intra-firm relationships and firm internationalisation.	×
H2f- Competence of the TMT mediates the relationship between the extent of TMT intra-industry relationships and firm internationalisation.	×
H2g- Competence of the TMT mediates the relationship between the extent of TMT extra-industry relationships and firm internationalisation.	×
H2h- Competence of the TMT mediates the relationship between TMT behavioural integration and firm internationalisation.	√
H3- Firm internationalisation is positively related to firm financial performance.	×
H4- Competence of the TMT is positively related to firm financial performance.	√

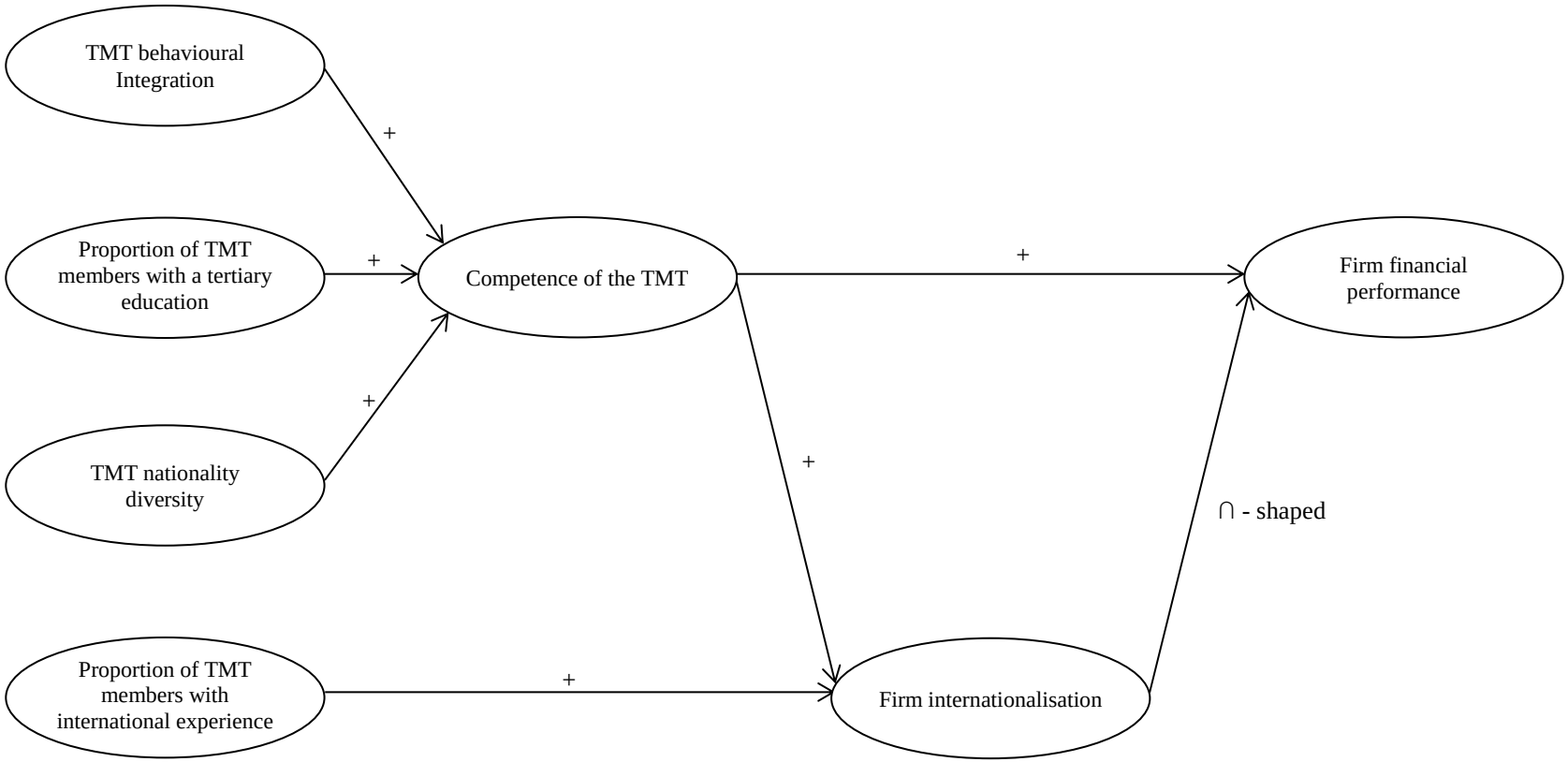


Figure 5.4: Overall Empirical Model

Note: Firm age, firm size, and R&D intensity are controlled in each relationship. Non-significant relationships have been removed.

Summary of Results Chapter

This chapter has presented the results of the analysis conducted for the current study. The data were screened and found to meet the assumptions required for conducting CFA and SEM. The CFA and reliability tests revealed that the measures used in this study demonstrated adequate validity and reliability for hypothesis testing. Results from the structural models provided support for 6 of the 18 hypotheses derived in Chapter 2. Although data were collected from a single source, tests suggested that there was only a negligible amount of CMV present in the data and that this was not having a substantial influence on the results. In the following chapter, the theoretical and practical implications of the results will be discussed.

Chapter Six: Discussion and Conclusion

To recap, up to this point, this thesis has: 1) introduced the broad research problem and research questions to be addressed in the current study; 2) provided a critical review of IB and upper echelons literature and generated a number of theoretically derived hypotheses; 3) outlined the research design and methodology undertaken for data collection; 4) explained the analyses performed on the data; and 5) presented the results of the analysis. This final chapter will discuss those results, comparing them to theoretical and empirical literature. Then, the theoretical and practical contributions made by the current study will be highlighted. Limitations will then be acknowledged and avenues for future research will be suggested. Finally, the thesis will close with a conclusion.

Discussion of Findings

The current study has sought to address four key research questions: 1) What TMT characteristics are associated with firm internationalisation? 2) Does competence of the TMT mediate the relationships between TMT characteristics and firm internationalisation? 3) Is firm internationalisation associated with firm financial performance? and, 4) Is competence of the TMT associated with firm financial performance. This section will now discuss the findings relating to each of these questions.

Relationships between TMT characteristics and firm internationalisation

The current study extends IB upper echelons literature by simultaneously examining the relationships between a broader spectrum of TMT characteristics and firm internationalisation than has been studied to date. Specifically, by examining TMT characteristics, relationships, and processes, this study is the first, to my knowledge, to take

into consideration not only *who TMT members are*, but also *who they know*, and *how they behave*. This approach provides a more comprehensive understanding of the effects that TMTs have on firm internationalisation. Building further upon this, the potential mediating effect of competence of the TMT on each of the TMT characteristic-firm internationalisation relationships were also examined.

Of the eight TMT characteristics examined in this study, two were statistically significant predictors of firm internationalisation: the proportion of TMT members with international experience and TMT behavioural integration. Both of these variables were positively related to firm internationalisation, as was expected based on social capital, human capital, and upper echelons theory. Of these variables, the proportion of TMT members with international experience emerged as the strongest predictor of firm internationalisation, followed by TMT behavioural integration. In contrast, the remaining six TMT characteristics (geographic scope of TMT international experience, TMT nationality diversity, proportion of TMT members with a tertiary education, TMT intra-firm relationships, TMT intra-industry relationships, and TMT extra-industry relationships) did not have significant relationships with firm internationalisation.

The competence of the TMT mediated the relationship between three of the eight TMT characteristics and firm internationalisation: TMT nationality diversity; proportion of TMT members with a tertiary education; and TMT behavioural integration. In each case, the indirect effect was fully mediated by the competence of the TMT. In contrast, competence of the TMT did not mediate the relationship between any of the remaining TMT characteristics and firm internationalisation: proportion of TMT members with international experience; geographic scope of TMT international experience; TMT intra-firm relationships; TMT intra-industry relationships; and TMT extra-industry relationships.

TMT international experience and firm internationalisation. TMT international experience is the most commonly examined predictor in studies investigating the TMT-level antecedents of firm internationalisation (Athanassiou & Nigh, 2002; Carpenter & Fredrickson, 2001; Lee & Park, 2008; Nielsen & Nielsen, 2011; Reuber & Fischer, 1997; Sambharya, 1996; Tihany et al., 2000). As noted, the proportion of TMT members with international experience emerged as the strongest predictor of firm internationalisation of those examined in the current study. This finding is consistent with both theoretical expectation and the previous empirical studies (Athanassiou & Nigh, 2002; Carpenter & Fredrickson, 2001; Reuber & Fischer, 1997; Sambharya, 1996). Contradictory to expectation, however, no evidence was found to suggest that the competence of the TMT transmitted the effect of the proportion of TMT members with international experience through to firm internationalisation. Therefore, while this finding reinforces the importance of TMT international experience as a predictor of firm internationalisation, it calls into question the mechanism through which this effect occurs.

The international experience contained within a firm, and the firm-specific assets it gives rise to, play leading roles in predicting firm internationalisation (Clarke et al., 2013). According to the U-model of internationalisation, firm internationalisation increases gradually and only once the firm has gained sufficient experiential knowledge (Johanson & Vahlne, 1977, 1978, 2003, 2006). This model was initially developed as a firm-level perspective (Johanson & Vahlne, 1977). Later refinements, however, have clarified that such experiential knowledge is not gained solely through the firm's incremental expansion into foreign markets, but also from the pre-existing global knowledge and international experience possessed by top managers (Clarke et al., 2013; Johanson & Vahlne, 2009). By revealing TMT international experience to be an important predictor of firm internationalisation, the findings of the current study are consistent with this theoretical refinement and reiterate the

interplay between the U-model and upper echelons perspective that has been noted by Nielsen (2010b).

Beyond examining a relationship between TMT international experience and firm internationalisation, it is also important to specify the way in which this relationship occurs (Reuber & Fischer, 1997). Upper echelons theory suggests that firm-level outcomes can be viewed as a reflection of their TMT members' values and cognitive bases, which are heavily influenced by their previous *experiences* (Hambrick, 2007). From this perspective, the *international experience* of TMT members is expected to drive firm internationalisation. The literature provides insights into the various mechanisms through which this effect may occur. For instance, from a *human capital perspective*, international experience is said to provide exposure to diverse business environments which generates opportunities for learning and the acquisition of valuable skills and abilities (Biemann & Braakmann, 2013). From a *social capital perspective*, international experience is expected to facilitate the cultivation of a network of international relationships which provide timely information about the global business environment and awareness of international opportunities (Athanassiou & Nigh, 2002; Biemann & Braakmann, 2013). Such skills, abilities, and awareness would be expected to increase the competence of the TMT. The current study casts doubt over these explanations, as competence of the TMT was not found to mediate the relationship between the proportion of TMT members with international experience and firm internationalisation.

From an *upper echelons perspective* international experience is argued to contribute to the TMT's *international orientation* and engender a positive disposition towards firm internationalisation (Gunz & Jalland, 1996; Herrmann & Datta, 2005; Nielsen, 2010b). This international orientation *may* be the mechanism through which the proportion of TMT members with international experience affects firm internationalisation, rather than the competence of the TMT. While having a large proportion of internationally experienced

TMT members may drive firm internationalisation, no evidence was found to suggest that this effect occurs via competence of the TMT.

The geographic scope of TMT international experience was not found to be a predictor of firm internationalisation and nor was an indirect effect, via competence of the TMT, detected. This is contrary to previous literature that has purported geographic scope of international experience to be valuable at the individual level (Athanassiou & Roth, 2006) and at the firm level (Clarke et al., 2013). Merely having *some* experience in a geographic region does not guarantee a comprehensive understanding of that region's business environment and social institutions (Greve et al., 2009). For instance, culture is a complex and pervasive phenomenon that is reflected not only in observable artefacts such as language and cuisine, but also in less visible, deeply-engrained beliefs and tacit values (Taras et al., 2011; Taras et al., 2012). Therefore, it is likely to take some time to fully comprehend the implications of a foreign culture. This is just one of many phenomena that can differ considerably across nations and need to be understood if the TMT is to operate competently in that market (Qian, Li, & Rugman, 2013). Without considerable depth of foreign market understanding, the TMT will not be able to properly identify foreign opportunities, may pursue ill-conceived plans, and is likely to struggle to implement international expansion strategies. Thus, the geographic scope of TMT international experience may not affect either the competence of the TMT nor firm internationalisation.

TMT nationality diversity and firm internationalisation. The findings of the current study did not find support for a direct relationship between TMT nationality diversity and firm internationalisation. That being said, an indirect effect via the competence of the TMT was found. TMT nationality diversity is a timely, but under-researched, aspect of TMT composition (Nielsen & Nielsen, 2013). Those few studies which have examined the effect of TMT nationality diversity on firm-level international outcomes have tended to focus their

attention on direct effects (Caligiuri et al., 2004; Greve et al., 2009; Nielsen & Nielsen, 2011; Nielsen, 2010b); at the expense of potential mediated effects. The current study identifies the competence of the TMT as a key mechanism through which TMT nationality diversity drives firm internationalisation.

The extent to which TMTs experience the benefits and costs of any aspect of diversity is context-dependent (Homberg & Bui, 2013; Wei & Wu, 2013) and the unique benefits that arise from nationality diversity are particularly salient to the IB context (Nielsen & Nielsen, 2013). TMT nationality diversity can enable the team to: more accurately evaluate the risks associated with operating in foreign markets; scan the global business environment; and identify, interpret, and utilise information that is relevant to international objectives (Nielsen & Nielsen, 2011). While there is no doubt that such outcomes are beneficial to international firms, they do not necessarily directly encourage TMTs to pursue increased levels of firm internationalisation.

Instead, the abovementioned benefits increase the competence of TMTs. TMT nationality diversity provides TMT members with deep understanding and comprehension of the various cultural and institutional differences across national borders (Greve et al., 2009). Foreign natives possess a deep understanding of their home country which gives rise to considerable environmental scanning, information processing, and problem solving advantages in that country (Luo, 2005). Aligning with this, TMT nationality diversity was found to have a positive, and direct, effect on the competence of the TMT. With the pressures of globalisation continually forcing firms to internationalise in order to survive (Giovannetti et al., 2013), competent TMTs, in turn, proactively seek global opportunities and increase their firms' degree of internationalisation.

In sum, although TMT nationality diversity may equate to greater understanding and comprehension of multiple national environments (Kaczmarek & Ruigrok, 2013), no evidence was found to suggest that it directly increases firm internationalisation. This finding reveals the subtle difference between TMT international experience and TMT nationality diversity, and responds to calls for further examination into the effects of these two TMT variables (Kaczmarek & Ruigrok, 2013).

TMT education and firm internationalisation. Although the proportion of TMT members with a tertiary education was not found be a significant driver of firm internationalisation in the current study, an indirect effect via competence of the TMT was found. It appears that it is not tertiary education, itself, that drives firm internationalisation, but rather the cognitive capabilities and competence that it gives rise to. This study adds to the mixed findings regarding the influence that the TMT education has on firm internationalisation. While the average level of TMT members' education (Herrmann & Datta, 2005) and TMT elite education (Tihany et al., 2000) have been found to be positively related to firm internationalisation, others have found TMT education diversity (Lee & Park, 2006) and average level of TMT members' education level (Wally & Becerra, 2001) to have non-significant relationships with firm internationalisation. The current study extends this field of research by revealing one of the processes through which the education of TMT members affects firm internationalisation (i.e. by increasing the competence of the TMT).

The abovementioned studies have either examined only the direct effects of TMT education on firm internationalisation (Herrmann & Datta, 2005; Tihany et al., 2000; Wally & Becerra, 2001), or found non-significant indirect effects (Lee & Park, 2006). The finding of *only* an indirect relationship between measures of TMT education and firm internationalisation, however, is understandable. The finding of a non-significant direct effect between the proportion of TMT members with a tertiary education and firm

internationalisation can be explained through careful consideration of the ultimate purpose of tertiary education. In general, tertiary education does not seek to promote or encourage firm internationalisation. Instead, tertiary education strives to provide students with *specific* abilities that prepare them for their future career and more *generic* critical thinking, rational decision-making, and creative problem solving skills (Levinson, 2010; Stewart, 2010). Although these cognitive skills and abilities were found to be valuable to TMT members in building competence, they do not necessary promote an *international orientation*, nor drive firm internationalisation.

That being said, tertiary education is valuable to TMT members. Of particular salience to TMT members of international firms are the intellectual and cognitive gains that arise from tertiary education, which increases their awareness and understanding of international issues (Hitt et al., 2006a; Tihany et al., 2000). With greater international awareness and cognitive abilities, TMT members are able to better scan the global business environment for information, identify international opportunities, and respond effectively to challenges and hardships as they arise. It makes sense then that when a TMT is comprised of many members with these abilities, the overall competence of the TMT is improved. As noted above, the pressures of globalisation have made it increasingly necessary for firms to internationalise in order to survive (Giovannetti et al., 2013). Acknowledging this reality, competent TMTs drive firm internationalisation as they are able to continually identify and pursue strategic opportunities in foreign markets. This finding represents an important refinement to the IB upper echelons literature as it provides a more detailed understanding of not only the effect that TMT education has on the firm's degree of internationalisation, but also the process through which this occurs.

TMT relationships and firm internationalisation. Contrary to literature that has found TMT relationships and networks to be significant predictors of various firm-level

outcomes (Atuahene-Gima & Murray, 2007; Collins & Clark, 2003; Geletkanycz & Hambrick, 1997), the current study did not find support for associations between any form of TMT relationship and firm internationalisation. Further, no support was found for the hypothesised indirect effects for any of these relationships via the competence of the TMT. In sum, social capital possessed at the individual level was not found to be transferred to either team-, or firm-, level outcomes. This has potential implications for the application of social capital theory in the upper echelons context.

Although relatively rare, some studies have sought to explain the role of TMT networks and relationships in driving firm-level outcomes such as: strategic choice (Geletkanycz & Hambrick, 1997); firm performance (Collins & Clark, 2003); and explorative and exploitative learning (Atuahene-Gima & Murray, 2007). In each case, social capital, aggregated to the TMT level, was found to significantly predict the respective firm-level outcomes. Based on these findings, and given the prevalence of managerial relationship-based perspectives in the firm internationalisation literature (Hitt et al., 2002), it was expected that TMT relationships would drive firm internationalisation. This was not found to be the case.

In the current study, even when TMT members possessed strong relationships and learnt substantially from those relationships, the social capital gained was not found to affect firm internationalisation, nor the competence of the TMT. There are, however, three *levels of analysis* which can be used to examine the outcomes of social capital: the individual; the team; and the firm (Leana & Van Buren, 1999). Relational social capital is held at the *individual level* by those who undertake the social interaction (Brunie, 2009) and it is at this level that the majority of social capital literature is focussed (Moran, 2005). The current study does not dismiss the value of TMT member relationships, nor the resulting social capital.

Rather, it questions the assumption that this capital will automatically be directed towards improving the competence of the TMT and firm objectives.

Instead, this assumption could be viewed as idealistic because "the value of individual-level social capital to outcomes that are more directly linked to the firm's strategic objectives remains an open question" (Moran, 2005, p. 1132). This is the idea articulated by Leana and Van Buren (1999, p. 546) who noted that "there is no guarantee that the manager with a well-developed intrafirm network will use it (and the concomitant information the network provides) to support organizational objectives". Based on the non-significant findings of the current study, this same argument may also hold true for TMT relationships with actors located outside the firm.

It is commonly assumed that top managers will be loyal to the team, as well as the firm, and possess a personal desire to maximise firm performance. If this is truly the case, then the approach of aggregating social capital at the TMT level would suffice (Collins & Clark, 2003; Geletkanycz & Hambrick, 1997). Moran (2005) suggested, however, that the relational social capital obtained through the personal relationships may be used solely for individual goals. From this, the extent to which TMT members utilise their relationships to benefit the team or the firm may be context-dependent and moderated by the TMT member's loyalty or motivations.

TMT behavioural integration and firm internationalisation. TMT behavioural integration was found to be a significant driver of firm internationalisation, with this relationship fully mediated by the competence of the TMT. While TMT behavioural integration has gained recent empirical attention in the broader business/strategy literature (Carmeli, 2008; Carmeli & Schaubroeck, 2006; Carmeli & Shteigman, 2010; On et al., 2013; Raes et al., 2013; Simsek et al., 2005), to my knowledge, it is yet to be examined in relation

to firm internationalisation. The current study reveals the importance of behavioural integration as a TMT antecedent of firm internationalisation.

TMT behavioural integration drives various firm-level outcomes, including: strategic ambidexterity (Lubatkin et al., 2006); trust of joint venture partners (On et al., 2013); employee work outcomes (Raes et al., 2013); and firm performance (Carmeli, 2008). The current study indicates that firm internationalisation can now be added to that list. This is an important contribution to the existing body of literature which has focussed exclusively on the '*who*' aspect of this issue (Nielsen & Nielsen, 2011; Wally & Becerra, 2001). We now know that it is not just *who* are in the TMT that drives firm internationalisation, but also *how* the team works. By engaging in collaboration, information sharing, and joint decision-making (Hambrick, 1994; Simsek et al., 2005), TMT members are better able to integrate knowledge and are more exposed to the experiences and orientations of the other TMT members. Having more information available to them, and being exposed to a greater range of perspectives and orientation, increases the team's awareness of global opportunities and provides them with confidence to pursue higher levels of firm internationalisation.

Recent literature, however, has found TMT behavioural integration to be *distally* related to firm-level outcomes, with the effect often transmitted via increases in various TMT capabilities, including TMT behavioural complexity (Carmeli & Halevi, 2009) and the quality of TMT decision-making (Carmeli et al., 2012). Reiterating the indirect nature of this effect, the current study revealed that the effect of TMT behavioural integration on firm internationalisation was fully transmitted via competence of the TMT. Behavioural integration enables the TMT to make better use of the team's knowledge base and draw on the various perspectives of TMT members when identifying opportunities and responding to challenges (Lubatkin et al., 2006). As a result, TMT's are able to draw upon the global awareness of each TMT member and use their skills and abilities to respond to challenges

and hardships that arise. This increased competence then allows the TMT to identify, and subsequently pursue, a broader range of global opportunities, thereby increasing firm internationalisation.

Relationship between firm internationalisation and firm financial performance

The preceding discussion has been predicated on the assumption that increased firm internationalisation is desirable, because it is generally believed to be beneficial for firm performance (Contractor, 2007). That is, if management is capable of pursuing internationalisation, they will do so. Indeed, this assumption forms the foundation of the IB field (Contractor et al., 2003). Contrary to this expectation, firm internationalisation was not linearly related to financial performance. The possibility of potential non-linear I/P relationship forms was also examined.

Ad hoc analysis revealed a significant negative quadratic (inverted U-shaped) effect in which firm internationalisation was positively related to firm financial performance up to a certain point. Beyond this point, further internationalisation became detrimental to firm financial performance. This finding of an inverted U-shaped relationship is consistent with one stream of the I/P literature (Geringer et al., 1989; Gomes & Ramaswamy, 1999; Hitt et al., 1997; Qian & Li, 2002; Qian et al., 2008). This relational form has recently been reinforced by the meta-analysis of I/P literature conducted by Yang and Driffield (2012, p. 38) that found that "papers based on recent sample [*sic*] published in higher journals are more likely to show inverted [*sic*] U-shaped curve of MN [Multinationality]-Performance relationship".

Refining the idea that firm internationalisation is *good* for firms, the current study found that while firms may miss out on some potential gains if they are under-internationalised, they must also be cautious of over-internationalising. Explaining this phenomenon requires careful consideration of the benefits and costs that are associated with

firm internationalisation and consideration of the way in which these increase or decrease at various levels of internationalisation. For instance, the benefits of firm internationalisation are plentiful, ranging from: increased market share; access to a broader range of resources; opportunities for learning; accumulation of marker power; and risk diversification (Bausch & Krist, 2007; Contractor, 2007). At low and medium levels of internationalisation, each new market the firm enters increases the degree to which these benefits are experienced. Firms in this phase risk missing out on key competitive advantages if they are under-internationalised. Increased firm internationalisation is, therefore, positively associated with firm financial performance during this period.

Firms, however, will typically select the most promising and profitable markets first and eventually find themselves with only less preferable markets left to enter. These markets offer less potential for profit and are considerably different in regards to the cultural and economic environments (Contractor, 2007). At this point, if firms internationalise further and enter these markets, the complexity and managerial costs of internationalisation can escalate rapidly (Geringer et al., 1989). This results in a scenario in which the benefits of internationalisation decrease, while the costs simultaneously rise. Once a firm has reached this point, it risks over-internationalising if it continues to expand.

It is possible that most firms do not deliberately over-internationalise, but rather lack the managerial tools to inform them when internationalisation is no longer beneficial (Contractor et al., 2003). Indeed, after so many years of benefiting from internationalisation, managers may continue this pursuit blindly and not realise when to stop (Contractor, 2007). Alternatively, managers may be aware that their firm has over-internationalised, but be willing to forfeit short-term financial gains so as to accumulate market share and power. This, in turn, can improve their longer-term prospects (Qian et al., 2008). In either case, this study raises further doubt about the existence of a simple linear I/P relationship and provides

additional support to recent conceptualisations of a curvilinear relationship (Yang & Driffield, 2012).

Relationship between the competence of the TMT and firm financial performance

As hypothesised, the competence of the TMT was found to be a positive predictor of firm financial performance. Within the literature, it is "generally agreed that competency of the TMT represents an important resource for a firm to achieve global initiatives" (Ling & Jaw, 2006, p. 385). This is confirmed by the current study, as competence of the TMT was related to firm financial performance, which is the ultimate objective of international businesses (Bouquet et al., 2009; Dunning & Lundan, 2008). Although this finding is perhaps not surprising, it represents an important advancement of the IB upper echelons literature. To my knowledge, this study marks the first effort to empirically examine the relationship between the competence of the TMT and firm financial performance explicitly, rather than focussing on TMT characteristics that may only be distally related to financial performance.

When Hambrick and Mason (1984) first introduced upper echelons theory, they advocated the use of demographic TMT indicators. Following this, proponents of upper echelons theory propound that the collective characteristics of executives are valid indicators of the TMT's cognitive framework (Wood & Michalisin, 2010). Consequently, many studies have sought to examine which TMT demographic characteristics lead to increased firm financial performance (e.g. Certo, Lester, Dalton, & Dalton, 2006). Hambrick and Mason (1984), however, also acknowledged that any findings stemming from the use of these measures will be likely to suffer from *noise* as they do not accurately reflect the underlying cognitive capabilities.

From the RBV perspective, resources are deemed to be a source of sustained competitive advantage when they assist the firm to respond to environmental opportunities and neutralise external threats (Barney, 1991). Accordingly, it is managerial attributes such as intelligence, insight, and ability, that *may* eventuate from the TMT characteristics, which are viewed as valuable resources and can result in sustained competitive advantage (Barney, 1991). Consistent with this, the current study shows that the competence of the TMT is an important resource that drives firm financial performance, above and beyond the effect of firm internationalisation. The findings outlined above have made a number of theoretical and practical contributions. These are discussed below.

Contributions of this Study

In many ways, this has been a unique and important study. As noted throughout the various chapters of this thesis, the current study has made several contributions to the upper echelons and IB literature. This section presents the theoretical and practical contributions.

Theoretical contributions

Although firm internationalisation is a central variable within the IB field of research (Sullivan, 1994a), "only over the past decade has the discussion of the effects of top management team composition been extended to the context of MNCs and firm internationalization" (Nielsen, 2010b, p. 186). The current study makes important contributions to this field of investigation by: 1) revealing which TMT characteristics drive firm internationalisation; and 2) showing that the competence of the TMT is a central construct underpinning the mechanism by which TMT characteristics affect firm internationalisation.

To date, research has focussed almost exclusively on direct relationships between a narrow range of TMT characteristics and firm internationalisation (e.g. Herrmann & Datta,

2005; Sambharya, 1996; Tihany et al., 2000; Wally & Becerra, 2001). By examining a broader spectrum of TMT characteristics as potential antecedents of firm internationalisation, this study provides new insights into the interplay between the various theoretical perspectives drawn upon in the current study. For instance, this study calls into question the way in which social capital theory is currently being applied in the upper echelons literature. The measures used to examine TMT relationships in this study take into account both the strength of the relationships possessed by TMT members and how much TMT members learn from those relationships (Atuahene-Gima & Murray, 2007). From this, it can be assumed that high scores on these measures represent greater levels of personal relational social capital (Inkpen & Tsang, 2005). In the current study, however, TMT relationships (intra-firm, intra-industry, and extra-industry) were not found to affect either team-level (competence of the TMT), or firm-level (firm internationalisation), outcomes. This suggests that when relational capital is held at the individual level, it *may* not automatically be utilised to achieve team-, or firm-, level objectives.

In contrast, this study has reiterated that upper echelons theory can be used to complement the traditional U-model perspective of firm internationalisation. The link between these two perspectives was explicitly made by Nielsen (2010b) and this reflects recent refinements to the U-model, which take the international experience of senior managers into greater consideration (Johanson & Vahlne, 2009). Consistent with recent suggestions by Clarke et al. (2013), this study shows that the international experience of the TMT members is an important antecedent of firm internationalisation and is one that can be increased rapidly and efficiently through properly tailored recruitment and selection processes.

The current study has also confirmed that the introduction of the TMT behavioural integration construct is, indeed, one of the most significant recent advancements to upper

echelons theory (Hambrick, 2007). Until recently, upper echelons literature had been "at a loss as to the real psychological and social processes that are driving executive behaviour" (Hambrick, 2007, p. 335). Despite increasing attention being paid to TMT behavioural integration (e.g. Evans & Butler, 2011; On et al., 2013), to my knowledge, the current study is the first to examine this meta-process variable within the context of firm internationalisation. Importantly TMT processes were found to play a considerable role in not only affecting how competently TMTs are able to navigate the global business environment, but also the extent to which the team decides to pursue firm internationalisation.

This study also contributes to current understanding of the relationships between TMT characteristics and firm internationalisation by revealing the competence of the TMT to be a key mechanism through which some of these effects are transmitted. While mediation studies are rare within the IB upper echelons field of research (e.g. Carmeli & Halevi, 2009; Carmeli & Schaubroeck, 2006; Lee & Park, 2006; Nielsen, 2010b), they are valuable because they make important "strides towards addressing issues of causality between TMT and firm internationalization" (Nielsen, 2010b, p. 187). The current study adds to this valuable avenue of investigation.

The lack of attention paid to mediated relationships is surprising given that "business theories often specify the mediating mechanisms by which a predictor variable affects an outcome variable" (MacKinnon et al., 2012, p. 1). Within the upper echelons field, literature investigating potential mediating variables has been slow to accumulate (Hambrick, 2007; Wood & Michalisin, 2010). As upper echelons theory is now a mature theory, deeper exploration of potential mediators is required for it to develop further. For example, if the mediation effects of the competence of the TMT were not tested, this study would have concluded that the proportion of TMT members with a tertiary education and TMT nationality diversity did not influence firm internationalisation. What emerged instead was a

more precise and advanced explanation of the distal relationship that each of these variables have with firm internationalisation.

The current study also made important contributions to current understanding of the antecedents to firm financial performance, which is the other central outcome variable of the IB field (Hult et al., 2008). For instance, this study examined the relationship between firm internationalisation and firm financial performance. Currently, the I/P field of investigation is progressing by testing increasingly complex, curvilinear, forms of this relationship (Yang & Driffield, 2012). The current study reiterates the value of this approach, providing support for an inverted U-shaped relationship. Consistent with transaction cost theory, the current study indicates that internationalisation is *not* always 'good' for firms, as its benefits and costs are experienced to different degrees at different levels of internationalisation. This has important implications for the IB upper echelons literature that seeks to examine the relationships between TMT characteristics and firm internationalisation. For instance, the desire of TMTs to internationalise is likely to be dependent on their perceptions of the opportunities for financial gain. Highly competent TMTs may, then, act to constrain their firm's expansion when they identify that they are approaching over-internationalisation. As a result, these effects may also be curvilinear.

In addition, while the relationship between the competence of the TMT and firm financial performance may appear to be common sense, it represents an important contribution to the upper echelons literature. Consistent with the RBV perspective (Barney, 1991, 2001), the current study reveals competence of the TMT to be a valuable resource and one which can be of considerable assistance to firms as they seek to increase their internationalisation and/or financial performance. Studies examining the I/P relationship are often criticised for overlooking the role of management (Hennart, 2007). The current study

addressed this shortcoming and revealed that it was not firm internationalisation alone that predicted financial performance, but also the competence of the TMT.

Finally, reviews of the upper echelons literature have revealed that the characteristics of executives may be distally related to firm outcomes and tend to explain only a small proportion of variance in firm-level outcomes (Hennart, 2007). It has long been acknowledged that the relationship between demographic characteristics and firm outcomes are distorted by noise (Hambrick & Mason, 1984). In comparison, the competence of the TMT directly affects each of the firm-level outcomes examined in the current study. While it increases the difficulties of data gathering (Carmeli et al., 2012; Hambrick, 2007), this study's findings suggest that the predictive power of upper echelons theory may be improved by *directly* measuring TMT preferences and cognitive bases, rather than relying on distally related TMT characteristics.

Practical contributions

From a practical standpoint, this study makes some considerable contributions. Not only does it shed light on how practitioners can construct their TMTs so as to assist their internationalisation strategies, it also suggests that they can drive firm financial performance by increasing the competence of the TMT. In this section, the key implications for practitioners will be presented.

The findings of this study are of particular relevance to practitioners operating within the Australian business context. As noted earlier, studies conducted within North American have dominated the IB upper echelons literature to date (Nielsen, 2010b). The Australian context, however, is markedly different to that of North America because Australia is a small, geographically isolated, economy (Freeman et al., 2006; Kastelle & Liesch, 2013). Because each of the relationships examined in the current study are likely to be dependent on the

national context (Crossland & Hambrick, 2007, 2011; Ruigrok & Wagner, 2003), the findings of this study are more applicable to practitioners in Australia than studies conducted in foreign nations.

Foremost, the central role of the competence of the TMT in driving both firm internationalisation and firm financial performance should resonate with practitioners. Within the global context, firm internationalisation is becoming an increasingly popular strategy (Aharoni & Brock, 2010; Giovannetti et al., 2013) and financial performance is often the ultimate objective (Dunning & Lundan, 2008; Hult et al., 2008). Unlike demographic characteristics can have weak and distal effects on firm-level outcomes (Hambrick, 2007), the current study finds the competence of the TMT to be a driver of both firm internationalisation and financial performance. Thus, when applying an upper echelons perspective of strategic management, practitioners could increase the precision and effectiveness of their interventions by focussing on the competence of the TMT.

Assisting with this, the current study has shown that practitioners can increase the competence of the TMT by increasing the team's behavioural integration, nationality diversity, and proportion of members with a tertiary education. Therefore, when recruiting and selecting a new CEO, or TMT member, practitioners should seek to identify current deficiencies across these areas and develop selection criteria that remedy any shortcomings. Increasing the TMTs nationality diversity and proportion of TMT members with a tertiary education are relatively straightforward tasks that require consideration of an individual's demographic characteristics. Creating conditions that are conducive to TMT behavioural integration is more complex. Simsek et al. (2005) found that at the CEO level, tenure and collectivistic orientation increases TMT behavioural integration. At the team level, they found TMT behavioural integration is greater when TMT members have homogenous goal preferences, homogenous educations, and when the team is smaller.

The finding of a curvilinear, inverted U-shaped, I/P relationship in the current study further emphasises the need for practitioners to increase the competence of their TMTs. According to Contractor (2007, p. 454) "we are in an era when everyone, from Deans to Captains of Industry, seems to subscribe to the notion that internationalisation is good for firms". Refining this notion, this study reiterates previous cautions about the negative performance implications associated with under-internationalisation and over-internationalisation (Contractor, 2007; Contractor et al., 2003). Indeed, any deviation from the optimal level of internationalisation will lead to lower firm financial performance (Hennart, 2007). Previous literature highlights that firms may inadvertently halt internationalisation too early, or continue expansion for too long, if their top managers are unable to comprehend the situation or do not realise the consequences of such actions (Contractor, 2007; Contractor et al., 2003). The competence of the TMT comes to the fore in such circumstances. It is the TMT that is responsible for calibrating the pressures of under-, and over-, internationalising and ensuring that the firm maintains an optimal degree of internationalisation.

Consequently, practitioners should also be mindful that, while the proportion of TMT members with international experience drives firm internationalisation (Rivas, 2012), it was not found to improve the competence of the TMT. At any level of firm internationalisation, the achievement of financial performance outcomes is not automatic. Instead, performance outcomes are realised when management is able to develop appropriate organisational structures and implement effective strategies (Hennart, 2007). This study confirms that the competence of the TMT plays a vital role in allowing international firms to maximise their financial performance. If practitioners increase firm internationalisation, without enhancing the competence of the TMT, financial performance may elude them.

Finally, previous literature would have practitioners believe that it is not only *what* managers know that is important, but also *whom* they know (Young, 2005). The capital derived from TMT member relationships is valuable and can potentially be used to benefit the firm (Atuahene-Gima & Murray, 2007; Collins & Clark, 2003; Geletkanycz & Hambrick, 1997). In the current study, however, the relational capital possessed by individual TMT members was not found to transfer into team-, or firm-, level outcomes. The goal of practitioners, then, is to better capitalise on the relational capital contained within the TMT. For instance, practitioners may seek to institutionalise processes that identify TMT relationships and then assess how they collaboratively can assist the firm's internationalisation strategy. Because personal social capital is often utilised in the pursuit of individual outcomes, such as compensation and career progression (Moran, 2005), closely aligning these outcomes to both team- and firm- level objectives would allow practitioners to better capitalise on the relationships of their TMT members.

Limitations of this Study

While considerable care was taken in the design and implementation of this research project, no study is without limitations. Where possible, limitations have been minimised. This section will outline the key limitations of this study.

First, all of the data used for analysis in this study were gathered from a single source: questionnaires completed by senior executives. Single source data can be susceptible to CMV, which occurs when the method of data collection systematically influences (typically inflates) the relationships under investigation (Podsakoff et al., 2012). While it can lead to data being misinterpreted, it is possible that problems relating to CMV may not be as severe as once feared (Lindell & Whitney, 2001). For instance, Spector (2006) referred to CMV as an *urban*

legend and argued that the assumption that CMV is automatically present in studies using a single method is an oversimplification and distortion of the effect.

Nonetheless, as a potential limitation, steps were taken to both reduce the influence, and detect the presence, of CMV in this study. Following the prescriptions outlined by Podasakoff et al. (2003), this was achieved through a combination of both procedural and statistical remedies. From a procedural standpoint, because high-level executives "are notoriously unwilling to submit themselves to scholarly poking and probing" (Hambrick, 2007, p. 337), it was unfeasible to gather data from multiple sources in each firm. Furthermore, attempting to create temporal distance between the data collection for the IVs and DVs would have placed additional burden on respondents, potentially reducing the response rate. As encouraged by Podasakoff et al. (2003), CMV was reduced by ensuring that the items were clear and concise, respondent apprehension about responding was reduced, and respondent anonymity was well protected. The effectiveness of these efforts was evidenced as the single-factor tests, and marker variable tests, suggested only a minimal presence of CMV.

Second, this study used a single-respondent design. When examining firm-level outcomes, Hambrick (1981) advised that when only one respondent can be accessed, data should be collected from the single highest ranking executive. These executives are knowledgeable of TMT characteristics and firm-level outcomes (Souitaris & Maestro, 2010) and the ideal key informants for TMT studies (Simsek et al., 2005). Accordingly, this approach is common within the TMT (Mihalache et al., 2012; On et al., 2013; Reuber & Fischer, 1997; Simsek et al., 2005; Souitaris & Maestro, 2010). That being said, researchers have argued that aggregate data gathered from multiple TMT members will be "more reliable and less subjective to superficiality than a single respondent" (Carmeli, 2008, p. 724). Nonetheless, these studies have typically found high levels of agreement and inter-rater

reliability between the responses provided by the single top executive and the TMT members (Heyden, van Doorn, Reimer, Van Den Bosch, & Volberda, 2013; Lubatkin et al., 2006), suggesting that the data provided by the top executive is relatively accurate. Thus, it was decided that the current study would not collect data from multiple respondents because this approach has been found to be detrimental to the response rate and subsequent sample size of previous studies (e.g. Athanassiou & Nigh, 2002). While it would have been preferable to collect data from multiple TMT members, reliance on top executives alone was deemed to be the more appropriate approach for the current study.

Third, as data were gathered via questionnaires, this study relied on perceptual data to measure all variables. This approach was necessary to measure TMT variables that were not available in pre-existing databases and records (e.g. TMT relationships, TMT behavioural integration, and the competence of the TMT). This brings into question the accuracy of subjective measures. Fully subjective measures can be susceptible to a number of psychological biases (Richard et al., 2009). This could be true for the respondents surveyed in this study, because their firms' performance is closely tied to their own. Despite these potential biases, subjective measures have been found to have moderate-to-high correlations with objective measures of firm performance (Richard et al., 2009).

The quality of perceptual data can be increased by defining items precisely and carefully selecting well-informed respondents (Richard et al., 2009). In the current study, key terms such as TMT were clearly defined and each item was specific in terms of what it was asking. This was ensured through the pilot testing process of the questionnaire. Data collection was specifically targeted at the top executive of each firm as it can be assumed that their position within the firm necessitates intricate knowledge of their TMT as well as firm strategy and financial performance (Simsek et al., 2005; Souitaris & Maestro, 2010). These steps were taken in an attempt to maximise the quality of the data collected.

Fourth, in an attempt to maximise the response rate, the questionnaire was kept as brief and concise as possible. Throughout the pilot testing process, concerns were raised about the temporal and cognitive demands placed on respondents when asked to provide information relating to each individual TMT member. This was of particular concern for firms with large TMTs, which can comprise of over 10 members. As a result, all questions were targeted at the TMT level. I acknowledge that diversity constructs, such as TMT nationality diversity, are commonly measured by Blau's (1977) index which takes into account both the range of different nationalities contained within the team and the dispersion of TMT members across each of those nationalities (Nielsen & Nielsen, 2011, 2013; Nielsen, 2010b). While the measure used in this study to assess TMT nationality diversity does not capture the same level of depth as Blau's index, it was deemed necessary due to response rate concerns.

Fifth, despite the efforts made to reduce the cognitive burdens placed on respondents, the response rate for this study was approximately 10%. The literature has acknowledged that it is notoriously difficult to access senior executives and TMTs, which has implications for the collection of primary TMT data (Carmeli et al., 2012; Hambrick, 2007). Although a higher response rate would have been preferred, the response rate of the current study is relatively consistent with previous studies which have sampled top-level executives (Hambrick et al., 1993; Hsu & Pereira, 2008). Furthermore, tests of response bias revealed that respondents did not differ from non-respondents in regards to the size of their firms, as measured by the number of employees. The tests also provided some evidence that there was not a substantial amount of response bias across the three waves of data collection.

Sixth, this study relied upon a sample of 152 respondents. Obtaining this sample required the creation of three mailing lists and the postage of three waves of questionnaires. This process (which was outlined in depth in the *Method* chapter) exhausted the time and

monetary resources of this research project and the response rate obtained is likely to be largely due to the difficulties associated with obtaining responses from senior executives (Carmeli et al., 2012; Hambrick, 2007). Nonetheless, the final sample size was deemed sufficient for each type of analysis required for hypothesis testing in this study. Anywhere between 100-200 cases is considered to be a medium, or typical, sample for SEM analysis (Kline, 2005, 2011) and CFA can be conducted on samples with more than 100 cases (Gorsuch, 1983; Kline, 1979). The sample was found to be sufficiently large for detecting both linear and quadratic effects.

Seventh, generalisability of findings to a larger population is a key advantage that quantitative research has over qualitative methods. This generalisability requires the sample to be representative of the broader population (Graziano & Raulin, 2007). As outlined in the *Method* chapter, the sample was found to be *relatively* representative of the broader population of Australian firms that undertake international business in regard to their: size; international activities they undertake; destination of their foreign sales; form of incorporation; and industries in which firms primarily compete. It has been found, however, that the influence of TMTs on firm-level outcomes can vary significantly across national contexts, depending on the institutional constraints placed on executives (Crossland & Hambrick, 2007, 2011). The I/P relationship is also likely to be influenced by country-level factors, which include market size and the psychic distance of favoured trading partners (Ruigrok & Wagner, 2003). Therefore, the findings of the current study are somewhat limited in their generalisability beyond the borders of Australia.

Finally, this study attempted to capture processes and infer causality, using cross-sectional data. Longitudinal, process, data is preferable for these purposes (Welch & Paavilainen-Mäntymäki, 2013). Furthermore, Hambrick (2007, p. 338) noted that it is best practice for upper echelons literature to "incorporate temporal lags and control for prior states

of both the independent and dependent variables". As noted in the *Method* chapter, however, pragmatic considerations prevented these suggestions from being incorporated into the research design of the current study. As with prior cross-sectional, survey-based, TMT literature (Carmeli, 2008; Carmeli & Schaubroeck, 2006; Raes et al., 2013; Simsek et al., 2005), it is acknowledged that this is a limitation of the current study. Therefore, the findings need to be interpreted cautiously with regard to causality. The causal assumptions made in the current study are, therefore, presented with caution. Indeed, it is possible that it is firm internationalisation that actually leads to increases in certain TMT characteristics as firms seek to match managers with their strategies (Greve et al., 2009). Additionally, it is also possible that higher levels of firm financial performance can enhance a firm's confidence and resource base, which may encourage them to increase their degree of internationalisation (Jung & Bansal, 2009).

Future Research Directions

This study has helped to extend current understanding of the relationships between TMT characteristics, firm internationalisation, and firm financial performance. Importantly, it has also revealed some future research directions which will serve the literature well. Researchers are encouraged to pursue these avenues as they may further extend current understanding.

Although it has received a considerable amount of attention, the relationship between TMT international experience and firm internationalisation is still not fully understood. International experience is a complex and multi-faceted construct (Clarke et al., 2013). The current study reveals that different dimensions of TMT international experience (i.e. the proportion of TMT members with international experience vs. the geographic scope of TMT geographic experience) have different effects on firm internationalisation. Future research is

encouraged to examine an even broader range of TMT international experience variables. International experience can be differentiated by the number, length, nature (work related / non-work related), scope, intensity, and location of previous experiences (Clarke et al., 2013; Greve et al., 2009; Takeuchi et al., 2005). At the TMT level this can be translated into measures of the mean number of years of international experience, the proportion of members with international experience, and the homogeneity/heterogeneity of international experience (Sambharya, 1996). Each of these measures captures different aspects of managerial international experience, which could drive firm internationalisation in different ways. Therefore, delving further into this relationship presents abundant opportunity for future research.

Of the TMT characteristics tested in the current study, TMT behavioural integration was found to have the strongest relationship with competence of the TMT and was found to be positively related to firm internationalisation (Carmeli, 2008; Carmeli & Halevi, 2009; Carmeli & Schaubroeck, 2006; On et al., 2013; Raes et al., 2013). This adds to the growing body of literature that has examined the outcomes of TMT behavioural integration. Less is known about the antecedents of TMT behavioural integration. As noted earlier, Simsek et al. (2005) examined the multi-level determinants of TMT behavioural integration. In their study, however, Simsek et al. (2005) focussed predominantly on CEO-, and TMT-, level factors. As a result, their analysis overlooked potentially important firm-level characteristics, including: organisational training processes; culture; and structure. To my knowledge, the influence that these characteristics may have on TMT behavioural integration has been neglected within the literature. However, each of these characteristics may create conditions that are conducive to increased TMT behavioural integration and it would, therefore, be interesting for future research to pay greater attention to the firm-level antecedents of TMT behavioural integration.

By examining the mediating role of the competence of the TMT, this study has shown that TMT characteristics are often only distally related to firm internationalisation. That being said, the competence of the TMT is a *generic construct*, which captures a range of TMT capabilities. Future research could refine the findings of the current study by examining which *specific capabilities* mediate the relationships between the various TMT characteristics and firm internationalisation. For instance, upper echelons literature has argued that more specific TMT capabilities, such as behavioural complexity (Carmeli & Halevi, 2009) and the ability to make quality decisions (Carmeli & Schaubroeck, 2006), mediate the effects of TMT characteristics on firm performance. Little is known, however, about the effect these variables have on firm internationalisation.

From a slightly different perspective, *TMT potency* has recently been found to mediate the relationship between TMT behavioural integration and firm performance (Carmeli et al., 2011). Unlike the mediator variables suggested above, "team potency is not about actual group capabilities; it refers to a group's shared perception of its ability to successfully overcome challenges and perform tasks" (Carmeli et al., 2011, p. 401). It would be interesting for future research to examine whether it is the *actual* capabilities of the TMT, or the TMT's *perceptions* of their capabilities, which encourages firm internationalisation.

In regard to the financial performance outcomes of firm internationalisation, Yang and Driffield (2012, p. 24) noted that "despite the large and impassioned debate concerning the [I/P] relationship, particularly the importance of nonlinearities, the empirical literature provides a rather unclear picture". This study adds to the literature that has found support for an inverted U-shaped I/P relationship. A growing body of literature, however, suggests that this relationship may be more accurately represented as a cubic, sigmoid (horizontal s-shaped) form (Contractor, 2007; Contractor et al., 2003; Lu & Beamish, 2004; Nielsen, 2010b; Ruigrok et al., 2007; Xiao et al., 2013). This relationship incorporates the theoretical

arguments used to explain all of the various other forms of the I/P relationship (Nielsen & Nielsen, 2010) and potentially provides a means to resolve the inconsistency found within the literature (Lu & Beamish, 2004). Presently, however, the results of studies testing the S-shaped relationship do not generate significantly different results from those examining quadratic effects (Yang & Driffield, 2012). Thus, additional research in this emergent area would be welcomed.

Finally, future research is encouraged to test potential moderators of the I/P relationship and move towards establishing the boundary conditions on this relationship. Meta-analyses of the I/P literature have found the I/P relationship to be context-dependent (Bausch & Krist, 2007; Ruigrok & Wagner, 2004). Nielsen and Nielsen (2010) contended that the I/P relationship could theoretically be moderated by variables at the management, firm, industry, and country levels. They noted, however, that the majority of studies examining potential moderators of the I/P relationship have focussed "predominantly at the firm level" (p.551). Consequently, an abundance of potential moderators remain unexamined and this provides opportunities for future research.

Conclusion

In recent decades, the forces of globalisation have increasingly driven firms towards internationalisation. Consequently, IB has emerged as an important field of investigation and one with important implications for both researchers and practitioners. Firm internationalisation is arguably the central variable in the IB field. Despite receiving considerable theoretical and empirical attention, key gaps in our understanding remain in regards to both the antecedents and outcomes of firm internationalisation. For instance, upper echelons theory has been scarcely applied to the IB field, with only limited attention paid to the role of TMTs in driving firm internationalisation. Within this emergent research stream,

only a narrow range of TMT characteristics have been examined. Very few studies have examined TMT process variables, TMT outcomes variables, or investigated mediation effects. Additionally, the I/P relationship has accumulated over 100 empirical studies, but these have produced mixed and conflicting results.

The current study has sought to address each of the abovementioned gaps in the literature. The primary objectives of this study were to: 1) identify the TMT characteristics that drive firm internationalisation; 2) assess the potential mediating role of competence of the TMT on each of these relationships; 3) measure the effect that firm internationalisation has on firm financial performance; and 4) determine whether the competence of the TMT also drives firm financial performance. Of the TMT characteristics tested, only the proportion of TMT members with international experience and TMT behavioural integration were found to be directly related to firm internationalisation. Addressing the *black box problem* that has been identified within the upper echelons literature, the current study revealed that the competence of the TMT is a central construct underpinning the mechanism by which some TMT characteristics impact firm internationalisation. Specifically, the competence of the TMT was found to fully mediate the relationships that TMT nationality diversity, proportion of TMT members with a tertiary education, and TMT behavioural integration each had with firm internationalisation. Firm internationalisation, the focal point of this study, was found to have a non-linear (inverted-U shaped) relationship with firm financial performance. Finally, competence of the TMT was found to be related to firm financial performance, advocating the need for future studies to pay more attention to TMT outcome variables.

This study has made a number of theoretical and practical contributions. While care was taken in the design and implementation of this study, there were some unavoidable limitations. As much as was possible, steps were taken to minimise these limitations. Finally, while this pioneering study has helped to extend current understanding in a number of areas,

it has also paved the way for a number of future research directions to be pursued. Identification of the specific TMT characteristics, processes, and outcomes which drive firm internationalisation and financial performance, and the way in which this process occurs remains a critically important topic and will continue to provide a prosperous avenue for future research.

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Appendices

Appendix 1.Human Ethics Certificate of Approval

MONASH University

Monash University Human Research Ethics Committee (MUHREC)
Research Office

Human Ethics Certificate of Approval

Date:	**10 August 2011**
Project Number:	**CF11/1753 – 2011000965**
Title:	**The Internationalisation-Performance Relationship: A Top Management Team Perspective**
Chief Investigator:	**Dr Ross Donohue**
Approved:	**From: 10 August 2011 To: 10 August 2016**

Terms of approval

1. The Chief investigator is responsible for ensuring that permission letters are obtained, if relevant, and a copy forwarded to MUHREC before any data collection can occur at the specified organisation. **Failure to provide permission letters to MUHREC before data collection commences is in breach of the National Statement on Ethical Conduct in Human Research and the Australian Code for the Responsible Conduct of Research**.
2. Approval is only valid whilst you hold a position at Monash University.
3. It is the responsibility of the Chief Investigator to ensure that all investigators are aware of the terms of approval and to ensure the project is conducted as approved by MUHREC.
4. You should notify MUHREC immediately of any serious or unexpected adverse effects on participants or unforeseen events affecting the ethical acceptability of the project.
5. The Explanatory Statement must be on Monash University letterhead and the Monash University complaints clause must contain your project number.
6. **Amendments to the approved project (including changes in personnel)**: Requires the submission of a Request for Amendment form to MUHREC and must not begin without written approval from MUHREC. Substantial variations may require a new application.
7. **Future correspondence**: Please quote the project number and project title above in any further correspondence.
8. **Annual reports**: Continued approval of this project is dependent on the submission of an Annual Report. This is determined by the date of your letter of approval.
9. **Final report**: A Final Report should be provided at the conclusion of the project. MUHREC should be notified if the project is discontinued before the expected date of completion.
10. **Monitoring**: Projects may be subject to an audit or any other form of monitoring by MUHREC at any time.
11. **Retention and storage of data**: The Chief Investigator is responsible for the storage and retention of original data pertaining to a project for a minimum period of five years.

[redacted]

Professor Ben Canny
Chair, MUHREC

cc: Dr Brian Cooper, Mr Ryan Trudgen

Postal – Monash University, Vic 3800, Australia
Building 3E, Room 111, Clayton Campus, Wellington Road, Clayton
Telephone +61 3 9905 5490 Facsimile +61 3 9905 3831
Email [redacted] www.monash.edu/research/ethics/human/index/html
ABN 12 377 614 012 CRICOS Provider #00008C

Appendix 2. Personalised Explanatory Statement

The Internationalisation-Performance Relationship: The Role of Top Management Team Composition

Dear Chief Executive Officer,

I am writing to invite you to participate in a survey that investigates the performance outcomes of company internationalisation. I am conducting a research project on this topic with Dr. Ross Donohue and Dr. Brian Cooper, in the Monash University Department of Management, towards a Doctorate of Philosophy (PhD). For this, I will be writing a thesis which is similar to a short book.

With many Australian industries facing considerable challenges in the face of global economic uncertainty, research into the drivers of company performance is critical. The aim of this survey is to examine the relationship between a company's level of international activity and their performance, as well as the influence that top management team characteristics may have on this relationship. In doing so, this survey will play an important role in determining whether Australian companies benefit from internationalisation and identifying which top management team characteristics are most valuable for internationalising companies.

Your participation in completing this short questionnaire will be most valuable. Your company has been randomly selected from the Australian Exporters Directory and you have been selected because you are either the CEO or Managing Director of an Australian company which conducts international business activities.

The questionnaire should take no longer than 15 minutes to complete. Participation in this survey is entirely *voluntary* and *anonymous,* and your responses will remain completely c*onfidential*. Results will be presented in a summary report and individual respondents will not be able to be identified. The data from this survey will be stored securely for five years in accordance with Monash University regulations, and then destroyed.

Thank you for your assistance in this important study.

Yours Sincerely,

[redacted]

Ryan Trudgen

If you have any queries regarding the study, please contact the Chief Investigator:	If you have a complaint concerning the manner in which this research **<Project number: 2011000965>** is being conducted, please contact:
Dr Ross Donohue Department of Management Monash University Caulfield Campus [redacted]	Executive Officer Monash University Human Research Ethics Committee (MUHREC) Building 3e Room 111 Research Office Monash University VIC 3800 [redacted]

Appendix 3. Questionnaire

Internationalisation and Performance: The Role of Top Management Team Composition

Thank you in advance for completing this questionnaire, your participation is greatly appreciated. This questionnaire will cover the characteristics and behaviour of your company's top management team, as well as your company's level of internationalisation and performance. Instructions for answering each question are provided throughout. The responses you provide will be very valuable for this study, so please answer all questions as accurately as possible.

After you have completed the survey please post it in the self-addressed envelope provided within a week.

SECTION A: Top Management Team Characteristics

This section is primarily focussed on the characteristics of your company's top management team. For the purpose of this study, ***'top management team' refers to those members of the management board, or executive committee, that are directly involved in deciding the large and strategic issues facing the company.*** For example, this could include your company's Chief Executive Officer, Chief Financial Officer, Chief Operating Officer, etc.

1. As per the definition above, how many people comprise your company's top management team? _____ top management team members

2. Approximately, how many of your company's current top management team members……
(If none, please write 0)

…. can speak a language other than English?	_____ members
.... have worked in a country other than Australia?	_____ members

3. Approximately, how many of your company's current top management team members……

(If none, please write 0)

.... have a university level qualification?	_____ members
.... have a university level qualification specialising in international business (*e.g. International business, international management, international marketing, international human resource management, etc.*)?	_____ members

4. Approximately, what is the ***shortest*** amount of time that any current top management team member has been employed by the company? Years _____ Months _____

5. Approximately, what is the ***longest*** amount of time that any current top management team member has been employed by the company? Years _____ Months _____

6. Were any members of your top company's current management team born in:

(Please tick one box per row)

	Yes, at least one member of the top management team	No members of the top management team
Australia / New Zealand	☐	☐
Africa	☐	☐
Asia	☐	☐
North America	☐	☐
South America	☐	☐
Europe	☐	☐
Middle East	☐	☐

7. Have any members of your company's current top management team worked in any of the following regions?

(Please tick one box per row)

	Yes, at least one member of the top management team	No members of the top management team
Africa	☐	☐
Asia	☐	☐
North America	☐	☐
South America	☐	☐
Europe	☐	☐
Middle East	☐	☐

SECTION B: Top Management Team Behaviour

8. Thinking about the past two years, please circle to what extent you agree or disagree with the following statements:

		Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
1	The top management team is good at absorbing worldwide information from customers, suppliers or competitors	**1**	**2**	**3**	**4**	**5**
2	The top management team is good at identifying global business opportunities	**1**	**2**	**3**	**4**	**5**
3	The top management team is good at dealing with emergency situations quickly and efficiently	**1**	**2**	**3**	**4**	**5**
4	The top management team is good at coping with pressure or hardship	**1**	**2**	**3**	**4**	**5**
5	Top management team members maintain close contact with employees and managers within our company	**1**	**2**	**3**	**4**	**5**
6	Top management team members learn a lot from their interactions with employees and managers within our company	**1**	**2**	**3**	**4**	**5**
7	Top management team members have social interaction with employees and managers within our company about conditions in our industry	**1**	**2**	**3**	**4**	**5**
8	Top management team members put a lot of effort in building relationships with knowledgeable employees and managers within our company	**1**	**2**	**3**	**4**	**5**
9	Top management team members maintain close contact with founders of other firms in our industry	**1**	**2**	**3**	**4**	**5**

		Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
10	Top management team members have social interaction with other top executives with knowledge about conditions in our industry	**1**	**2**	**3**	**4**	**5**
11	Top management team members learn a lot from interactions with top executives in our industry	**1**	**2**	**3**	**4**	**5**
12	Top management team members put a lot of effort in building relationships with other knowledgeable executives in our industry	**1**	**2**	**3**	**4**	**5**
13	Top management team members have connections with top executives from firms not operating in our industry	**1**	**2**	**3**	**4**	**5**
14	Top management team members have strong relationships with top executives who serve on boards in firms not operating in our industry	**1**	**2**	**3**	**4**	**5**
15	Top management team members put a lot of resources into cultivating relationships with top executives of firms outside our industry	**1**	**2**	**3**	**4**	**5**
16	When a top management team member is busy, other team members often volunteer to help manage the workload	**1**	**2**	**3**	**4**	**5**
17	Top management team members are flexible about switching responsibilities to make things easier for each other	**1**	**2**	**3**	**4**	**5**
18	Top management team members are willing to help each other complete jobs and meet deadlines	**1**	**2**	**3**	**4**	**5**
19	Top management team members usually let each other know when their actions affect another team member’s work	**1**	**2**	**3**	**4**	**5**

		Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
20	Top management team members have a clear understanding of the joint problems and needs of other team members	**1**	**2**	**3**	**4**	**5**
21	Top management team members usually discuss their expectations of each other	**1**	**2**	**3**	**4**	**5**

9. Thinking about the past two years, when the top management team has made important decisions regarding the company's future, how would you assess the team's....

	Very low	**Low**	**Average**	**High**	**Very high**
Quantity of ideas	**1**	**2**	**3**	**4**	**5**
Quality of solutions	**1**	**2**	**3**	**4**	**5**
Level of creativity and innovation	**1**	**2**	**3**	**4**	**5**

SECTION C: Internationalisation

10. In the last financial year, in which of the following regions did your company generate sales? (Please tick all that apply)

Australia / New Zealand	☐
Africa	☐
Asia	☐
North America	☐
South America	☐
Europe	☐
Middle East	☐

11. In the last financial year, approximately what percentage of your company's sales were generated in markets other than Australia:

(Please circle one number only)

0%	10	20	30	40	50	60	70	80	90	100%

12. Does your company perform any of the following international activities?

(Please tick all that apply)

Import	☐
Direct Export	☐
Export through an intermediary	☐
Solo venture direct investment	☐
Joint venture direct investment	☐
Licensing of a product or service	☐
Contracting	☐
Franchise	☐
Other (Please specify): _____	☐

13. Approximately, what percentage of your company's employees spend over half of their time on any of the international activities listed above in Question 12?

(Please circle one number only)

0%	10	20	30	40	50	60	70	80	90	100%

SECTION D: Company Profile

14. In what country was your company established? _____

15. In what year was your company established? _____

16. Approximately, what percentage of your company's revenue was invested in research and development (R&D) in the last financial year?

(Please circle one number only)

0%	10	20	30	40	50	60	70	80	90	100%

17. Approximately, how many people does your company currently employ worldwide?

Less than 20	**1**
20-49	**2**
50-99	**3**
100-499	**4**
500-999	**5**
1,000 or more	**6**

18. What type of business entity best describes your company?

(Please circle one number only)

No Liability (NL)	**1**
Limited (Ltd.)	**2**
Proprietary Limited (Pty. Ltd.)	**3**
Unlimited Proprietary (Pty.)	**4**
Unincorporated Business	**5**

19. In which industry does your company primarily compete?

(Please circle one number only)

Agriculture, Forestry and Fishing	**1**
Mining	**2**
Manufacturing	**3**
Construction	**4**
Retail Trade	**5**
Transport, Postal and Warehousing	**6**
Financial and Insurance Services	**7**
Rental, Hiring and Real Estate Services	**8**
Professional, Scientific and Technical Services	**9**
Other (Please specify): _____	**10**

20. Please circle the number that best represents the performance of your business over the past year relative to your major competitors.

	Much worse	Worse	Slightly worse	Same as competitors	Slightly better	Better	Much better
Return on Sales	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Return on Investment	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Profitability	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Reaching financial goals	**1**	**2**	**3**	**4**	**5**	**6**	**7**

SECTION E: About Yourself

21. What is your current position within this company?

(Please circle one number only)

Chief Executive Officer (or equivalent)	**1**
Chief Operating Officer	**2**
Chief Financial Officer	**3**
Chief People Officer	**4**
Other Position (Please specify): _____	**5**

22. How long have you been working in this company? Years _____ Months _____

23. How long have you been in your current position? Years _____ Months _____

24. Finally, what is your highest level of formal education?

(Please circle one number only)

High School	**1**
Certificate or Diploma (TAFE or Business College)	**2**
Technical Qualifications	**3**
Bachelor's Degree	**4**
Postgraduate Degree (e.g. Masters or Doctorate)	**5**
Other (Please specify): _____	**6**

THANK YOU FOR COMPLETING THIS SURVEY!

We are also interested in conducting follow-up interviews of one (1) hour duration with some participants to supplement the data gathered via this questionnaire. Please note that completing the questionnaire *does not* oblige you to participate in follow-up interviewing. If you would like to *volunteer* for an interview, please do so by emailing the researcher Ryan Trudgen (Ryan.Trudgen@monash.edu). Thank you again for your assistance in this study.

Please post this completed survey in the self-addressed envelope provided within a week.

Appendix 4. Follow-up Letter (Week One)

Internationalisation and Performance: The Role of Top Management Team Composition

Dear ,

One week ago, a questionnaire was sent to you relating to your company's international activities and performance, and the characteristics of your top management team.

Your responses to the questionnaire are very valuable. With many Australian companies facing substantial challenges due to global economic instability, this survey will play an important role in determining whether Australian companies benefit from internationalisation and identifying which top management team characteristics are most valuable for internationalising companies.

If you have already completed and returned the questionnaire, we would like to express our thanks. If not, it would be greatly appreciated if you could please fill out the questionnaire and return it to us within the next few days. Participation in this survey is entirely *voluntary* and *anonymous*. Please be assured your responses will remain completely c*onfidential*.

If you have not received a questionnaire or if it has been misplaced, please do not hesitate to contact me either by telephone on [redacted]

Yours Sincerely,

[redacted]

Appendix 5. Follow-up Letter (Week Three)

Internationalisation and Performance: The Role of Top Management Team Composition

Dear Chief Executive Officer,

Three weeks ago, a questionnaire was sent to you relating to your company's international activities and performance, and the characteristics of your top management team.

Your responses to the questionnaire are very valuable. If you have already completed and returned the questionnaire, we would like to express our thanks. If not, it would be greatly appreciated if you could please fill out the questionnaire and return it to us within the next few days. In order to ensure that the results of this survey truly represent Australian firms with international activities, it is important that you fully complete the questionnaire and return it in the envelope provided.

Participation in this survey is entirely *voluntary* and *anonymous*. Please be assured your responses will remain completely c*onfidential*.

If you have not received a questionnaire or if it has been misplaced, please do not hesitate to contact me either by telephone on [redacted]

Yours Sincerely,

[redacted]