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Capturing Value from International Strategic Alliances: The Role of Due Diligence

by

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A thesis submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy in Business and Management

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AUTHOR'S DECLARATION

This thesis is submitted to the University of Warwick in support of my application for the degree of Doctor of Philosophy. I hereby declare that I am the author of the thesis, that the work of which this thesis is a record has been carried out by myself, that no material contained in the thesis has been used before or published and that this thesis has not been submitted in any previous application for any degree at another university.

Catherine Georgiou

June 1, 2021

Abstract

This thesis offers the first specific investigation into alliance due diligence. I investigate due diligence extensiveness, and the leveraging of information asymmetry reduction for value capture. Furthermore, I examine the role of institutional distance direction, by considering whether the partner is from a weaker (climbing down) or stronger (climbing up) institution. Chapter 1 explores the formation phase. Drawing on traditional IB paradigms and signalling theory, I investigate due diligence extensiveness for firms climbing down and up the institutional ladder. Additionally, I compare the institutional indictors, law and order, and corruption. Chapter 2 explores alliance management, and asks whether due diligence initiates the coordination-cooperation loop by facilitating the development of a coordination tool – the balanced scorecard, and whether this increases cooperation. Chapter 3 investigates the link between due diligence and performance by comparing the RBV which focuses on resource complementarity; with agency theory which focuses on information asymmetries reduction, and hence favours extensive due diligence.

I test my predictions on unique quantitative database of over 2000 international alliances, collected between 2001 and 2015. Chapter 1 demonstrates that due diligence is more extensive as distance increases in either direction; enabling firms climbing down to overcome the information asymmetries in the partner's institution; and firms climbing up to overcome the information asymmetries of their home institution. I also find that law and order matters more than corruption, because alliances are contractual relationships. Chapter 2 shows that due diligence extensiveness facilitates the development of an extensive balanced scorecard, which subsequently enhances cooperation by building trust. Due diligence therefore initiates the coordination-cooperation loop. Finally, Chapter three finds a direct link between due diligence extensiveness and performance regarding non-financial and revenue-based objectives. Overall, I show that due diligence is valuable for ex ante dynamics, ex post management; and outcomes in international alliances.

Abbreviations

- International Business – IB
- Mergers and Acquisitions – M&A
- Performance Measurement Systems – PMS
- International Strategic Alliance – ISA
- Resource-Based View – RBV
- Balanced Scorecard – BSC
- Transaction Cost Economics – TCE

1.0 INTRODUCTION

This thesis investigates the role of due diligence for value capture in international strategic alliances, which I define as cross-border non-equity collaborations between firms (Gudergan et al, 2016; Reuer and Devarakonda, 2016). According to Mindurta et al (2016), the value-generating prospect of alliances is heavily dependent on firms selecting the right partners. However, despite much research dedicated to partner selection (e.g. Bierly III and Gallagher, 2007; Shah and Swaminathan, 2008), I offer the first specific examination of alliance due diligence, addressing a pressing need for further explorations into the actual efforts and investments made in evaluating the deal ex ante.

Due diligence involves uncovering information about a potential transaction partner, in order to decide whether a proposed transaction is feasible. The importance of such investigations has been recognized in the mergers and acquisitions (M&A) literature, with Kissin and Herrera (1991, p.54) stating that "due diligence is the cornerstone of successfully executing" such transactions, and Harvey and Lusch (1998) pointing out that due diligence is more appropriately viewed as a vital investment rather than a cost to be economized on. Despite this, I am not aware of any studies in the alliance literature which specifically investigate the way in which partners evaluate one another preceding formation. This is especially concerning because due diligence investigations directly reduce information asymmetries (Sufi, 2007), which is particularly important given that forming an alliance with a particular partner is burdened with adverse selection concerns (Reuer and Lahiri, 2014).

Due diligence is especially valuable in the international domain, as information asymmetries are heightened in cross-border transactions (Pinkham and Peng, 2017), partly owing to differences in regulatory quality and corruption levels (Montiel et al, 2012). In a seminal paper on a firm's multinational network of key partners, Rugman and D'Cruz (1997, p.405) discuss the importance of applying "the calculus of the benefits they hope to obtain and the costs they will incur." Due diligence can help address this by uncovering private information which the firm would otherwise be unable to access. This point is supported by Kano (2018) and Yamin (2011), who highlight the value of due diligence in the selection of partners in a global business network, and Joshi and Lahiri (2015) who investigate the role of language friction in cross border alliances, and suggest that due diligence affects many important facets of pre and post formation dynamics, including the due diligence phase.

The lack of research into alliance due diligence is due to a lack of available data. This thesis is able to address the aforementioned research gaps because I have access to a subset of a unique database provided by the industry partner of this thesis, Alliance Best Practice, Ltd. The data details due diligence among other factors of alliance selection, management, and performance. I have information on over 2000 strategic alliance relationships collected over 14 years (2001-2015). The data span developed and developing countries, with firms located in North America, South America, Europe, Asia, Africa, and Australia. Focal firms are from over 40 countries, and partner firms from just under 40 countries. Furthermore, the alliances operate in a wide range of industries including IT and computing, logistics, manufacturing, consultancy, airlines, and broadcasting. According to Gomes et al (2016), most multi-country strategic alliance studies are based on a sample of fewer than four countries. The fact that this database contains information from such a wide range of countries along a spectrum of institutional quality, has enabled me to make a unique contribution, by addressing the need to uncover knowledge on the dynamics of due diligence in the international alliance domain.

In investigating ISA due diligence, I rely on the theoretical predictions of information economics. This is a branch of microeconomic theory, which explores the role of information in decisions and transactions. From an information economics perspective economic action is chiefly affected by incomplete information among some transaction participants "whether about what others are doing, or what others know" (Kreps, 1990, p.587). I focus specifically on two key areas; concerns of adverse selection and moral hazard. Information asymmetry plays a central role for both concepts (Rowell and Connelly, 2012) though in different ways. Adverse selection is about hidden information at the time of the transaction; whereas moral hazard is about hidden action after the transaction has taken place (Cohen and Siegelman, 2010). In other words, adverse selection is concerned with ex ante information asymmetries, and moral hazard with ex post information asymmetries.

In transactions fraught with adverse selection concerns, Stiglitz and Weiss (1990) propose that there two groups of actors, informed participants, and uninformed participants; the informed are labelled signallers and the uninformed are labelled screeners. Signallers posses information the other party seeks but cannot get hold of and must therefore undertake action to demonstrate (signal) their quality (the meaning of quality being dependent on the context of the transaction). Screeners seek to uncover information to distinguish between things or individuals. A well-

known example of the adverse selection problem in the economics literature can be found in Akerlof (1970), who draws on the used car market to consider the inefficiencies which derive from information asymmetries between buyers and sellers. He notes that the actual quality of an automobile cannot be known by the buyer until it has been purchased and experienced; conversely the seller has this information but may be incentivised to misrepresent the quality to charge a higher price. Information asymmetries hence result in adverse selection concerns which may drive down the price of high-quality cars.

According to Spence (1974), the remedy to the adverse selection problem lies in signalling. He demonstrates the value of signalling in the context of labour markets by explaining that education level is a signal which is related to the unobserved attribute of employee quality, which only becomes known to the employer after the employee is hired. High quality (i.e. more productive) recruits seek a higher level of education which demonstrates their quality, in order to be offered a job with higher wages. This example is based on the assumption that higher education levels are more costly for lower quality recruits, and they are therefore unlikely to follow this strategy.

I now turn to the concept of moral hazard. The original application of moral hazard is in the field of insurance markets, and was introduced by Rothschild and Stiglitz (1976). The central premise is that “agents have private information about expected claims that insurers do not have” (Cohen and Siegelman, 2010, p.43) and hence “behaviour may change after the insurance has been purchased” (Pindyck and Rubinfeld, 1989, p. 620). Economists have therefore dedicated much effort to the role of incentives on the likelihood of a claim event. As Zavadil et al (2007, p.2) state “ex post moral hazard concerns the effects of incentives on claiming actual losses.” Since the original work, the theory has been extended and applied to many economic and non-economic fields (see Rowell and Connelly, 2012 for examples). While in the insurance field moral hazard concerns can be reduced by allowing the agent to choose a level of cover in accordance with their risk-level (Cohen and Siegelman, 2010), many transactions do not benefit from this type of information asymmetry reduction. Hence the extension of the term to other fields has resulted in a broader moral hazard concept (Rowell and Connelly, 2012), and the role of monitoring behaviour to improve the likelihood of favourable action after a contract has been signed has also become central to reducing moral hazard concerns (e.g. Baron et al, 1987; Cason et al, 2012). In a generally applicable sense, moral hazard is where a risk-taking actor in a transaction has more information about their intentions than the party which bares the

consequences for that risk. Agrawal (2002) has demonstrated the applicability of this premise as a double moral hazard scenario where each party takes a risk based on the actions of the other party.

Information economics has rarely been applied to IB scholarship, though this theoretical paradigm is gaining increasing popularity in the field. For example, singalling theory has been applied to the M&A context (e.g. Ragozzino and Reuer, 2011; Reuer et al, 2012; Reuer and Ragozzino, 2012) and more recently applications of the theory have extended to alliance formation e.g. Reuer and Ragozzino (2014) investigated the role of affiliating with financial intermediaries as a signal to facilitate the formation of international collaborative relationships. Also, Das (1998) looked at the role of moral hazard in the selection between differing modes of foreign direct investment, and Hoenen and Kostova (2015) consider moral hazard in a principal agent scenario of international headquarter-subsidiary relationships.

In deviating from past research assumptions in the international alliance field which tend to focus on transaction costs or resources (e.g. Park et al, 2004; Richards and Yang, 2007), I base my arguments on the premise that it is information asymmetries between the partners which play the most vital role in each stage of the alliance relationship. I apply this argument to three alliance stages. I consider the pre-formation stage in Chapter; the ex post management phase in Chapter 2; and performance outcomes in Chapter 3. In the following paragraphs I explain the specific focus of each chapter.

In Chapter 1 of this thesis, I consider adverse selection in the ex ante phase. I propose that due diligence is especially important for reducing information asymmetries and therefore adverse selection concerns. This is because investigations enable the parties to decide whether to go ahead with the transaction – in this case alliance formation. I consider the institutional environment in developing my theoretical argument and propose that firms forming alliances with partners from weaker institutional environments are what Rothschild and Stiglitz (1976) consider uninformed participants due to the heightened information asymmetries in the partner's home institution. In this case due diligence is a form of screening undertaken to uncover more information to reduce adverse selection risk. I propose firms forming alliances with partners from stronger institutional environments are what Rothschild and Stiglitz (1976) term informed participants as the partner's home institution is more transparent but they need to overcome the information asymmetries of their own home institution. In this case due

diligence becomes primarily a mechanism for signalling. Building on Feldman and March (1981), who argue that when firms collect more information than they appear to need, they are signalling; I distinguish between screening and signalling by proposing that information gathering via due diligence is screening when it increases in accordance with greater informational opacity, and is a signal when it increases in accordance with informational transparency.

Chapters 2 and 3 are focused on the ex post stage of alliances and are therefore concerned with the reduction of moral hazard concerns in the alliance management phase, and the subsequent effect on alliance performance, respectively. According to Kreps (1990), this is appropriately explicated in a principal-agent scenario, building on this I draw on agency theoretic predictions. Chapter 2 is concerned with the link between monitoring and coordination in order to build trust in the alliance. Building on Agrawal (2002) I consider double moral hazard, as both parties take a risk dependent on the actions of the other. While I could draw on a range of coordinative methods ranging from formal steering committees (Devarakonda and Reuer, 2018) to informal agreements, I consider the BSC because this offers a specific platform to arrange the contributions of each partner, which allows for mutual monitoring in accordance with the agreed upon standards; and at more extensive levels the BSC can be linked to incentives which motivate the partner to fulfil contributions. This is fitting with the original take on moral hazard (see Rothschild and Stiglitz, 1976) and offers a more cost and time effective solution than steering committees. The BSC could potentially be viewed as a commitment device – an arrangement made "to formalize and facilitate their goals," via incentives in the form of penalties or benefits (Bryan et al, 2010). However, I take the view of a coordination tool because i) I am looking at a jointly formulated BSC, and the joint formulation allows the firms to work together to coordinate activities, and ii) the link with incentives is not present in each stage of the BSC, but only at the most extensive level, whereas the coordinative effort is part of every stage.

Chapter 3 links the ex ante formation dynamics to ex post performance. Here the role of due diligence on alliance performance is explored. I make a comparison between the predictions of agency theory and the RBV, in order to untangle whether a specific focus on resources, or a broader focus on the reduction of information asymmetries to overcome double moral hazard concerns; plays a more important role in the attainment of revenue and non-financial alliance objectives. Here I also consider the role of legal distance as a contextual moderator of the role

of due diligence for alliance performance. I consider due diligence rather than the role of the BSC, because due diligence is the explicit focus of the thesis and is therefore focused on in a different stage in each chapter. This allows for a more complete picture of the role of due diligence in alliance relationships overall, rather than restricting its role to the time where due diligence is undertaken. In this way academics and practitioners can benefit from a broad exploration into the value of due diligence investigations. This follows the line of thinking of Lavie et al (2012) who highlight the value of explorations into the link between ex ante and ex post stages of the alliance. This thesis thus generates novel insights regarding the value of due diligence not only in the formation stage (Chapter 1), but also in the ex post phase regarding both management (Chapter 2) and performance (Chapter 3).

The three main chapters of this thesis are:

- **Chapter 1:** *Due diligence extensiveness in international strategic alliances: climbing down and up the institutional ladder*.
- **Chapter 2:** *The alliance balanced scorecard - developing a coordination tool to improve cooperation*
- **Chapter 3:** *The role of due diligence for international alliance performance: Agency theory vs the resource-based view*

Chapter 1 asks the fundamental question of whether institutional distance affects due diligence extensiveness climbing down and up the institutional ladder. Standard IB paradigms suggest that concerns of heightened information asymmetries in weaker institutional environments will lead to more extensive due diligence for firms climbing down, because of the greater challenges of protecting firm interests from opportunism (Williamson, 1996) and bounded reliability (Verbeke and Greidanus., 2009). Drawing on the same logic for firms climbing up the institutional ladder would suggest that there is a reduced need for extensive due diligence investigations, because of the more transparent institutional environment of the potential partner. However, I propose a less-commonly applied theoretical framework, signalling theory from information economics (Akerlof, 1970; Spence, 1974). This theory suggests that firms actively undertake costly actions to signal their value (Coffee, 1999; Reuer and Ragozzino, 2014). Through this theoretical lens, I explore whether more extensive due diligence is used to reduce the adverse selection concerns of the potential partner. Building on the work of Feldman and March (1991), who propose that organizations' collect more information than appears to be needed, to send signals of competence, this study suggests that firms use more extensive due

diligence to overcome the limitations of the opaquer institutional environments in which they are situated. This demonstrates quality and commitment. This can both facilitate alliance formation and put them in a position of better bargaining power. Finally, I compare the institutional indicators of corruption and law and order. I do this because corruption is the standard institutional measure in IB, but law and order may have a greater impact in the context of this study, because non-equity alliances are by definition contractual relationships.

Chapter 2 offers an empirical exploration into the two facets of collaboration as identified by Gulati et al (2012): cooperation, which is the extent to which the partner can be trusted for genuine integrity and commitment to the relationship; and coordination, which is the about the synchronization of partner contributions. As Gulati et al (2012) point out, the alliance literature tends to treat these as separate, though the links between these elements may be the key to a more nuanced understanding of alliance dynamics. The authors suggest that investigations be undertaken into how the cooperation-coordination loop can be *kick-started*. In addressing this gap, I ask whether coordination can be initiated via more extensive due diligence investigations in the formation phase. To answer this question, I specifically investigate whether more extensive due diligence results in a more extensive coordination tool – the balanced scorecard. Subsequently I explore whether the balanced scorecard increases cooperation among the partners. In doing so, I draw on the agency theoretic concern of moral hazard, and consider whether this can be alleviated via mutual monitoring and incentives.

Chapter 3 investigates the link between partner screening and alliance performance, considering both the perspective of the focal and partner firm. I ask the question of whether agency theory offers more appropriate predictions than the more predominant resource-based view (RBV). From the RBV standpoint, alliances are formed when a firm requires complementary resources that cannot be more efficiently bought or developed in-house (Gudergan et al, 2012; Chang and Hong, 2000). While resource synchronization is valuable, the intense focus on resource complementarity results in a lack of consideration for other factors (Zin et al, 2009), such as the willingness of the partner to pool resources with cooperative intentions (Robson et al, 2019). Agency theory on the other hand focuses on the value of reducing information asymmetries to allow for better monitoring and more appropriate incentives (Eisenhardt, 1989; Meuleman et al, 2010), which therefore suggests that more extensive due diligence would be more valuable than a specific focus on resource complementarity. This is because more extensive due diligence allows for the reduction of information asymmetries in a wider range of relevant

factors. I test predictions derived from each perspective, and subsequently investigate the moderating role of legal institutional distance between the partners.

The thesis is structured as follows. The introduction has given a brief overview of the motivation for the thesis topic. Following this are the three chapters discussed above, beginning with Chapter 1 which considers the value of due diligence in ex ante formation dynamics. This is followed with Chapter 2 which focuses on the ex post value of due diligence for coordination and cooperation; this leads into Chapter 3 which considers the link between due diligence and alliance performance in terms of non-financial and revenue-based objectives. Finally, I summarise the findings of all three papers in the conclusion.

2.0 CHAPTER ONE

Due diligence extensiveness in international strategic alliances: climbing down and up the institutional ladder

2.1 Introduction

The international business (IB) literature has long acknowledged the importance of strategic alliances for firm internationalization, although the inherent risks are equally well-recognized. It is well recognized that the value-generating prospect of collaborative relationships is heavily dependent on firms selecting the right partners (Luo et al, 1997; Mindruta et al, 2016), which explains the alliance literature's intense focus on partner selection over the years. Studies range from investigations into partner fit (Cummings and Holmberg 2012) to the broader impact of country-specific factors (Ahlstrom et al, 2014). While these papers have offered fruitful insights, their contributions lie in the selection of alliance partners in general. To my knowledge, systematic empirical attention has not been devoted to the actual efforts and investments made in evaluating specific prospective alliance partners, in the ex ante stage of alliance deal-making.

I address this gap by exploring due diligence extensiveness in international alliances, relying on the theoretical predictions of information economics, and specifically signalling theory, a branch of the information economics paradigm. According to Connelly et al (2011), signalling theory has been extensively utilized in the management field. For instance, Hoehn-Weiss and Karim (2014) rely on signalling theory to explore alliance portfolios and young firms. Although signalling theory has received relatively little attention in IB, Reuer and Ragozzino (2014) have demonstrated its value in explicating the adverse selection concerns (see Akerlof, 1970) that firms face in their international alliance activities.

This investigation is based in the context of institutional distance, which has attracted much attention in the IB literature because firms are increasingly operating in markets with disparate institutional profiles and less than familiar modes of operation (Kostova et al, 2020). Institutional distance is burdened with information asymmetries (Jandik and Kali, 2009), which heighten adverse selection risk (Akerlof, 1970), and can therefore hinder alliance formation.

I specifically focus on what Kostova et al (2020) term *institutional economics*, which is based on North's (1990, p. 3) definition of institutions as "the humanly devised constraints that structure human interaction." This is the fastest growing type of institutional distance in IB scholarship because it readily allows for the quantification of distance and is especially suitable for investigating differing levels of institutional quality in either direction of the spectrum. Drawing on this perspective enables us to consider the viewpoints of firms located in both weaker and stronger institutions, which allows for a more complete view of international business activity than the reliance on either perspective in isolation (Kostova et al, 2020). In doing so I address that which Hitt et al (2004) consider a specific drawback of the alliance partner selection literature, the tendency to focus exclusively on the perspective of the Western/developed economy firm (e.g. Angwin, 2001; Ahammad and Glaister, 2013; Bruton and Ahlstrom, 2003). While this is typical of IB studies in the alliance literature and other research streams, firms from less developed institutions are attracting increasing interest because of their increasing centrality in the global economy (Kostova et al, 2020; Verbeke and Kano, 2015). Furthermore, focusing on the direction of distance, as well as the magnitude, takes us beyond the traditional symmetrical view of distance, which according to Shenkar (2001) and Hernández and Nieto (2015), can lead to inaccurate conclusions. Following Konara and Shirodkar (2018), I therefore rely on the terminology of climbing down and climbing up the institutional ladder. Climbing down represents a firm forming an alliance with a partner from a weaker institutional environment (negative institutional distance, from the focal firm's perspective), and climbing up represents a firm forming an alliance with a partner from a stronger institutional environment (positive institutional distance).

I utilize a unique dataset of over 2000 alliance relationships from over 40 countries, allowing us to extend the geographic scope of previous alliance research. The data were collected over 15 years and offer unique access to the *black box* of alliance formation processes, revealing previously hidden insights into the due diligence process that partners undertake. The statistical analyses show support for the core propositions that due diligence is valuable for both information search, and for its role as a signal of firm resources and commitment. Hence this paper demonstrates and provides theoretical clarification for due diligence extensiveness increasing not only when climbing down the institutional ladder, as current IB knowledge would suggest, but also when climbing up the institutional ladder.

2.2 Literature review and hypotheses

The following sections explain the background theory of due diligence, the applicability of information economics in general, and the specific role of signalling theory to the context of international alliances. Following this, the research hypotheses are constructed for the empirical analyses.

2.2.1 Due Diligence

Due diligence involves gathering information on a potential partner, to aid in the decision of whether to go ahead with the transaction. Its value was acknowledged over twenty years ago in the mergers and acquisitions (M&A) literature, which makes sense given the large scale of such deals, and potential legal and other liabilities involved. Indeed, Harvey and Lusch (1995) and Kissin and Herrera (1990) propose that due diligence is key to the success of such transactions. However, to the best of my knowledge no studies in the alliance literature have devoted systematic attention to firms' detailed evaluation of partners. This is particularly surprising given that due diligence uncovers information which is not publicly available, and can thus help fulfill the need identified by Rugman and D'Cruz (1997, p. 405), that in a collaborative relationship, both parties "apply the calculus of the benefits they hope to obtain and the costs they will incur." Despite the lack of alliance-focused investigations into due diligence, Kano (2018) draws attention to its value in the selection of network partners, and alliance-based studies have mentioned its importance to well-functioning relationships (Mitsuhashi, 2002; Gomes et al, 2013; Joshi and Lahiri, 2015).

Arguably, some inferences regarding due diligence investigations can be made from the M&A literature and carried over to the domain of alliances, although even in this field studies are few, and focus is limited to the perspective of developed country firms (e.g.; Angwin, 2001; Boyle and Winter, 2010; Chakrabarti et al, 2009). Furthermore, the role of institutional distance remains underexplored. Kissin and Herrera (1990) acknowledge the importance of the institutional environment, but they do not specifically investigate the way this affects due diligence investigations, and since the paper, little has been done in the way of addressing this point. Exceptions are Khanna and Palepu (2010) and Boyle and Winter (2010); these papers consider the difficulties faced in undertaking due diligence in an institutional environment

lacking in information intermediaries, however both papers are based on case studies in one specific country, India and China, respectively. There is therefore much scope for further research in the domain of due diligence and institutional distance. The need to fill this gap in the literature is particularly pressing because institutions and the intermediaries in countries shape the information available on exchange partners (Ahuja and Yayavaram, 2011; Healy and Palepu, 2001). For firms climbing down the institutional ladder, some valuable but limited insights from the M&A literature can be applied to alliance due diligence. However, the motives and extensiveness of due diligence when climbing up the institutional ladder remain an entirely missing piece of the puzzle. This chapter addresses these issues by drawing on the theoretical predictions of information economics, which I summarize below.

2.2.2 The Contribution of Information Economics

Transaction cost economics (TCE), a more typical theoretical perspective adopted in IB, has long recognized the importance of taking protective measures to shield firm interests, with Williamson (1996, p. 54) for example drawing attention to "hazard-mitigating actions in advance." Despite such acknowledgment, the core focus of TCE has remained on governance solutions to problems of opportunism that emerge *ex post* at the contract execution stage.

In empirical transaction cost research, a specific exchange partner is taken as a given, limiting our ability to unpack the mechanisms of information search at the outset of alliance deal-making. This can lead to inaccurate calculations of exchange hazards and the subsequent efficiency implications that alliances present partners. I argue that the theoretical paradigm of information economics provides a fitting basis for explorations into *ex ante* exchange hazards. From this perspective, asymmetric information among exchange partners results in adverse selection hazards, which may prevent otherwise attractive transactions from taking place (Akerlof, 1970). Attention is drawn to due diligence in particular, as the firm must gather the necessary information on the potential alliance partner to reduce information asymmetries and therefore adverse selection concerns.

Investigating the efforts invested in due diligence investigations by firms climbing down and climbing up the institutional ladder, I draw on the work of Stiglitz and Weiss (1990), who distinguish between screening and signalling; and the work of Feldman and March (1981) who

specifically point out that information gathering can take on either a instrumental or signalling role, in accordance with the context and the level of information gathered.

Screening refers to the firm's own adverse selection concerns and involves the gathering of information regarding a potential transaction, in order to reduce concerns. Alliance due diligence as a form of intensive search is fitting with this definition because this is where ex ante efforts are made to select the economic actors with which to transact in complex relationships. I propose that greater complexity arises as institutional distance increases climbing down the institutional ladder because of increased information asymmetries, which results in the need for more extensive due diligence in order to gather and verify the different types of relevant information.

Signalling refers to the adverse selection concerns of the transacting partner, which can hinder alliance formation on suitable terms. I propose that due diligence can address these issues by taking on a signalling role when investigations become more extensive as firms climb up the institutional ladder. Signalling theory, like information economics in general, contrasts with TCE in its underlying assumptions and application in the IB field. TCE is based on the idea that opportunistic economic actors will aim to fulfil self-serving interests when appropriate constraints are not in place. As all actors are boundedly rational, incomplete contracting causes market friction, and as noted by Kim and Mahoney (2005), this is generally taken as the starting point of investigations which are typically concerned with governance choices. Hence, TCE's application to collaboration has extensively explored choices between different types of relationships in accordance with level of control (e.g. Choi and Contractor, 2016). Signalling theory on the other hand focuses on the ex ante decisions of actors in a potential transaction. Specifically, this theory is concerned with demonstratable and costly actions, which are of a lower cost for higher quality actors. Signalling actions are therefore a more feasible option for more capable individuals/organizations. This theory is recently gaining attention in the international alliance field (e.g. Reuer and Ragozzino, 2014) for its potential to effectively explicate the formation phase. Table 1 (see Appendix 1) offers a comparison of TCE with signalling theory.

Systems of gathering and analysing information have long been recognized not only for the instrumental value of decision making, but also for symbolic value. According to Feldman and March (1981), firms are investing in systems of gathering, analysing, and displaying far more

information than they appear to make use of. While this may seem to suggest that organizations are “systematically stupid” (p. 174), a more plausible explanation of this “paradox of irrational behaviour,” lies in a type of signal highlighted by information economics (BliegeBird et al, 2005, p. 223; Feldman and March, 1981). Signalling theory (Spence, 1974) proposes that costly actions can act as signals of firm quality, which alleviate adverse selection concerns. Such signals are reliable because they are positively related to an organization’s unobserved capabilities and are too costly for lower quality firms to imitate. As the costs of information systems are lower for good decision-makers, effective information practice offers an accurate estimation of firm quality (Feldman and March, 1981).

Despite such recognition, signalling has been largely overlooked in the IB literature, where efforts have primarily focused on the backing of financial intermediaries such as venture capitalists and banks (Reuer and Ragozzino, 2014) and cross-listings (Siegel, 2009; Temouri et al, 2016). I address this gap, by considering the signalling value of due diligence. As due diligence is costly and time-consuming (Angwin, 2001) it can be a signal of firm quality. Extensive due diligence implies that the firm possesses sufficient financial resources, and is willing to expend the necessary time and effort involved in undertaking this activity. This is broadly supported by Puranam et al (2006) who suggest that due diligence can sometimes be used for signalling purposes. Furthermore, Van Osnabrugge (2000) argues that due diligence is more extensive where competent behaviour must be demonstrated, and Cumming and Johan (2008) note that due diligence attracts investors. Hence, due diligence can be used to reduce the potential partner’s adverse selection concerns. This is particularly important because according to March (1978, p. 594) signals are a sensible way to deal with issues arising from the fact that “information gathering, information processing, and decision making impose demands on the scarce resources of a finite capacity human organism.” Furthermore, in considering the signalling value of due diligence, I respond to the call of Reuer and Ragozzino (2014, p. 321), that researchers “identify new and important signals that are unique to the international setting.” I do so by considering the institutional contexts that firms cross in forging international alliances, as discussed below.

2.2.4 Climbing Down the Institutional Ladder

The decision of whether to form an alliance when climbing down the institutional ladder, is undertaken in an environment of heightened informational opacity. Weak institutions lack transparency (Kostova et al, 2020; Driffield et al, 2016) and this aggravates information asymmetries (Huang and Li, 2019). Uncovering information during the *ex ante* assessment of whether the potential partner is likely to behave in a trusting or opportunistic manner, is therefore increasingly challenging. In addition to opportunism considerations, there are also concerns of whether the transacting partner has the capabilities to fulfill promises initially made in good faith (Kano and Verbeke, 2015; Verbeke and Greidanus, 2013), and as Verbeke and Greidanus (2013) note, these concerns are aggravated by institutional distance. The partner may scale back on commitments due to reprioritization, or because of a conflict between initial promises and organizational values. Reducing such concerns involves ensuring preferences are aligned, to increase the likelihood of the relationship remaining a priority; ensuring the potential partner has the means to fulfil its promises; and confirming that the potential partner's organizational culture is flexible enough to deal with any necessary *ex post* adaptations.

While traditional due diligence would stop at evaluating hard aspects of transactions such as financial and legal aspects of deals (Brueller et al, 2018; Harvey and Lusch, 1995), ensuring partners can fulfil promises requires more extensive investigations. Due diligence often overlooks cultural/human facets despite their centrality to the value creation potential of a deal (Brueller et al, 2018; Harding and Rouse, 2007). According to Huang and Li (2019), these soft aspects are particularly important when climbing down because in weaker institutions intermediaries such as accountants, lawyers, and banks, are less developed, and obtaining credible information is challenging. Moreover, Kissin and Herrera (1990) propose that institutional differences in cross-border transactions warrant due diligence investigations that transcend initial assessments of the firm and the micro-environment to include macro investigations. Building on this point, I argue that the macro-environment becomes increasingly important as firms climb down the institutional ladder. Information asymmetries can be used to a partner's own advantage (Kano, 2018), which increases the likelihood of opportunism, and contracts are more difficult to design (Estrin et al, 2009) and enforce (Abdi and Aulakh, 2012), complicating remedial action if disputes surface. Hence the consequences for adverse selection become more severe.

According to March and Simon (1958), additional search occurs when the costs are outweighed by the expected benefits. This suggests that due diligence will be more extensive as distance

increases when a firm climbs down the institutional ladder, where adverse concerns are greater due to information opacity and less developed information intermediaries.

Hypothesis 1: As institutional distance increases, due diligence will be more extensive for a firm climbing down the institutional ladder.

2.2.5 Climbing Up the Institutional Ladder

By contrast, firms climbing up the institutional ladder can benefit from the more transparent information environment of the potential partner. The existing literature suggests that this would reduce the value of expanding due diligence, for three reasons. Firstly, Huang and Li (2019) point out that credible information is simpler to obtain when the transacting partner is from a stronger institutional environment, because of more developed market intermediaries (for example lawyers and accountants) and their role in governance. Hence information search at the more fundamental stages of financial and legal due diligence, is likely to be smoother and more reliable. Secondly, the reputational benefits of alliance formation with a firm from a stronger institution (Hitt et al, 2000; Siegel, 2009), may overshadow the need for more extensive levels of due diligence, such as the alignment of organizational cultures. Thirdly, the macro-environment of the potential partner firm should require less investigation because of greater transparency, and because more robust institutions offer greater protection of firm interests, reducing adverse selection concerns. As Kano (2018) points out, stronger institutions offer greater protection of knowledge and promote contract enforceability. Furthermore, the encouragement of information flow and efficient processing has a constraining effect on opportunism (Casson, 1997).

While the above arguments suggest that firms climbing up the institutional ladder will undertake less extensive due diligence, theorizing from an alternative view of information-gathering offers a different prediction. Recent IB scholarship has identified that signalling can reduce barriers to alliance formation. For example, Shijaku et al (2020) suggest that signalling helps firms overcome barriers resulting from information asymmetries, which they note are predominant in international alliances. I however seek to extend this through the formal application of signalling theory, building on Reuer and Ragozzino (2014) who specifically apply signalling theory to examine international alliance formation. They propose that because

signals convey qualities linked to a firm's unobservable attributes, signalling can ameliorate the adverse selection problem surrounding cross-border collaboration. I extend this work, by applying these arguments specifically to firms climbing up the institutional ladder.

Feldman and March (1981) argue that information-gathering is in itself a signal of firm competence, and that the use of information as a signal is dependent on organizational requirements. Firms climbing up the institutional ladder are located in an informationally opaque environment, meaning that potential partners face greater difficulties in ex ante search and evaluation. It is therefore more difficult for the firm climbing up to distinguish themselves as a desirable alliance partner. Hence firms from a weak home institution often suffer illegitimacy disadvantages (Pant and Ramachandran 2012) and in response they seek means of legitimization (Tashman et al, 2019). As signalling can help overcome insufficient information institutions (Reuer and Ragozzino, 2014), it offers a viable course of action for firms climbing up the institutional ladder. This is evident in the paper of Huang and Li (2019), who propose that firms climbing up are *signalers*, and firms climbing down *signal receivers*. They argue that firms climbing up can overcome the information asymmetries of their institutional environment by signalling suitability to potential transacting partners. Furthermore, Park and Patel (2015) point out that decision-makers rely on signals in environments of high uncertainty, which fits with the point of Feldman and March (1981, p. 183), that the use of information-gathering as a signal "should be more common where the decision criteria are ambiguous." Such signals should be particularly valuable to potential partners from stronger institutional environments, because the authors argue that signals generated via information-gathering have more value in societies based on "broad commitments to reason and rational discourse," (p. 184), which characterize effective institutions (Hodgson, 1998; North, 1991a). I thus propose that more extensive due diligence will be undertaken as firms climb up the institutional ladder, to demonstrate that they own sufficient resources to fulfill their promises, and are dedicated to the alliance relationship.

Hypothesis 2: As institutional distance increases, due diligence will be more extensive for a firm climbing up the institutional ladder.

2.2.6 Formal versus Informal Institutions

The first two hypotheses consider the institutional environment of the partner firms in a general sense. I now extend the theorizing to include distinctions between formal and informal institutions, which I propose is particularly important when considering the implications of institutions for international alliance due diligence. This is in line with the suggestion of Kostova et al (2020), that considering the differences between formal and informal institutions is vital in generating meaningful conclusions in international business research, and Estrin et al (2007; 2009), who demonstrate that formal and informal institutions strategic decision making in different ways.

According to North (1990), formal institutions are laws and regulations (and their enforcement), and informal institutions are socially embedded norms. To draw such distinctions, I rely on law and order (also referred to in the literature as rule of law, though the terms are often used interchangeably) to investigate formal institutions, and corruption to investigate informal institutions. Law and order fits North's (1990) definition of formal institutions, and is linked to property rights protection (Estrin et al, 2013), which lies at the heart of efficient formal institutions (North, 1991b). As North (1991a, p. 481) states, the effectiveness of contractual enforcement is "the single most important determinant of economic performance." Corruption is defined as the exploitation of public power for private gains (Cuervo-Cazurra, 2006; Svensson, 2005). It is considered an informal institution (Bratton, 2007) because it represents behavioural norms (Cuervo-Cazurra, 2016; Estrin et al, 2013).

2.2.7 Law and Order

Well-functioning formal institutions are particularly important for alliances, because of the need to monitor and enforce partner agreements (Abdi and Aulakh, 2012). Hence where formal institutions are lacking, weaker property rights protection and reduced contractual enforcement discourage cooperative transactions (Estrin et al, 2007; Nunn, 2007). Information asymmetries increase the likelihood of defection outweighing cooperation (North, 1995) because laws lacking in transparency and fairness cannot be enforced impartially (Li, 2005). Mirroring the arguments in section 2.2.4 above, firms climbing down are therefore will undertake extensive due diligence to reduce adverse selection concerns. This follows the line of thinking of Choi and Contractor (2016), that an absence of robust legal systems can increase search and information costs.

In section 2.2.5, I argued that firms climbing up will also undertake more extensive due diligence, but from this viewpoint, to signal firm quality. In applying this argument specifically to law and order, I draw on Levie and Autio (2011). They argue that rule of law is particularly applicable for explicating firm behavior through the lens of signalling theory because of deception concerns arising from information asymmetries and the role of third-party enforcement. This is supported by Ang et al's (2015) study of cross border acquisitions and alliances of emerging economy multinationals. They point out that as regulatory distance increases, assessing legitimacy becomes more challenging and firms are inclined to signal. The cross-listing literature furthers this argument. Coffee (1999) proposes that firms located in countries of weak legislative institutions can benefit from cross-listing on financial markets in countries where legal institutions hold greater power. Furthermore, Siegel (2005), who examined Mexican firms cross-listed on the US stock exchange, found that this allowed firms to demonstrate high-quality corporate governance and gain reputational assets. Interestingly, Siegel (2009) argues that alliances are more effective reputational assets than cross-listing.

Hypothesis 3a: As institutional distance increases, due diligence will be more extensive for a firm climbing down to an institutional environment of weaker law and order.

Hypothesis 3b: As institutional distance increases, due diligence will be more extensive for a firm climbing up to an institutional environment of stronger law and order.

In the following section, I consider the differences in the way in which law and order, and corruption, will affect alliance due diligence. I do this because corruption is the more typical measure of institutional quality in IB research (e.g. Brouthers et al, 2008; Habib et al, 2002), yet law and order is directly applicable to alliance relationships because of their contractual basis, suggesting this may play a greater role in the context of this study. A recent paper by Bahoo et al (2020) points out that to an extent law and order and corruption are linked, as unenforced laws and regulations allow informal corrupt practices to flourish. I extend this by exploring the important differences between these institutional measures, specifically considering the impact on transactional relationships between firms.

2.2.8 Law and Order versus Corruption

Informal institutions are associated with an "incommensurability and/or opaqueness of…norms and values" (Cantwell et al, 2010, p. 570). I argue that these will be specific to the location in which they are developed, because in corrupt environments, exchange is often facilitated by close family and friend connections (Collins et al, 2009; Tonoyan, 2010), and according to Coleman (1990), shared norms develop when there is a high level of interaction between contacts. According to Meschi (2007), in a highly corrupt environment the local partner possesses location-specific knowledge and network contacts, which is a key motivator for international collaborative relationships. The increased value of the local partner in corrupt institutions may therefore reduce the need for firm signalling. Additionally, the location-specific norms that facilitate business transactions in corrupt institutions will be equally opaque to all non-local partners, not just partners from institutionally distant home countries, therefore no additional benefits are associated with signalling in accordance with informal distance. Furthermore, according to Abdi and Aulakh (2012), informal institutional differences can be overcome at the partnership level, but overcoming formal distance is more challenging. Hence due diligence in terms of both information search and signalling is likely to be more valuable when institutional distance is formal, rather than informal. To further this point, I draw on Roy and Oliver (2009), who compare law and order (formal distance) with corruption (informal distance), and find that only law and order has a significant effect on partner selection. I thus argue that law and order matters more to due diligence extensiveness than corruption.

Hypothesis 4: Law and order will have a greater effect on due diligence extensiveness than corruption.

2.3 Methods

3.3.1 Sample

I test the hypotheses using a subset of a unique secondary longitudinal dataset of international alliance relationships, provided by the industry partner Alliance Best Practice Ltd (see Appendix 2). The data were collected over fifteen years (2000 – 2015). Alliance Best Practice Ltd collected the data via a survey. Respondents are key informants, which is especially appropriate for collecting confidential data on phenomena which are absent from publicly available secondary data sources – a fitting description for the topic explored in this study.

Furthermore, this approach is in line with Rugman's advocacy of firm-level data derived directly from practicing managers (see Casson, 2016; Narula and Verbeke, 2015). Face validity of the constructs was ensured by performing pre-tests with 340 members of the Association of Strategic Alliance Professionals (see Nevin, 2014). This offered access to a global network of alliance professionals, and ensured the constructs are applicable to the internationally diverse sample. The data were collected in English, because as in Oetzel and Getz (2012), the vast number of countries in the sample meant that translating the data-collection instrument into each language was not feasible. Common methods bias is unlikely to be an issue in my data because the dependent and independent variables are from different sources (see Chang et al, 2010). Furthermore, the dependent variable is quasi-objective (because as the section *dependent variable* below further describes, respondents were asked about the type of due diligence undertaken rather than an opinion of how extensive they perceived due diligence was), further reducing the likelihood of common methods bias being an issue.

The data consist mainly of alliances among MNEs (93%) with a widespread geographical dispersion, across economically developed and developing nations. While cross-country studies tend to examine a maximum of four countries (Gomes et al, 2016), I have information on firms from over forty countries across North America, South America, Europe, Asia, Africa, and Australia. After accounting for missing data, I have a sample of 2,020 usable responses. Given that my data are derived from a series of long-term projects and interactions, one concern is that they are not representative of the overall population of alliances. As the sample I rely on is greater than 2000 firms, there is unlikely any systematic bias in terms of sector representation. However, to verify this, I compared the breakdown across sectors with the best-known commercial alliance data, Thomson Financial Securities Data Corporation (SDC)/Refinitive limited Platinum database. There are no significant differences in the distribution of observations across sectors in my data compared with these data on alliance formation. I also examined the temporal patterns of alliance formation and did not detect differences across the two data sources.

2.3.2 Dependent Variable

Due diligence extensiveness, is a measure of the degree of due diligence undertaken by the focal firm. Various elements can be examined during the due diligence process. The traditional

elements can be termed hard due diligence, which are tangible and intrinsic to the potential transacting partner. This fundamental aspect of due diligence is where "financial and legal experts audit the "hard assets" and attempt to determine potential liabilities or future projected growth," although hard due diligence alone is insufficient (Harvey and Lusch, 1995, p. 7). Firms can go a step further and also examine softer, intangible elements. According to Marks and Mirvis (2001; 2010) and Brueller et al (2018), firms undertaking due diligence often focus on purely tangible aspects, and overlook cultural or human due diligence, which can lead to serious problems. Looking at these soft aspects is key to understanding whether the cultures of the two organizations will mesh (Harding and Rouse, 2007) and is vital to ex post integration (Brueller et al, 2018). Finally, firms can cover a whole spectrum of hard and soft factors, and include considerations of the macro-environment, which allows the decision-maker to form a more complete picture of factors influencing the viability of the transaction (Harvey and Lusch, 1995).

Due diligence extensiveness, is a five-point rank-ordered categorical variable is measured on a Likert scale[1]. In collecting the data, the respondents were presented with a series of ordered categories and definitions of increasing due diligence, as well as an opportunity to point out if their due diligence practice did not fit the given ordering – although this was not the case for any of the respondents. I therefore code the data as follows:

- 0 = No due diligence
- 1 = Hard elements internal: This links to the traditional due diligence identified by Harvey and Lusch (1995) where the internal tangible assets are evaluated. Examples include cash, technology, inventory, patents/trademarks, accounts receivable.
- 2 = Hard elements internal and external: The scope of due diligence in broadened slightly to consider the external micro-environment and gain further insights relevant to firm strategy. Examples include market share and distributor/supplier contracts (Harvey and Lusch, 1995).
- 3 = Hard and soft elements limited focus: Due diligence is further broadened to include cultural and human aspects. According to Harding and Rouse (2007) and Marks and Mivris (2001), these aspects are often overlooked, despite being highly valuable. Here the internal aspects considered include: quality of management/human resources, intellectual property, customer loyalty, corporate culture (Harvey and Lusch, 1995)

- 4 = Full and complete due diligence: In addition to the above, there is an inclusion of economic macro factors, and how these affect the collaboration in areas such as the industry of operation, and opportunities and risks (Harvey & Lusch, 1995).

2.3.3 Independent Variables

The explanatory variables are measures of institutional quality differences between the focal and partner firm home countries. I follow Temouri et al (2016) and Driffield et al (2014), in linking my data to the International Country Risk Guide (ICRG) of institutional quality from the PRS Group of Syracuse. The database uses political, financial, and economic data, to offer information on a range of institutional quality variables, and is updated yearly. Over 100 countries are given scores based on the opinions of experts. I rely on this database because it has been formulated to aid business decisions in particular. As noted by Méon and Sekkat (2012), firms can use the ICRG database in the assessment of country risk. Furthermore, the database is appropriate for my statistical model because it makes a clear distinction between law and order and corruption. I focus on these variables because these are the most important measures in the IB field. The literature has identified that while law and order and corruption measure different aspects of institutional quality, they nevertheless have similar orderings across countries (Herzfeld and Weiss, 2003). This is particularly the case where a large range of both developed and developing countries are involved. To counter this, I adopt a common practice of estimating their effects separately (Roy and Oliver, 2009).

As noted above, *law and order* reflects the formal elements of the institutional environment, by measuring the strength of political institutions, court systems, and orderly conduct. This encompasses property rights protection, and a spectrum of risks including theft, and arbitress in the government.

Corruption embodies the informal elements of the institutional environment. It is the extent to which corrupt practices are embedded in the political system. The ICRG database encompasses both grand and petty corruption, capturing the likelihood of government officials requesting illegal payments from the higher levels of government institutions to small-scale bribes.

A scale of 0 to 6 measures both independent variables. For law and order 0 refers to weak systems, and 6 to strong systems. For corruption 0 refers to the most corrupt practices and 6 to the least. For hypotheses 1 and 2, I use these variables to test the effect of institutional quality distance on *due diligence extensiveness*. For hypotheses 3a and 3b, I look specifically at law and order, and for hypothesis 4 I compare law and order with corruption to test the prediction that formal institutions are more relevant than informal ones, for alliance due diligence.

2.3.4 Firm-level Control Variables

Prior ties (with the partner) not only increase trust (Mellewigt et al, 2007), but regular interaction also reduces concerns of unfulfilled promises, because the associated cognitive proximity means that scaling back on commitments is less likely (Verbeke and Greidanus, 2009).

Complementarity – This measures level of resource complementarity (versus substitutability), a key driver in the selection of alliance partners (Mindruta et al, 2016). Complementary resources create synergy, enhancing alliance performance, learning, and new-capability development, which according to Harrison et al (2001) leads to competitive advantage.

Relevance of partner market position – Alliances can help exploit markets and offer access to new ones (Koza and Lewin, 2000). I consider the partner market position a resource because market positioning decisions are heavily reliant on firm resources and capabilities (Hooley et al, 2001).

Strategic importance (of the relationship) – this more general measure of strategic importance covers the overall value of the relationship on the firm's strategic path, by ensuring any factors the firm view as valuable are covered (Mellewigt et al, 2007).

Alliance experience – According to Rothaermel and Deeds (2006), greater participation in alliances results in the development of an alliance management capability. Hence the firm is knowledgeable in managing alliance relationships, which should affect due diligence investigations.

National cultural distance – The work of Hofstede (1980) and Ghemawat (2007) has demonstrated the importance of national culture for organizations. I rely on Ghemawat's data because as Kostova et al (2020) point out, Hofstede's dimensions are a form of informal institutional distance and as such, may have issues of collinearity with the measure of corruption

used is this chapter. Ghemawat's focus on language, diaspora, and religion matches is thus a more viable option to capture the cultural dimension.

Geographic distance has a moderating effect on other types of distance (Ragozzino, 2009), and results in informational disadvantages which could result in more reliance on signals. I use the CEPII GeoDist database (Mayer and Zignago, 2011). As Castellani et al (2013) note, this database is widely used in the literature. Bilateral distance between home and partner nations is calculated in kilometers between the largest city (weighted by population of inhabitants as a proportion of the national population) in each country. This reduces concerns of calculated distance between particular cities/points which can be distorted when considering larger economies (Castellani et al, 2013).

I generated dummy variables to control for year effects, industry, and firm type (MNE, MNE subsidiary, standalone business), and home country. This allowed us to mitigate any possible bias based on these factors.

2.3.4 Statistical Model

The basic model is as follows:

$$\boldsymbol{Due\ diligence_i} = \beta_0 + \beta_1\ \boldsymbol{Institutional\ distance_i^+}, \boldsymbol{Institutional\ distance_i^-} + \boldsymbol{Control}_i + \epsilon_i$$

Where:

$Institutional\ distance_i^+ = Institutional\ distance_i$ x climbing down $Institutional\ distance_i^- = Institutional\ distance_i$ x climbing up

$Institutional\ distance_i^-$= institutional distance if institutional distance > 0

$Institutional\ distance_i^-$= 0 if institutional distance ≤ 0

$Institutional\ distance_i^+$= - institutional distance if institutional distance if institutional distance < 0

$Institutional\ distance_i^+$= = 0 if institutional distance≥ 0

Institutional distance is calculated by subtracting the institutional quality value of the partner firm from the institutional quality value of the partner firm.

Control_i is a vector of control variables including cultural distance, industry dummies to control for the fact that the firms in my database come from a range of different industries, year dummies which account for macroeconomic shocks at a particular period (Scalera et al, 2018), country dummies to account for differences in home locations, partner resource dummies, prior ties, alliance experience dummies, geographic distance, the unobservable firm-specific factors, and ϵ_i is the error term. As the dependent variable is rank-ordered and categorical, I employed an ordered probit model (Newbery et al, 2006). This recognizes both the discrete and ordinal nature of a variable and allows for the differences between rank levels.

The ordered probit model is specified as follows:

(i=1,…,n; j = 0,1,2,3,4):

$$P_{ij}(x_i,\theta) = P\left(y_{i]} = j \middle| x_i\ \theta\right) = \phi_i\left(\kappa_j - \beta x_i\right) - \phi_i(\kappa_{j-1} - b'x_i)$$

The probabilities are therefore:

$$\begin{gathered}
P(y_i = 0|x_i,\theta) = \phi_i(\kappa_0 - \beta_{xi}) \\
P(y_i = 1|x_i,\theta) = \phi_i(\kappa_1 - \beta'_{xi}) - \phi_i(\kappa_0 - \beta_{xi}) \\
P(y_i = 2|x_i,\theta) = \phi_i(\kappa_2 - \beta'_{xi}) - \phi_i(\kappa_1 - \beta_{xi}) \\
P(y_i = 3|x_i,\theta) = \phi_i(\kappa_3 - \beta'_{xi}) - \phi_i(\kappa_2 - \beta_{xi}) \\
P(y_i = 4|x_i,\theta) = \phi_i(\kappa_3 - \beta'_{xi}) - \phi_i(\kappa_3 - \beta_{xi})
\end{gathered}$$

Where y is the dependent variable *due diligence extensiveness*, and x is the independent and control variables *institutional quality*, *national cultural distance*, and the following dummy variables: *year*, *industry*, *firm type*, and *home country*.

2.4 Results

The descriptive statistics and correlation coefficients are reported in Tables 2 and 3 respectively (see Appendix 1). The sample primarily comprises of MNEs (93%). Most focal firms are from developed countries, the most common being UK (34%), US (29%), Germany (6%), Finland (5%), and France (5%). Partner firms are also largely from developed countries, the most common being UK (30%), US (33%), Germany (6%), Finland (5%), and France (5%). Schweitzer (2014) also finds the largest proportion of international alliance activity to be in Europe and the US. This can be expected given that there are generally more MNEs in developed countries. However, my database also contains firms from developing countries,

including but not limited to India, Brazil, Russia, Mexico, Brazil, and South Africa. Regarding industry, most firms are from the information technology/computing sectors (50%), followed by pharmaceuticals (15%), broadcasting and communications (12%), logistics (6%), and airlines (5%)[2]. This broadly in line with the industry distributions presented in other alliance studies (Kale and Singh, 2007; Schweitzer, 2014; Short et al, 2007).

A descriptive analysis of the data shows that for due diligence the mean is 2.63 and the median is 3, the second-highest category. Looking into the institutional quality variables, the average score for law and order is 5.19 (focal firm) and 5.17 (partner firm), and for corruption it is 4.26 (focal and partner firm). Thus, most firms are from high institutional quality nations, as noted above. However, the minimum and maximum columns show a wide-ranging institutional quality across the sample, with the lowest score being 2 (law and order focal firm, corruption focal and partner firm) and 2.5 (law and order partner firm), and the highest being 6 in all categories. The culture variable suggests an average of two matches (from a possible three) between the partner firms.

The correlation coefficients show a high correlation between the two institutional quality measures. In most instances, the correlation coefficients among the independent/control variables are considerably below 0.4, which suggests that multicollinearity is unlikely to be a serious concern. As there were a few exceptions, I tested variance inflation factors as a robustness test. The explanatory variables were well below 10, confirming that multicollinearity is not an issue.

Table 4 presents the results from the law and order and corruption regressions (see Appendix 1). The control variables generally behave as expected. National cultural distance has a positive effect (p=0.000), which makes sense given that cultural similarity should ease the process of investigations, for example this variable captures language similarities and according to Joshi and Lahiri (2015) language differences can cause friction in the alliance formation stage. Operating in the pharmaceutical industry also has a positive effect (p=0.000), perhaps because "collaboration is an unavoidable strategy," for firms looking to innovate in this industry (Chiaroni, et al, 2008, p.7), hence institutionalized industry standards are likely to include extensive due diligence. Additionally, having *prior ties* with the partner has a positive effect (p=0.004), which could be explained by the familiarity with a particular partner resulting in the development of routines (see Zollo et al, 2002). This result suggests that the development of

routines via prior ties also applies to due diligence investigations. Finally, greater *product/service complementarity* has a positive effect (p=0.000), perhaps suggesting that complementarity facilitates collaboration from the outset, by enabling more extensive investigations. Conversely, *strategic importance* (p=0.000) and *partner market position* (p=0.000), result in less extensive due diligence, Additionally, being a *standalone enterprise* (p=0.001) has a negative effect, which may suggest that having a smaller intra-firm network to draw on makes due diligence more challenging. *Alliance experience* has an insignificant negative effect on model 1 (p=0.915) and an insignificant negative effect on model 2 (p=0.971). The lack of significant effects of this variable may be because due diligence investigations are specific to the particular partner, thus generic experience with alliances does not play a key role in such investigations.

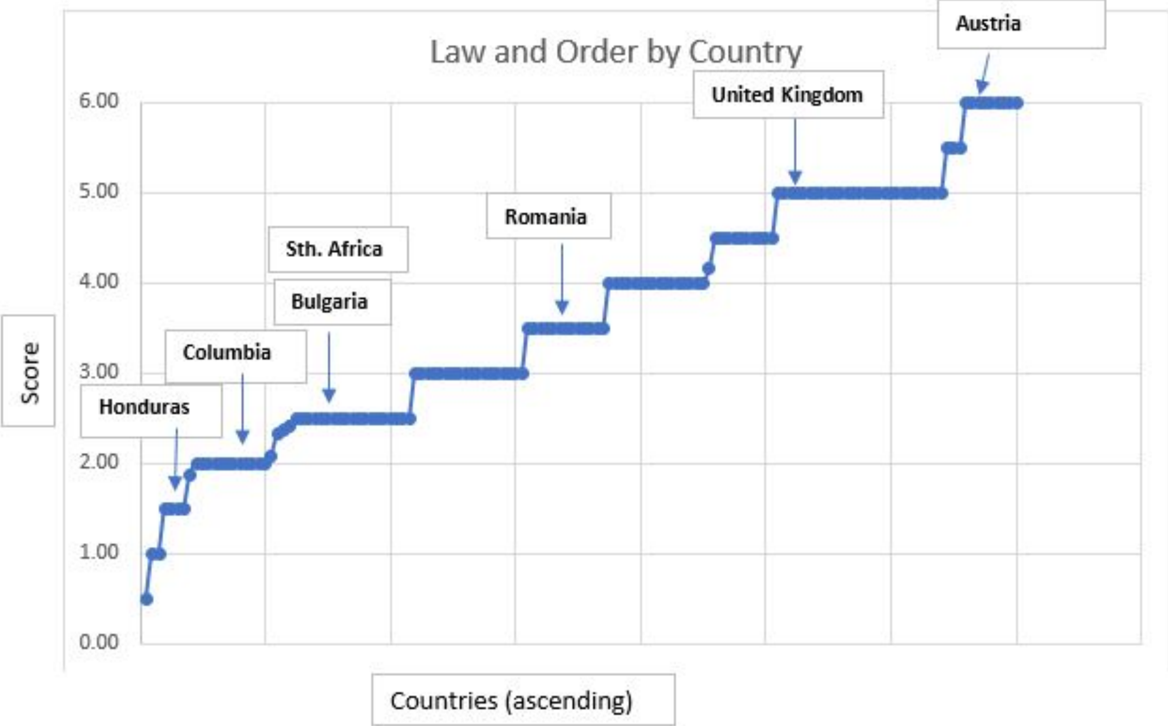
I now turn to the hypothesized variables. Hypothesis 1 states that when a firm is forming an alliance climbing down the institutional ladder, due diligence will be more extensive as institutional distance increases. The regression models show that when climbing down both measures of institutional quality result in more extensive due diligence as distance increases (law and order: p=0.006; corruption: p=0.004), providing strong support for Hypothesis 1. Hypothesis 2 states that due diligence will also be more extensive as distance increases, when a firm is forming an alliance climbing up the institutional ladder. Here the regression models show that due diligence is more extensive as law and order distance increases (p=0.026), and also as corruption distance increases, although the latter is not significant at conventional levels (p=0.102). Overall, the results provide support for Hypothesis 2. These results also strongly support Hypothesis 3, which specifically considers law and order, and posits that due diligence will be more extensive both climbing down (Hypothesis 3a), and up (Hypothesis 3b), as distance increases. Hypothesis 4 proposes that law and order has a greater effect on due diligence extensiveness, than corruption. I find partial support for this hypothesis because due diligence is significantly more extensive as law and order distance increases in either direction (climbing down: p=0.006; climbing up: p=0.004), yet corruption distance generates a significant increase in due diligence extensiveness climbing down (p=0.004) and an insignificant increase climbing up (p=0.102).

Table 5 shows the marginal effects by category of due diligence extensiveness for models 1 and 2 respectively (see Appendix 1). The predictive margins for law and order show that when either climbing down or climbing up the institutional ladder, a one-unit increase in law and

order distance results in the probability of being in the highest category by approximately 12 percentage points, the second-highest category is insignificant, the middle category by 4 percentage points, the second-lowest category by 3 percentage points, and the lowest category by 6 percentage points. The actual values are remarkably similar in either direction, so I ran the regression omitting entries where the law and order distance is zero, as there is a high proportion of these in the dataset. The results and interpretations remained consistent whether these observations were included or excluded from the analyses.

I display law and order scores by country for the year 2015 (the most recent year in my database) in Figure 1. The x-axis plots the countries in the ICRG database in ascending order according to their law and order score, and the y-axis has the actual law and order score given to each country. The arrows point out specific countries, as there are too many to list along the x-axis. This demonstrates the practicality of the results. For example, if Firm A is firm from Bulgaria (score: 2.5) were to form an alliance with Firm B from South Africa (score: 2.5), and Firm A were to also form an alliance with Firm C from Romania (score: 3.5) Firm A would be 12 percentage points more likely to undertake the maximum level of due diligence in the alliance with Firm C.

Figure 1 – Law and Order results



The predictive margins for corruption show that when climbing down the institutional ladder, a one-unit increase in corruption distance results in the probability of being in the highest category by approximately 9 percentage points, the second-highest category is insignificant, the middle category by 3 percentage points, the second-lowest category by 2 percentage points, and the lowest category by 5 percentage points.

In order to further explore the validity of the results, I performed a number of additional robustness tests. The initial robustness tests are with respect to the estimator. I compared the probit results with a more straightforward OLS regression, using both law and order as the indicators of institutional quality. A further concern is whether the results are sensitive to the respondent's interpretation of the categories of due diligence. I therefore carried out two further robustness tests. The first concerns the dependent variable, which I re-specified in a number of ways: I simply categorised a 0/1 dummy for whether the firm did due diligence or not, and a subsequent specification of full due diligence against all other possibilities. Next, I merged the middle two categories of due diligence, this distinction being potentially the most sensitive to interpretation. The findings are robust to these alternatives. Secondly, as there are observations where the data offer both climbing up and climbing down perspectives of the same alliance, I randomly removed one of these observations and ran the ordered probit regressions again.

2.5 Discussion

2.5.1 Discussion of findings

Due diligence has been largely overlooked in the alliance literature, which has focused instead on the actual partners selected and what are the various dimensions of partner fit in international collaborations. I address this gap by exploring due diligence extensiveness in the context of institutional distance, and consider the screening and signalling role of due diligence in reducing adverse selection concerns. I begin with a fairly straightforward prediction, that for firms climbing down the institutional ladder, due diligence is more extensive as distance increases because of the need for broader and more intensive screening as information asymmetries between the partner firms increase. I find support for this prediction, which is in accord with Buckley and Casson's (2009, p. 1568) conclusion that "a rational decision maker will

collect…sufficient information to make the risks surrounding the decision acceptable." I show that firms respond to increased information asymmetries by undertaking more extensive due diligence to protect the firm's interests. This finding is also congruent with the typical view of due diligence presented in the related M&A literature – that due diligence is a form of information search (Angwin, 2001; Harvey and Lusch, 1995).

Following this, I consider firms climbing up the institutional ladder. Applying the above conclusions would paint a picture of due diligence decreasing as institutional distance increases. However, drawing on signalling theory I show that due diligence is in fact *more* extensive, because it signals firm resources and commitment to the alliance. This helps the firm distinguish themselves as a high-quality transaction partner despite the information opacity in their home institution. Moreover, this enables the firm to overcome the limitations of the institutional environment, facilitates alliance formation, and places the firm climbing up in a better bargaining position. Finding support for this prediction adds weight to Huang and Li's (2019) argument that firms from weaker institutions signal their quality to firms from stronger institutional environments, to overcome information asymmetries. The results of this study also add weight to the literature which specifically recognizes the value of due diligence in demonstrating firm quality (Cumming and Johan, 2008; Van Osnabrugge, 2000).

This study proposes that due diligence extensiveness either increases to take on the instrumental function of information search, or to send a signal of firm quality to a potential transacting partner, depending on the institutional context. This exploration of both instrumental and signalling roles of a single business activity is evident in Luo et al (2009), who show that the hiring of prominent scientists performs an instrumental role for firms with a stronger reputation, and a symbolic role for firms with a weaker reputation. I also confirm the viewpoint of Feldman and March (1981) that information-gathering systems perform both signalling and information collection roles for decision-making roles in organizations, and I confirm that the context of the organizations matter based on the institutional environments in which they are embedded.

Delving deeper into the institutional environment, I consider formal versus informal institutions, and show that formal distance (law and order) increases due diligence extensiveness when climbing both down and up the institutional ladder, but informal distance (corruption) only significantly increases due diligence extensiveness when climbing down. Hence legal distance results in increased due diligence in either direction. This stands in contrast

to traditional IB paradigms which would suggest that institutional distance would only require increased due diligence for firms climbing down. This is due to the heightened information asymmetries in the partner's institutional environment, resulting in the need to uncover information and protect firm interests. Interestingly, this chapter has shown that firms climbing up can use extensive due diligence to overcome the limitations of the institutional environment in which they are located, explaining why due diligence increases in either direction of legal distance. This also demonstrates that law and order is more important for alliance signalling than corruption, and supports Levie and Autio's (2011) argument that law and order is specifically applicable to the arguments of signalling theory. Furthermore, this chapter supports the findings of Estrin et al (2007; 2009) that formal and informal institutions affect strategic decisions in different ways.

2.5.2 Limitations and future research directions

This study is not without limitations, and extensions to this research could explore them further. Firstly, the largest proportion of firms in my database are from the UK and the US. However, given the large size of my database, this is unlikely to be problematic. Furthermore, according to Gomes et al (2016), most multi-country strategic alliance studies are based on a sample of fewer than four countries. The fact that my database contains information from such a wide range of countries along a spectrum of institutional quality, has enabled us to make a unique contribution to the IB literature on strategic alliances.

Secondly, as I focus on the institutional information environment, specific motivations for alliance formation were out of the scope of this study. Although I base this study on the assumption that firms will nonetheless undertake due diligence to ensure the potential partner is willing and able to provide that which the focal firm seeks, future investigations into particular strategic intents for alliances, such as technology-seeking or market-seeking motives, would provide fruitful insights.

Another valuable extension of this paper would apply the findings to other interfirm transactions. As this study focused on contractual alliances, it would be interesting to see if the results hold across equity joint ventures, and M&As as well in international contexts. Additionally, I have identified the role of due diligence as a signal of firm quality. Signals can

substitute one another (Arthurs et al, 2009), so it would therefore be interesting to investigate how due diligence is affected by other signals, such affiliations with intermediaries or cross-listing (e.g., Temouri et al, 2016).

2.5.3 Implications for Practitioners

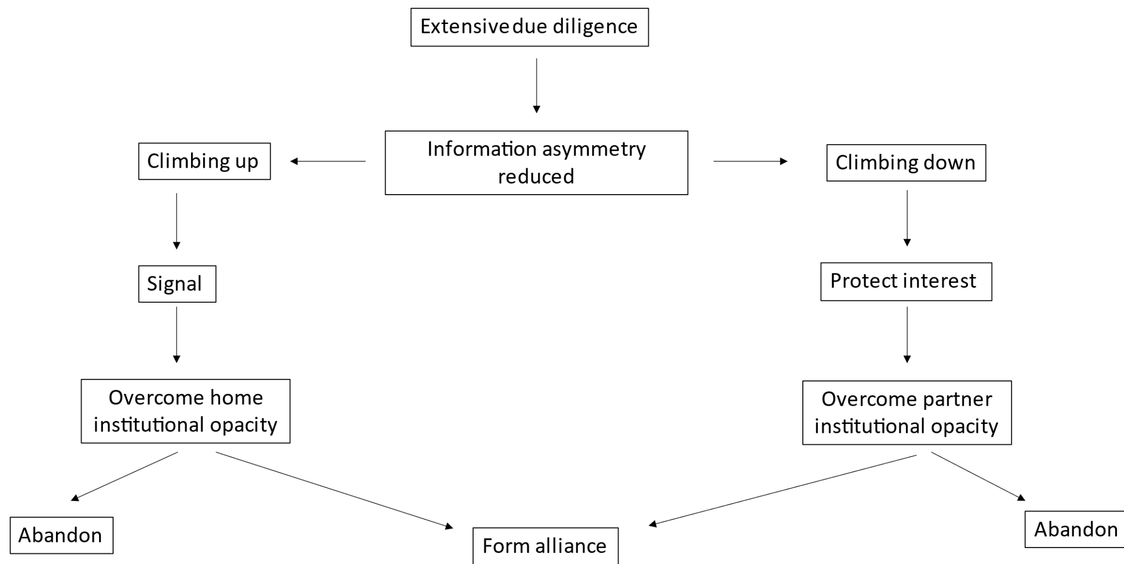
This chapter has drawn on data which derive directly from the alliance team, and demonstrated the value of extensive due diligence. Practitioners can benefit from understanding that extending due diligence beyond financial and legal factors is valuable in either direction of institutional distance, and becomes increasingly important as distance increases. This is because due diligence can take on a screening role to protect firm interests where institutions are burdened with information asymmetries and reduced legal protection; and a signalling role to allow a firm to overcome the informational limitations of the institutional environment in which they are located. As firm resources are finite it is important firms understand that dedicating resources to extensive due diligence is very important. Furthermore, as IB scholarship generally focuses on firms climbing down, this chapter should be especially valuable for firms climbing up, it demonstrates that due diligence should not be overlooked. Firms climbing up can also benefit from the knowledge that it is those firms climbing up from weak legal institutions (rather than corrupt institutions) which benefit from increasing due diligence as institutional distance increases. This is because it is the weak formal institutions which are burdened with more challenges where asymmetric information problems are present.

2.6 Conclusion

This paper offers novel insights into alliance due diligence, and considers the role of institutional distance. I extend past research by using signalling theory to construct arguments beyond the traditional western/developed economy viewpoint, and investigate the position of firms both climbing down and up the institutional ladder. The results of this chapter show that due diligence increases with distance in both directions. More extensive due diligence is useful for uncovering information in informationally opaque environments when climbing down, and for signalling firm resources and commitment when climbing up. Explorations into formal and informal institutions reveal that it is specifically formal distance (law and order) that results in the increased need to signal. This chapter shows that in investigating due diligence, it is

important to consider direction, magnitude, and type of institutional distance. Figure 2 summarizes the results of this chapter.

Figure 2 – Chapter 1 Findings



Notes

[1] In addition to the Likert scale, there is a comments section to check for the veracity of the measure. This enables the validation of answers, as the section allows for a more detailed qualitative response

[2] While at a first glance it may appear as though airline are underrepresented, given that alliances are extensively used in this industry, there are fewer repeat alliances than in industries such as IT and computing. This is because there is little incentive to leave an alliance. According to Rugman and Verbeke (2008, p. 6) "once an airline leaves the alliance it has de facto lost most of the benefits brought by that partnership."

3.0 CHAPTER TWO

The alliance balanced scorecard: developing a coordination tool to improve cooperation

3.1 Introduction

The value of strategic alliances for the survival and prosperity of a firm is well-acknowledged, though because such relationships are so complex, they require attention throughout the alliance lifespan (Gulati et al, 2012). Chapter 1 explored the role of due diligence in reducing adverse selection concerns in alliance formation, in accordance with whether firms are forming an alliance climbing down or up the institutional ladder. This chapter looks into the reduction of moral hazard concerns in the alliance management phase, and considers the role of due diligence in managing an effective collaboration. This is particularly important because although firm action in the ex ante phase initially places the relationship on the right path, "alliances must be effectively managed for their benefits to be realized" (Ireland et al, 2002, p.413; Kaplan et al, 2010).

According to Gulati et al (2012) the two facets of collaboration are cooperation and coordination. Coordination refers to the synchronization of partner contributions, such as resources and efforts, enabling the firms to work together in their quest to achieve agreed upon alliance goals (Gulati et al, 2012; Standifer and Bluedorn, 2006). The development of coordination tools is especially important, because as Gulati et al (2012) point out, the partners must deliberately synchronize, align, and adjust their actions to realize the goals of the partnership. If insufficient attention is paid to synchronization, coordination failure can result in the abandonment of effort due to doubts about the viability of the partnership. Cooperation on the other hand is about whether the partner firms trust one another in their integrity and commitment to the relationship (Gulati et al, 2012). It is therefore important to overcome any apparent misalignment of incentives, foster relational mechanisms in order to overcome concerns of opportunistic behaviour, and increase commitment to the relationship which can reduce concerns of the scaling back on commitments initially made in good faith (see Chapter 1). Cooperation therefore revolves around trust (Beccerra and Gupta, 1999; Gulati et al, 2012), and where trust is lacking, cooperation failures arise. Similarly, to coordination

failure, this can lead to reduced investments in the alliance, and a dissolution without the attainment of objectives (Gulati et al, 2012).

Gulati et al (2012) point to a number of limitations in the alliance literature. Firstly, investigations which look into both cooperation and coordination are lacking, as the literature generally explores these separately. This can be problematic because the facets rarely exist in isolation, in fact they tend to be intertwined and enhance one another via a reinforcing loop; secondly, it is unclear as to how this loop is initiated, and it is therefore important that researchers take steps in solving the puzzle of how to kick-start the loop; and thirdly, there is an insufficient focus on the cooperation element of alliances, which is concerning because the management of "interdependencies with a partner through ongoing coordination" is key to running an effective alliance (Schreiner et al, 2009 p.1397). It is therefore no surprise that the question of how firms can best manage collaborations remains a pressing matter in the alliance literature (Li et al, 2017; Pekkola and Ukko, 2016).

Moral hazard is about hidden action concerns, in this case about the alliance partner. As each partner has these concerns, we have a double moral hazard problem (see section 1.0), coordination must be addressed to in order to align goals and synchronize actions; and cooperation must be addressed because increasing trust reduces concerns about the way in which the partner will act, and is therefore likely to increase efforts invested into the alliance relationship. I argue that the link between these lies is mutual monitoring, which can be achieved via the alliance BSC. I consider this a coordination tool because it is not only a system of performance measurement, it also specifies the agreed upon goals and priorities of the alliance, clarifies the contributions which each side will make in order to achieve these, and communicates important messages (Kaplan et al, 2010; Pekkola and Ukko, 2016). Furthermore, in more extensive versions the BSC links goals to rewards (Speckbacher et al, 2003), which is likely to increase cooperation via trust.

This chapter is divided into two parts. The first part builds on Chapter 1, which explicates how due diligence reduces information asymmetries enabling the first to devise a more extensive BSC, hence kick-starting the coordination-cooperation loop. In doing so, I also respond to the call in the literature for explorations into performance measurement systems in an interfirm setting (Nippa and Reuer, 2019; Pekkola and

Ukko, 2016; Rey-Marston and Neely, 2010). In the second part of this chapter, I examine the link between cooperation and coordination, by considering whether a more extensive balanced scorecard increases cooperation in the alliance.

This chapter is structured as follows. I begin with an overview of the relevant literature on due diligence and its value of developing an extensive balanced scorecard. Following this, I discuss how the balanced scorecard can lead to increased cooperation in alliances. I explore the research questions empirically using a seemingly unrelated regression, and discuss the results, before offering avenues for future research and industry practitioners. I conclude with a summary of the results.

3.2 Literature Review

3.2.1 Moral Hazard

From an information economics perspective, when a party with limited information bears a risk based on the actions of another party in a transaction, and only the other party has the information about their own competencies and intentions, concerns of moral hazard arise (see section 1.0). In an alliance relationship, concerns revolve around whether the other party will fulfil alliance commitments to their best ability, and whether they have the competencies to continually adapt and to add value to the relationship. As each party invests in the alliance, each party also bears risks based on the other party's actions. This causes a double moral hazard problem (see Agrawal, 2002). In order to capture value from the relationship, it is therefore important that the moral hazard concerns of each party are alleviated via goal alignment, monitoring, and incentives. I propose that this can be achieved via the joint development of an alliance BSC, a coordination tool which helps collaborative partners "define, manage, measure and evaluate common goals and responsibilities" (Bititci et al, 2012, p.234).

When the BSC is devised jointly, communication is facilitated, and information asymmetries are reduced (Maestrini et al, 2018). In addition, a more extensive BSC covers a broader range of themes including financial and non-financial factors, and will also link achievements to rewards (Speckbacher et al, 2003). When the BSC is sufficiently extensive, it therefore encourages communication and synchronization;

subjects the partners to agreed-upon and mutual monitoring; and incentivizes both firms in accordance with jointly selected standards. Furthermore, I argue that by coordinating the inputs of each party, the BSC increases mutual alliance trust as double moral hazard concerns are alleviated; and it is here that I establish a link between coordination and cooperation, By coordinating efforts, monitoring, and linking rewards; information asymmetries are reduced, and double moral hazard concerns are alleviated enabling the firms to better cooperate with one another. This explains the well-documented success of the BSC. As Kaplan et al (2010) document, this tool has been successfully utilized to organize numerous collaborative relationships including, Solvey and Quintiles, multiple Infosys partnerships, and multiple LagasseSweet partnerships.

In the subsequent section I consider how firms can design a more extensive balanced scorecard, specifically considering the role of due diligence. This builds on Chapter 1 which explained how extensive due diligence reduces information asymmetries. In this chapter, I consider how this reduction of information asymmetries can be utilized by the partner firms, to facilitate a jointly development the balanced scorecard.

3.2.2 Due diligence

Due diligence is the phase is where partner fit is assessed via the exchange of confidential details. According to Ragozzino and Reuer, (2007, p.17) and Very and Schweiger, (2001), it is in this stage where the "seeds of success or failure are being sewn," which makes sense given that information asymmetries are reduced (Pinkham and Peng, 2017). As there are few due diligence papers in the alliance field to draw upon (see Chapter 1), in reviewing the relevant literature, I include M&As. Extant studies tend to focus on the value due diligence can add to the cooperation-based elements of a relationship. These include opportunism concerns and commitment to the relationship. For example, Arend (2004) looks at the likelihood of an acquired firm contributing effort and firm assets, and Jones (2007) focuses on minimising the risk of appropriation through knowledge leakage in R&D alliances. However, it is also vital to consider coordination, as this is how the efforts of each party are synchronized (Gulati et al, 2012).

The traditional stages of due diligence revolve around financial and legal evaluations (Brueller et al, 2018; Harvey and Lusch, 1995). These are vital for cooperation-based factors, because such investigations can alert the firm to issues including "pending litigation, inaccurate inventory assessment, puffed up financial accounts…tax contingencies, unrealisable investments…and unethical practices" (Angwin, 2004, p.36). However, this alone is insufficient (Gulati et al, 2012), and incomplete due diligence at the ex ante stage is a major factor in ex post integration problems (McKiernan and Merali, 1995). Hence Gualti et al (2012) point out that there is a need to consider additional factors if firms are to mitigate the probability of coordination related failures. In order to offer coordination value, due diligence must be more extensive.

In Chapter 1, I point out that extensive due diligence includes soft elements such as human resources and organizational culture (Harding and Rouse; 2007; Marks and Mirvis, 2001; Harvey and Lusch, 1995; Gulati et al, 2012). This is important for reducing coordination related concerns including the compatibility of organizational routines (Guati et al, 2012), whether organizational cultures will mesh (Harding and Roose, 2007), and whether the culture is sufficiently malleable to accommodate the ongoing changes associated with alliance circumstances and management (see Chapter 1). Building on Bingham et al (2012), who suggest that the knowledge gained in this stage leads to capabilities which enhance the integration of activities in managing a collaborative relationship, I suggest the reduction of information asymmetries associated with greater due diligence extensiveness, can be used to build a more extensive coordination tool. This idea is supported by the work of Anderssen at al (2002) who associate soft due diligence factors with the ability of firms to select appropriate organizational structures in order to effectively manage cultural differences, and is in in line with Marks and Mirvis (2001) who link people-based investigations to successful implementation. As Harding and Rouse (2007, p.124) state, "the really useful cultural work of human due diligence starts after the deal is officially on the table."

Chapter 1 also draws attention to the fact that more extensive due diligence involves a consideration of the macro environment and the way in which this may affect the collaboration, because macro-level investigations offer a more complete picture of the potential transaction (Kissin and Herrera, 1991; Harvey and Lusch, 1995; Marks and

Mirvis, 2001). Firms must consider the external environment in light of partner needs, requirements, and behaviour (Gulati, 1998), as well as the industry in which the alliance will be operating (Harvey and Lusch, 1995). In a literature review on alliance renegotiations, Reuer and Arino (2002) identify industry demand shocks and changing industry concentration levels concerning alliance prosperity. Furthermore, according to Harvey and Lusch (1995), the macro-environment influences available opportunities and risks (Harvey and Lusch, 1995). This link is often neglected in due diligence investigations (Harvey and Lusch, 1995; Patel, 2018), although as alliances comprise of more than one organization, they tend to "embrace more of the macro environment within themselves than a single organization" (Standifer and Bluedorn, 2006, p.913). It is therefore important to consider how macro-level due diligence investigations can enable the development of a more extensive balanced scorecard.

When political and economic uncertainties surround an alliance, additional pressure is placed on coordination mechanisms due to higher information costs (Nielsen, 2007). Despite this, firms may use macro-level due diligence investigations to devise a more extensive balanced scorecard, because according to Standifer and Bluedorn (2006), via coordination mechanisms the partners can deal with fluctuations in the macro environment. This point is supported by Gulati et al (2012) who note that relevant external issues are important for coordination related factors because the external environment sets the context in which the firms will be managing their collaboration. Pekola and Ukko (2016) is among the few papers which specifically consider the design process of performance measurement systems in a collaborative setting. In a comprehensive literature review, they identify that in the design of collaborative PMS, there must be a detailed understanding of the challenges and processes the partner firms face. As the macro-environment presents context-specific challenges to alliances (Reuer and Raogzzino, 2014), I explore the following research question:

Research question 1: Will more extensive due diligence lead to a more extensive coordination tool – a jointly formulated balanced scorecard?

In the subsequent sections I consider the value of a more extensive balanced scorecard for reducing information asymmetries and increasing alliance coordination.

3.2.3 The balanced scorecard to reduce information asymmetries

In Chapter 1, I drew on theoretical predictions from information economics to explain how reducing information asymmetries can promote alliance formation by alleviating adverse selection concerns. The arguments can be traced back to Akerlof's (1970) used car market example. He demonstrates that buyers cannot know the actual quality of a car before purchasing, and while the seller has this knowledge, incentives to charge a higher price could lead to misrepresentation, which can hinder otherwise valuable transactions from going ahead. According to Spence (1974), this can be resolved in the ex ante stage, by signalling - the undertaking of a costly action, which lower quality transacting partners could not feasibly imitate – to reduce information asymmetries. However, as Akerlof's (1970) car example is based on the sales transaction of a product, there is no change of quality from the time of purchase to usage. Alliances on the other hand are a relationship-based transaction associated with "a veil of…secrecy" (Johnson et al, 1996, p.982). Hence the quality of the partner is not stationary at the time of signing the contract, it is evolutionary and dependent on numerous ongoing factors. In the ex post stage, information asymmetries cause an agency problem of moral hazard (Eisenhardt, 1989), in this case double moral hazard, whereby each firm is concerned about the effort and dedication of the partner, because while each partner has full knowledge of their own competencies and intentions, the competencies and intentions of the alliance partner are unknown.

Concerns are rooted in information asymmetries; and from an agency theory perspective, the solution lies in monitoring mechanisms and incentives (Eisenhardt, 1989). The balanced scorecard is especially valuable in this respect because it subjects both parties to mutually agreed upon monitoring, in other words each firm agrees to monitor and be monitored in accordance with agreed upon goals, metrics, and incentives. According to Beccerra and Gupta (1999), monitoring and incentives can influence economic behaviour in various ways. I build on this point by considering the balanced scorecard as not only a system for monitoring, but also a system of communication between the partners. According to Kaplan and Norton (2001, p.64) the balanced scorecard "creates focus for the future, and communicates important messages." Furthermore, Pekkola and Ukko (2016) point out that the balanced

scorecard is dynamic in that it is regularly evaluated "to signal what has been achieved and which performance issues need executives' attention," and thus helps increase the alignment among the partners (Kaplan et al, 2010, p.116). The authors draw on a case study of Solvey Pharmacuiticals and Quintiles to show that the balanced scorecard can be a driver of change. In the following section I build on this point and consider the specific ways in which the balanced scorecard can increase cooperation.

3.2.4 Balanced scorecard to demonstrate cooperative intent

Demonstrating cooperative intent can reduce moral hazard, because as mentioned above, moral hazard revolves around concerns of the actions of the partner firm. Coordination tools can increase the cooperation-based facets of a collaborative relationship, which according to Beccerra and Gupta (1999) revolve around trust, and specifically trusting the partner to make appropriate efforts and commit to the alliance (Gulati et al, 2012). This is where much of the value of the balanced scorecard lies. Generating a balanced scorecard for the relationship is costly in terms of financial resources (Norreklit, 2003), but even more so in time and effort. This is evident in a statement from Gibbons and Kaplan (2015, p.449), that devising an effective balanced scorecard requires management to "sweat through the hours and hours of work and effort." Furthermore, Spence (2002) states that, "spending time is a signal of interest…time is in short supply and everyone knows it" (p.450). This demonstrable effort allows each firm to show that they are taking the relationship seriously, which should alleviate the moral hazard concerns of each party. It is also noteworthy that cooperation is further enhanced when the measures are jointly created. This is supported by Saxton's (1997) point that shared decision-making signifies commitment to an alliance relationship and builds trust, which makes sense given that in an alliance, signals stimulate a cycle of trust reciprocity among the partners (Cullen et al, 2000). Maestrini et al (2018) took this a step further and investigated the joint creation of a balanced scorecard in an inter-firm setting, and found that this specifically increased trust in the relationship. Interestingly, the paper demonstrated that the joint formulation of the BSC results in increased trust buyer-supplier relationships, where it is likely that there is a level of bargaining power imbalance. This suggests that a mutually devised alliance BSC can overcome a range of bargaining asymmetries present within the

relationship. Furthermore, it is likely that where there is equal bargaining power between firms in an alliance, the BSC could help the firms commit to the agreed upon distribution of efforts and contribution of resources. This would not only reduce double moral hazard risk as discussed above, but also help deal with any possible changes in bargaining power as the relationship evolves. These advantages are available because when both firms are involved in the development process communication is encouraged and both parties demonstrate their intent to dedicate efforts to the relationship. As the authors state, a jointly created balanced scorecard "displays an explicit interest in…collaboration" (p.303). This is supported by Pekkola and Ukko (2016), who found that the co-development of PMS in a collaborative network, stimulates cooperation, and increases mutual trust and commitment.

In order to solidify the demonstration of cooperative intent, from an agency theoretic perspective it is also important to link monitoring with incentives. In this way the costs of monitoring the relationship are reduced, because each firm is incentivised to continually strive for agreed upon goals and standards. This is a key part of managing an alliance relationship, because should monitoring costs exceed what firms consider reasonable expenditures, the alliance likely be terminated prior to realizing the relationship objectives. According to Speckbacher et al (2003), it is this link between measures and metrics which defines a fully balanced scorecard, and allows for the implementation of strategy. Norreklit (2000) point out that an important insight of Kaplan and Norton (1996), is that the link between performance measures and rewards is a part of communication. In order to gain maximum value from the balanced scorecard thereby reducing moral hazard and increasing cooperation among the partners, it is important that goals and incentives are tied together (Speckbacher et al, 2003). As it is this link which solidifies the demonstration of intent to cooperate and invest necessary efforts, I explore the following research question:

Research question 2: Will a more extensive jointly formulated balanced scorecard increase alliance cooperation?

3.3 Methods

3.3.1 Sample

The purpose of this chapter is to explore cooperation and coordination in terms of the balanced scorecard and trust. I investigate the research questions by utilizing the unique database provided by, Alliance Best Practice Ltd. The data are explained in detail in Chapter 1, section 2.3. After accounting for missing data, I have a sample of 2,034 usable responses.

3.3.2 Dependent Variables

Statistical Model 1

In model 1 the dependent variable *balanced scorecard extensiveness*, is a five-point scale which draws on Speckbacher et al (2003). I focus on a jointly developed balanced scorecard as the literature review suggests it is the joint development which offers the synchronization of efforts, mutual monitoring, and communicative benefits for the partnership, and this is the basis of the research. Respondents were given the opportunity to point out if their balanced scorecard/performance measurement system did not fit the given ordering – although this was not the case for any of the respondents. I code the data as follows:

- 0 = none
- 1 = financial measures only – this is a performance measure but not a balanced scorecard because the financial measures are considered in isolation (Kaplan et al, 2010)
- 2 = "Type I balanced scorecard: a specific multidimensional framework for strategic performance measurement that combines financial and non-financial strategic measures" Speckbacher et al (2003, p.363)
- 3 = "Type II balanced scorecard: a Type I balanced scorecard that additionally describes strategy by using cause-and-effect relationships" Speckbacher et al (2003, p.363)

- 4 = "Type III balanced scorecard: a Type II balanced scorecard that also implements strategy by defining objectives…and connecting incentives" Speckbacher et al (2003, p.363)

Statistical Model 2

In model 2 the dependent variable is *trust*. While I look at this from the viewpoint of the focal firm, it is generally accepted in the literature that alliance trust is mutual (Cullen et al, 2000; Pekkola and Ukko; 2016). I therefore assume this represents trust in the relationship as a whole.

0 = none
1 = okay
2 = good
3 = very good
4 = excellent

3.3.3 Independent Variables

Model 1

In model 1 the independent variable *due diligence extensiveness*, is a measure of the degree of due diligence undertaken by the focal firm. This is measured on five-point rank-ordered Likert scale. Details are available in Chapter 1 section 2.3.

Model 2

In Model 2 the independent variable is *balanced scorecard extensiveness* (see section 3.3.2)

3.3.4 Control Variables

I use the following control variables, the details of which are available in Chapter 1 section 2.3.

- *Prior ties* (with the partner)
- *Relevance of partner market position*
- *Strategic importance (of the relationship)*
- *Alliance experience*
- *National cultural distance*
- *Geographic distance*

I generated dummy variables to control for year effects, industry, and firm type (MNE, MNE subsidiary, standalone business), and home country. In this way I mitigated any possible bias based on these factors.

- Year dummies
- Country dummies
- Industry dummies

I also control for institutional distance. As Chapter 1 demonstrates that in the case of alliance due diligence, *law and order* is a more telling variable than corruption, I omitted *corruption* distance variables from the statistical model of this chapter, and focus on *law and order* (home, climbing up, and climbing down). As I am not directly testing institutional factors here, I use these as control variables. I rely on the ICRG database for the measure of *law and order*, details are available in Chapter 1 section 2.3.

3.3.5 Statistical Analysis

I explore the research questions using a seemingly unrelated regression, which comes under the umbrella of simultaneous equation models (see Wooldridge, 2012, for a detailed explanation). This specific method was developed by Zellner (1962). It is based on simultaneously running two or more regressions, each of which could be a valid

regression estimated individually, as each has its own specific dependent variable, and a set of independent variables which could be, but are not necessarily different. The model is thus a structure of linear equations whereby the errors are correlated for a specific individual, but uncorrelated across individuals.

We have *j*=1…m linear equations for *i*=1…N individuals. Below I present the *j*th equation for individual *i*:

$$y_{ij}x'\beta_j + u_{ij}$$

We can also stack observations for the *j*th equation:

$$y_j = x_j'\beta_j + u_j$$

We can then stack m equations on top of one another to form the sureg model:

$$\begin{bmatrix} y_1 \\ y_2 \\ . \\ . \\ . \\ y_m \end{bmatrix} = \begin{bmatrix} X_1 \\ . \\ 0 \end{bmatrix} \begin{bmatrix} \beta_1 \\ \beta_2 \\ . \\ . \\ . \\ \beta_m \end{bmatrix} + \begin{bmatrix} u_1 \\ u_2 \\ . \\ . \\ . \\ u_m \end{bmatrix}$$

It is assumed that the error terms have zero mean, are independent across individuals, and are homoscedastic. Also, for each individual the error terms are correlated across the equations, which can be written as:

$$E(u_{ij}u_{ij'}u_{ij'}|X) = \sigma_{jj'} and\ \sigma_{jj'} \neq 0\ where\ j \neq j'$$

The assumption of the model is that the error term uj satisfies:

- Error term mean: $E(u_j|X) = 0$
- Error term variance in equation j: $E(u_j u_j'|X) = \sigma_{jj} I_N$
- Covariance of error terms across equations j and j': $E(u_j u_j'|X) = \sigma_{jj} I_N\ where\ j\ \neq j'$

- Overall variance-covariance matrix: $\Omega = E(uu') = \sum \otimes I_N$

As the parameters of all equations in the model are estimated simultaneously, the parameters of the individual equations in the model can consider the information from the other equation/s, which improves the efficiency in comparison to running each as a linear regression. The efficiency increases with the sample size and multi collinearity of the regressors (Yahya et al, 2008), and in accordance with the correlation of the error terms in each equation (Judge et al. 1988). I specifically selected this statistical method of analysis because I cannot assume that the equation errors for a most extensive balanced scorecard and trust are uncorrelated. Hence in the models predicting the impact of *due diligence extensiveness* on *balanced scorecard extensiveness* (model 1) and *balanced scorecard extensiveness* on *trust* (model 2), I rely on the seemingly unrelated regression to give us a simultaneous estimation of all equation parameters, while considering the correlations among the dependent variables *balanced scorecard extensiveness* and *trust*. It is noteworthy that even in the case of the error terms being uncorrelated, the seemingly unrelated regression would not be inferior to the OLS model, and would instead be considered equal in efficiency (Wooldridge, 2012). Cadavez and Henningsen (2011/12) empirically compared the seemingly unrelated regression with the OLS estimator, and found that the seemingly unrelated regression to be superior. As they state, “the SUR (seemingly unrelated regression) estimator provides the lowest standard errors of the estimated parameters and thus, the highest precision of the estimates” (p.10).

3.4. Results

Table 6 displays the descriptive statistics, and Table 7 displays the correlation coefficients (see Appendix 1). In most instances, the correlation coefficients among the independent/control variables are considerably below 0.4, hence multicollinearity is unlikely to be concerning. As there were two exceptions, geographic distance with law and order (focal firm); geographic distance with law and order climbing up, I tested the variance inflation factors as a robustness test. The explanatory variables were well below 10, confirming that multicollinearity is not an issue.

Table 8 presents the results from the seemingly unrelated regression (see Appendix 1). The first research question is about the impact of due diligence extensiveness on balanced scorecard extensiveness. Based on Chapter 1, and the literature on coordination in alliances, I seek to uncover whether more extensive due diligence enables the partners to jointly create a more extensive balanced scorecard. The seemingly unrelated regression shows that this is the case; as *due diligence extensiveness* increases, *balanced scorecard extensiveness* also increases (p=0.000). This finding therefore demonstrates that ex ante search which goes beyond the traditional elements of financial and legal factors, has a positive impact on alliance coordination in the implementation stage, by facilitating the development of a more extensive coordination tool.

The second research question investigates the link between the facets of collaboration, by investigating whether coordination enhances cooperation. To uncover this, I ask whether a more extensive jointly developed balanced scorecard (coordination tool) increases cooperation which is measured by the level of trust in the relationship. The seemingly unrelated regression shows that this is the case, alliances with a jointly formulated more extensive balanced scorecard had higher trust levels (p=0.000). This finding suggests that coordination tools are vital for alliance management, because the demonstration of commitment via mutual monitoring among the parties increases cooperative value. Hence coordination cooperation and are linked.

To confirm the rigour of the results I ran a number of robustness tests. Firstly, I ran the regressions individually, and found that the results remained consistent. More extensive due diligence results in a more extensive balanced scorecard (p=0.000), and a more extensive balanced scorecard increases alliance trust (p=0.000). Next, as there are observations where I have both focal and partner firm perspectives of the same alliance, I randomly removed one of these observations and ran the seemingly unrelated regression again. The results remain consistent at the p=0.000 level in both models. Finally, to account for any concerns about the respondent's interpretation of the due diligence categories, I categorised a 0/1 dummy for whether the firm undertook due diligence or not, and a subsequent specification of full due diligence against all other possibilities. Again, the results hold at the p=0.000 level of significance.

I now consider the control variables. These generally behave as expected. *National cultural distance* has a positive significant effect (*p*=0.000) on *balanced scorecard extensiveness,* perhaps because similarly to the point made in Chapter 1 for due diligence, the cultural similarities between the partners may facilitate collaborative processes, in this case the joint development of an extensive BSC, due to ease of communication. The effect of national culture was positive but not significant for *trust* (*p*=0.166), which adds more weight to the idea that cultural similarity eases the collaboration due to communicative reasons, but that partners do not necessarily trust one another more due to the similarity of cultural backgrounds. As this chapter demonstrates, trust is facilitated by more effective coordination between the partners.

Law and order climbing down and *law and order climbing up* has a positive and significant effect on *balanced scorecard extensiveness* (*p*=0.000; *p*=0.001 respectively). Hence the greater the legal distance between the partners in either direction the more extensive the balanced scorecard. This suggests that there is a greater need for monitoring and effort synchronization as legal distance increases. However, looking at model 2 I find that climbing down has a negative effect on *trust* (*p*=0.097) and climbing up has a non-significant positive effect on trust (*p*=0.900), which fits with the IB literature in general, and the information asymmetry augments of Chapter 1.

Relevance of partner market position has a negative effect on *balanced scorecard extensiveness* (p=0.000), but a positive effect on *trust* (*p*=0.001). Given that an extensive BSC leads to alliance trust, perhaps the positive effect of this variable on trust suggests that firms perceived a reduced need to invest in an extensive BSC. C*omplementarity* has a positive effect on balanced scorecard extensiveness and a negative effect on *trust* (*p*=0.000 in both models), suggesting that where the resources of each firm complement one another it is easier to coordinate partner efforts, though the negative effect on trust could be due to that, following the definition of Mindruta et al (2016), complementarity was measured to include both similar and different resources - similar resources being considered complementary to the extent that they were able to work in sync toward alliance goals. However, this inclusion of similar resources could also lead to a level of risk regarding possible knowledge spill-over which could be used by the partner firm in other areas of competition with the focal firm. *Strategic importance* has a negative effect on *balanced scorecard extensiveness*

(*p*=0.001*),* this may be because a better the fit results in less need for formal monitoring, as both partners have the information to alleviate agency concerns. Also, strategic importance has a negative effect on trust (*p*=0.017), which may be because there is a higher risk associated with possible opportunism and/or bounded reliability. Alliance experience has a negative non-significant effect on *balanced scorecard extensiveness* (*p=0.960*), suggesting that more experienced firms may focus less on formal monitoring; and a positive effect on *trust* (*p*= 0.014), suggesting that more experienced firms are in a better position to recognize trustworthiness in the pre-formation stage. Prior ties have a positive effect on *balanced scorecard extensiveness* (*p=0.060*) and *trust* (*p=0.076*). This is in line with the literature that suggests organization routines and structures develop between firms with prior ties (Zollo et al, 2002).

3.5 Discussion

3.5.1 Discussion of findings

This chapter builds on Gulati et al (2012) by investigating the link between coordination and cooperation in alliances. Specifically, I explore whether the coordination-cooperation loop can be initiated via due diligence, and following this I examine whether coordination enhances cooperation.

I begin with an exploration into the role of due diligence extensiveness on the development of a coordination tool – the balanced scorecard. As discussed in the literature section of this chapter, the BSC offers a multitude of benefits for alliance relationships. These include mutual monitoring to overcome double moral hazard risks, and the demonstration of commitment to the alliance by investing time and effort into joint formulation and subjecting oneself (firm) to mutually agreed monitoring standards. Furthermore, the most extensive category of BSC also links standards to rewards, and due to the link with incentives, the most extensive category of BSC could also be considered a commitment device as in (Bryan et al, 2010). However, I draw on the BSC's role as a coordination tool because taken in its simplest form, the mutually developed BSC is a method for organizing the contributions of each party, which is fitting with Gulati et al's (2012) definition of coordination in collaborative

relationships. Building on this allowed me to take the development of a coordination tool as the starting point, and explore how the mutual monitoring, demonstration of commitment, and incentivizing, benefits increase with extensiveness, leading to improved coordination (trust) by reducing double moral hazard concerns. In doing so, I have extended knowledge on one of the most implemented management tools, which has attracted much attention from both academics and practitioners (Madsen and Stenheim, 2015). This is a particularly important contribution because while its value for alliance relationships has been acknowledged (Kaplan et al, 2010), there is limited knowledge on the BSC in a collaborative setting (Nippa and Reuer, 2019; Pekkola and Ukko, 2016).

I build on Chapter 1, which looked at the ex ante value of due diligence, by considering whether the value gained from ex ante due diligence, is utilized in ex post phase of alliance management. As due diligence reduces information asymmetries, this chapter explored whether more extensive due diligence investigations facilitate coordination by enabling the partner firms to generate a more extensive balanced scorecard. I find that this is the case, which is in line with the work of Bingham et al (2012), who find that due diligence is important for the effective implementation of collaborative relationships, due to enhanced learning and the development of routines. This finding is also in line with Arend and Winser (2005) who point to the value of due diligence in coordinating collaboration.

The second part of this chapter explores whether a more extensive balanced scorecard has cooperative value. I investigated whether a more extensive jointly formulated balanced scorecard, increases alliance cooperation, which is measured by trust. I find that this is the case, which is in line with agency theoretic predations that suggest monitoring and incentives help firms to overcome information asymmetries and goal incongruence (Eisenhardt, 1989). This adds weight to the work of Beccerra and Gupta (1999), who link agency theory to the development of trust in organizations. Additionally, this finding is in line with research that suggests alliance trust can be cultured internally (Parkhe, 1998; Sako, 1991). The findings of this chapter also add weight to the work of Maestrini et al (2018), who show that a jointly formulated balanced scorecard demonstrates cooperative intent and thus increases trust in interorganizational relationships. Finally, this chapter supports the viewpoint of Gulati

et al (2012), that while coordination and cooperation are distinct facets of alliances, they are also interconnected. By demonstrating that the balanced scorecard – a coordination tool, increases cooperation, I empirically demonstrate a link between the two facets of collaboration.

3.5.2 Limitations and Future Research

This chapter offers important insights into coordination and cooperation in alliances. However, the study is not without limitations. To begin with I rely on a measure of alliance trust from the perspective of the focal firm. I view this as sufficient because studies suggest that collaborative trust tends to be mutual and mutually reinforcing (Cullen et al, 2000; Pekkola and Ukko, 2016), although it would be advantageous for future research to consider this within a dual perspective context.

Secondly, the measure of balanced scorecard extensiveness I rely on considers a jointly formulated scorecard. I do not consider firms which may have formed a balanced scorecard individually for the alliance. This is fitting with the research aims of this chapter, because I am looking at the balanced scorecard as a coordination tool. Separate balanced scorecards would not synchronise joint efforts among the partner firms, nor enable mutual monitoring and communicative benefits. As Maestrini et al (2018) point out, it is the joint development process which allows for the demonstration of commitment and leads to an improvement in cooperation. Future research however, could benefit from examining the value of individually developed balanced scorecard for alliance relationships.

Thirdly, this paper shows that due diligence kick-starts the coordination-cooperation loop, which Gulati et al (2012) draws attention to. I show that more extensive due diligence initiates the loop by enabling the partners to formulate a more extensive coordination tool – the balanced scorecard, which improves cooperation by increasing alliance trust. This study therefore builds on the assumption that coordination and cooperation are reinforcing, though testing the aforementioned loop is beyond the scope of this chapter. Future research could benefit from exploring the ways in which coordination and cooperation reinforce one another.

Finally, another interesting potential research avenue would be to further this study by considering the communicative value of the balanced scorecard via signalling theory. Although signalling theory was generated in the ex ante phase of economic action, Spence (2002) recognizes its ex post application. For example, reference is made to the value of those in a current leadership position signalling interest in their domain. Also, Bliege Bird and Smith (2005, p. 227) apply this line of thinking to political alliances, and argue that signalling ex post in a network of relationships is used to "cement alliances," by showing the intent for an ongoing commitment to the relationship. Moreover, the balanced scorecard has been considered specifically for its value in interfirm signalling. For example, Maestrini's (2018) paper looks at the balanced scorecard in buyer-supplier relationships, and finds that when jointly created it generates a co-created signal of commitment. It would therefore be fruitful for future studies to consider whether the balanced scorecard has inter-relationship signalling value.

3.5.3 Implications for Practitioners

By examining the relationship between coordination and cooperation in alliances; this chapter demonstrates the link between investments in ex ante due diligence investigations and increased mutual alliance trust, via the mutual development of an alliance BSC. This is particularly valuable for practitioners because I offer clear steps to trust building which is the measure of alliance cooperation. Management must invest in extensive due diligence in the formation stage because taking investigations beyond the traditional legal and financial factors and uncovering information on human/cultural and relevant macro factors which could affect the relationship, places the firms in a better position to formulate an extensive BSC from the outset of the relationship. This means that the partners can more effectively mutually monitor the relationship, reducing double moral hazard concerns, and this leads to improved coordination via trust.

As the usage of firm resources presents an important opportunity cost; managers must decide where firm resources should be dedicated in order to maximize value capture

from strategic alliances. This chapter shows that investing resources in i) extensive due diligence investigations and ii) jointly formulating an extensive BSC, is particularly valuable. In the absence of sufficient trust, the alliance could not operate effectively due to the "deleterious effects" on the relationship as a whole (Das and Teng, 1998, p.491), which would likely lead to what Gulati et al (2012) consider cooperation failures - where each party reduces efforts and alliance objectives go unmet. To further this point, it is well-acknowledged that cooperation is vital to the functioning of an alliance, as it allows the firms to collaborate effectively (Robson et al, 2019). It is therefore vital that managers understand that the value of due diligence goes beyond the alliance formation stage, and also facilitates ex post alliance coordination which leads to better cooperation.

3.6 Conclusion

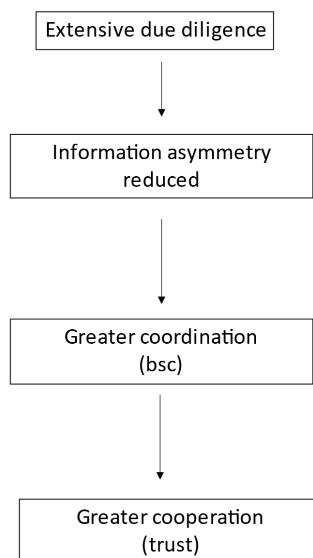
This chapter empirically investigates the link between coordination and cooperation in alliances. In order to understand how the coordination-cooperation loop can be initiated, I ask two research questions i) will more extensive due diligence lead to a more extensive coordination tool – a jointly formulated balanced scorecard? and ii) will a more extensive jointly formulated balanced scorecard increase alliance cooperation?

The first part of this chapter suggests that the more extensive levels of due diligence enable the development of coordination-based structures, because this is where the firms reduce information asymmetries regarding people, culture, and the macro or wider environment in which the alliance will operate. This is supported by the analysis which shows that more extensive due diligence does in fact result in a more extensive balanced scorecard.

The second part of this chapter takes this a step further, and demonstrates that a more extensive balanced scorecard facilitates cooperation in alliances by increasing trust. Here I draw on agency concerns to suggest that a jointly developed balanced scorecard will reduce concerns about partner intentions due to mutual monitoring, appropriate incentive-based rewards, and reduced information asymmetries. These together demonstrate alliance commitment and overcome concerns of moral hazard, which in turn builds alliance trust.

Overall, this chapter shows that due diligence initiates the coordination-cooperation loop in alliances, and that coordinative tools, and cooperative outcomes are linked. I therefore offer important insights which build on the work of Gualti et al (2012), and further the literature on due diligence and the balanced scorecard in an alliance setting. Figure 3 illustrates the results of this chapter.

Figure 3 – Chapter 2 Findings



4.0 CHAPTER THREE

The role of due diligence for international alliance performance: Agency theory vs the resource-based view

4.1 Introduction

While strategic alliances are growing in popularity, performance is often unsatisfactory from the perspective of the partner firms (Lavie et al, 2012). This has led to an ongoing debate in the collaborative literature about how firms can extract maximum value from alliance relationships (Fudge et al, 2021; Lavie et al, 2012; Schilke et al, 2018). While many studies have explored the determinants of alliance performance (e.g. Das and Teng, 2003; Nielsen, 2007; Kim, 2011), to the best of my knowledge, not one study has considered the role of ex ante due diligence. This is surprising because due diligence has been argued to be vital to the functioning of alliance relationships (Mitsuhashi, 2002; Gomes et al, 2013; Joshi & Lahiri, 2015).

Chapter 2 shows that reducing information asymmetries via due diligence enables the partners to overcome agency problems such as moral hazard, by improving alliance coordination through the facilitation of enhanced mutual monitoring and incentive systems. This chapter builds on this finding, by investigating the direct link between due diligence alliance performance. I do so by comparing the predictions of agency theory, which emphasises the value of information asymmetry reduction, with the more commonly used RBV which places more value on resource synchronization. Furthermore, I consider the focal firm and the partner firm's due diligence investigations as Chapter 2 has established the double moral hazard concerns relevant to alliance relationships. This also builds on the work of Driffield et al (2016), where it is noted that a dual perspective of transacting partners offers a more complete picture of firm behaviour, than the reliance on a single view-point. It is noteworthy that while Chapter 2 considers the value of the BSC on alliance trust, investigations into the BSC are beyond the scope of this chapter, as it is the aim of this thesis to present a picture of the value of due diligence investigations from the preformation (Chapter 1) to the management (Chapter 2) phase, and finally the performance (this chapter) phase.

Building on Chapter 1, which shows that legal distance matters for firms forming alliances climbing down and up the institutional ladder, I also investigate the moderating role of legal distance on the value of due diligence for alliance performance. This responds to the call of Krammer (2018) for research to increase our understanding of the way firms' external environments affect ex ante alliance dynamics.

Agency theory on the other hand allows for explorations from the perspective of each party which is particularly valuable given the double moral hazard concerns present in alliance relationships (see Chapter 2), and for considerations of that each party may be looking for different factors when forming an alliance. To illustrate this point, I draw on the Ford and Firestone alliance (Nevin, 2014). The firms entered into a strategic alliance with the understanding that they would work together and create products to "accommodate future markets" (p.25). Ford contributed their car-making capabilities and Firestone their tire-making capabilities. From the RBV view-point the alliance should have performed well because these resources are complementary, however as the relationship evolved Ford wanted cheaper tires for an increasingly competitive market, and in response Firestone dropped the tire quality. The tires were in fact of such a low quality they exploded on various occasions which damaged the reputation of both firms. This example demonstrates a double moral hazard principal agent problem; had Ford monitored and incentivized Firestone the problem could have been avoided, and had Firestone monitored Ford they would have found out there was a conflict of goals and either overcome the issue ended or the relationship before reputation damage. There are thus two simultaneous principal-agent relationships, which are asymmetric, as each firm has to monitor the other to ensure they fulfil their promises. I demonstrate that in line with agency theory thinking, reducing information asymmetries is more important for alliance performance than resource complementarity.

The remainder of the paper is structured as follows. I begin with a comparison of the RBV with agency theory and discuss their perspectives of alliance performance, then I develop specific predictions based on each of these theories for the role of the due diligence investigations of each partner. Subsequently, I consider the role of the legal distance for its moderating effect. I test the hypotheses on a subset of the database used in chapters 1 and 2, which offers a dual viewpoint (home and partner firm) of diligence, and generally find support for the predictions.

4.2 Literature Review

4.2.1. Theoretical Frameworks

Alliance performance has been studied from a multitude of theoretical perspectives including the RVB, transaction cost economics (TCE), game theory, and social exchange theory (Lioukas and Reuer, 2015; Young-Ybarra and Wiersema, 1999; Parkhe, 1993; Judge and Dooley, 2006.). As Das and Teng (1998) note, TCE tends to dominate the alliance literature in general, although its application to collaborative relationships typically focuses on governance choices regarding reasons for forming one type of relationship over another e.g. alliance or joint venture over M&A. It is also noteworthy that TCE has been criticized for a lack of consideration for the potential synchronization of partner firm resources (Connell and Voola, 2007). This is problematic because since the seminal work of Penrose (1959), firms are generally accepted to be a bundle of resources, and strategic alliances are considered to involve resource synchronization (see Das and Teng, 1998). This has resulted in the RBV gaining increasing attention in the alliance domain (Connell and Voola, 2007).

The RBV is one of the most widely used theories is strategic management (Newbert, 2007) and is suggested to have become “the most commonly employed theoretic basis” in the study of alliance performance (Gudergan et al, 2012, p.452). The RBV views the alliance as based on the pooling of resources, however “it overlooks the ISA partners’ willingness to pool resources in a cooperative way” (Robson et al, 2019, p.138) and hence pays insufficient attention to other issues which due diligence can uncover such as opportunistic intentions (Kraaijenbrink et al, 2010; Watjatrakul, 2005) or the role of the macro environment (Lin et al, 2009). From an RBV perspective alliances are formed for the need of complementary resources, which cannot be feasibly purchased or built within the firm (Gudergan et al, 2012; Chang and Hong, 2000). While the recognition of resource integration yields important insights, the focus on resource complementarity leads to an insufficient consideration of other influencing factors on collaborative relationships (Zin et al, 2009). The RBV does not consider the possibility of opportunism and behavioural uncertainty (Kraaijenbrink et al, 2010; Watjatrakul, 2005), and thus overlooks and how willing the partner may be to keep their end of the agreement, and share the sought-after resources in a cooperative manner (Robson et al, 2019). Additionally, the RBV does not consider resource asymmetry, where one firm may contribute more resources, or more valuable resources, than the other (Furlotti et al, 2018; Casciaro and Piskorski 2005); nor does

it offer an explanation as to how non-complementary resources may be dealt with, which according to Lavie et al (2012), can be vital for alliance performance. While the RBV has become the dominant perspective in investigating partner contributions and performance, in order to compensate for these drawbacks, many studies tend to combine the RBV with other theoretical lenses such as institutional theory, TCE, and relational perspectives (Lin et al, 2009; Jiang and Jiang, 2018; Silverman, 1999; Yamakawaa et al, 2011; Heimeriks and Schreiner, 2002). While such studies have offered fruitful insights, I propose that agency theory can offer a more complete picture because of the broader consideration of the goals and intentions of each party, as well as offering solutions to goal misalignment and partner differences.

Agency theory on the other hand focuses on the reduction of moral hazard concerns in the management of alliances, and would suggest that the alleviation of moral hazard risk is linked to improved alliance performance outcomes. Moral hazard concerns exist because of information asymmetries between the risk bearer and the risk taker in a transaction, and as established in Chapter 2, the parties of an alliance take on both roles, as each takes on a risk based on the *hidden action* of the partner, resulting in a double moral hazard problem. I now consider whether reducing ex ante information asymmetries via due diligence improves alliance performance, because from an agency theory perspective this uncovering of information facilitates better monitoring of one another.

While it is possible to combine the RBV with agency theory (see Mahoney and Pandian, 1992; Bergh, 1995), and this would no doubt offer fruitful insights into the optimal use of resources via a reduction of moral hazard, the aim of this chapter is to compare differences in the main premise of each theoretical paradigm in the context of alliance relationships. In other words, I compare whether the pooling of resources (RBV), or the reduction of information asymmetries in order for firms to better monitor and incentivise one another (agency theory), is the key determinant of financial and non-financial performance outcomes. Despite making this distinction, it is noteworthy that from an agency theoretic perspective, resources are considered, but rather than focusing primarily on resource synchronization as in the resourced based view, agency theory considers available information and incentives for cooperation (Meuleman et al, 2010) "with respect to the utilization of resources" (Spremann, 1989, p.4). The theory therefore "has a role in explaining how organizations gain control and use resources" (Bendickson, 2016, p.183), for example, by reducing uncertainty through the alignment of incentives and/or the development of monitoring mechanisms (Eisenhardt, 1989; Meuleman et al, 2010). According

to Bergh et al (2019) agency theory is an appropriate basis upon which to link ex ante and ex post issues of information asymmetry because this theoretical framework focuses on ex ante safeguards and ex post monitoring and incentives, to overcome issues of hidden information. This is particularly important because relating ex ante and ex post dynamics can offer a more nuanced understanding of the determinates of alliance performance (Lavie et al, 2012).

While little research has been done on alliances from an agency theory perspective, according to Reuer and Ragozzino (2006) this perspective can offer important insights for the literature on collaboration. Agency theory has so far been considered either as a unidirectional principal-agent problem in a single firm or buyer supplier relationships, or as a principal-principal problem between major and minority stakeholders. Here I offer a different view, I consider that within a dyad there are two simultaneous but asymmetric principal-agent problems. This is because each firm may have different motives for alliance formation. According to Reuer and Ragozzino (2006, p.30), collaborative relationships such as joint-ventures and alliances can form for many reasons beside resource pooling, such as competitive avoidance and signalling firm quality “to mitigate the effects of information asymmetries when going public.” According to the authors, this possible divergence of intentions points to the importance of considering agency hazards. Furthermore, the authors state that “because accounting and disclosure requirements are less exacting for collaborative agreements…alliances also do not receive the monitoring of outsiders that is more typical of other, more commitment-intensive organizational investments” (p.31). This further aggravates double moral hazard and reinforces the value which can be gained from drawing on predictions deriving from agency theory in alliance research.

In the subsequent sections I directly contrast predictions from the RBV and agency theory, considering the focal and partner firms’ perspectives regarding the link between alliance formation and performance. Specifically, I compare the value of focusing on resource complementarity (RBV) and information asymmetry reduction via due diligence (AT) respectively. I begin with the RBV because this is the more common perspective taken in the collaborative literature, and continue with agency theory. Following this, I consider the role of law legal distance as a moderator on the possible link between due diligence and alliance performance.

4.2.2 Focal firm perspective

This section considers the viewpoint of the focal firm regarding decisions taken in the formation phase of the alliance where the firms investigate the viability of the partnership with a given partner. The differences in predictions deriving from the RBV and agency theory are compared.

Much of the research on alliances from the RBV perspective is based on the work of Barney (1991), who argues that resources can be financial, technological, physical, and managerial (see Park et al, 2004; Lavie, 2006). Firms can generate superior rents when these are valuable, rare, imperfectly imitable, and non-substitutable. It is noteworthy however, that as the RBV originated in as an internal view of a single firm, when relying on this perspective for inter-firm investigations, researchers must careful about the ways in which the theory is applied (Lavie, 2006). Firm resources must be able to be recombined with the resources of the partner firm in order to generate value from the relationship (Mindruta et al, 2016; Dyer and Singh, 1998; Rothaermel, 2001). Therefore, as alliances are collaborative relationships, while *valuable, rare, imperfectly imitable* are important, their value in an alliance setting rests upon whether they are *non-substitutable* with those of the potential partner. It is this complementarity which "creates the potential for greater synergy…leading to higher long-term performance as an end result" (Harrison et al, 2001, p.679). According to Mindruta et al (2016), complementarity encompasses resources which are both similar e.g. two firms contributing R&D capabilities, or different e.g. one firm contributing R&D capabilities and another contributing marketing capabilities. The key point here is that the resources can work together to increase gains, and are hence not substitutes for one another. The RBV would therefore suggest that the key determinant of alliance performance is a high level of complementarity among partner resources, and firms will prioritise resource complementarity when deciding whether to form an alliance with a particular partner. In this way the resources can be recombined in the pursuit of value capture which should lead to a better performing alliance.

Hypothesis 1: higher resource complementarity will improve alliance performance (RBV perspective)

Agency theory offers an alternative prediction. From this perspective problems manifest where goals diverge and asymmetric information complicates the observance of actions leading to moral hazard concerns (Eisenhardt, 1989; Meuleman et al, 2010). In the traditional application of the theory, the principal needs to monitor the agent to protect their interests. In alliance relationships, because each firm makes a different contribution, each party subsequently needs to ensure the partner is contributing appropriate efforts, and this assurance alleviates moral hazard risk. Hence Chua and Mahama (2007) state that from an agency theory perspective the focus of interfirm relationships is on incentive alignments and finding ways to deal with divergence. This is supported by Baek at al (2006) who find that the reduction of agency problems in a collaboration improves the quality of the relationship by increasing stability. As demonstrated in Chapter 2, agency concerns can be alleviated via the reduction of information asymmetries in the due diligence phase. Sufficiently extensive investigations can reduce concerns of both opportunism and of a lack of effort, not only at the time of the transaction (formation), but also provides the knowledge to continue to manage the relationship and reduce moral hazard risk. This idea is supported by Stephen et al (1993) who note that a reduction of information asymmetries enables firms to not only select appropriate partners with whom to transact, but also enable the management of the partnership to flow more smoothly. Furthermore, as Schulze et al (2001) and Bergh et al (2019) point out, agency concerns can be mitigated by accessing internal information, monitoring conduct, and providing appropriate incentives. However, for due diligence to effectively overcome moral hazard problems and positively influence performance, this stage must not only cover financial factors but also goals, norms and values and structures (Moeller, 2010). Due diligence investigations must reach the more extensive levels to uncover relevant differences between partners (see chapters 1 and 2). This allows the firms to overcome any issues from the outset of the alliance, for example by tailoring reward systems, which improves relational factors and alliance performance subsequently (Lavie et al, 2012). Agency theory would therefore predict that more extensive due diligence should lead to a better performing alliance.

Hypothesis 2: more extensive due diligence will improve alliance performance (agency theory perspective)

4.2.3 Partner firm perspective

This section considers the actions of the partner firm, regarding the decisions taken in the ex ante phase of the alliance where the viability of forming a partnership with a given partner is investigated. Again, the differences in predictions deriving from the RBV and agency theory are compared and contrasted.

I now turn to the partner screening activity of the alliance partner. From the perspective of the RBV, alliances are vehicles for accessing valuable resources that are not feasible to purchase or develop in-house (Chang and Hong, 2000; Gudergan et al, 2012). By integrating these with a firm’s own resource base, value creation can be achieved (Lin et al, 2009; Wassmer, 2012). The performance potential of entering an alliance relationship therefore rests upon the focal firm identifying whether the partner firm has the resources required, and whether these are complementary with the resources the focal firm currently possesses. The required resources can be identified from numerous sources including reputation of the home institution (see Mukherjee et al, 2021), signals in the market generated by the partner (see Ozmel et al, 2012), patents and publications (see Geum et al, 2013), and information via network embeddedness (Gilsing et al, 2008). They can be further investigated in the due diligence phase. From the RBV perspective, the value this can generate is viewed exclusively from the perspective of each focal firm. Even if one were to argue that resource complementarity is mutual, is it possible for resource complementarity to be asymmetric, with one firm contributing more resources than another (Furlotti et al, 2018), hence the assessment of complementarity must come from the focal firm. Therefore, the due diligence investigations of the partner will not improve alliance outcomes from the perspective of the focal firm.

Agency theory on the other hand, allows for a dual perspective outlook. This theory focuses on the reduction of information asymmetries to enable more efficient monitoring and more appropriate incentives (Eisenhardt, 1989). As discussed above, in applying agency theory to alliances, there are two asymmetric principal agent problems due to double moral hazard risk. Hence each party is responsible to monitor the partner in order to ensure promises are fulfilled. A key issue here is goal incongruence, and owing to the principle of utility maximization each party is inclined to chase their own goals (Eisenhardt, 1989; Roth and O'Donnell, 1996). In applying agency theory to alliances, it is important to consider that this type of relationship requires collective action, hence such problems effect the alliance as a whole. This suggests that alleviating each, or either, principal-agent problem will help maximize overall value capture from the relationship. This point is supported by Lavie et al (2012) who found that

while goal incongruence is a problem, identifying alliance differences at an early stage improves alliance performance. Furthermore, Hoang and Rothaermel (2005) point out that while each partner has their own motivations for forming an alliance, outcomes are joint. Let us consider the alliance of pharmaceutical companies AbbVie and Bristol Myers, these firms work together to develop drugs for a condition called myeloma (Siegomnou, 2017). While each firm may have its own goals, for example gaining knowledge, generating revenue, or developing core capabilities, they both share the general alliance aim of innovating to develop a successful product. If either firm were to monitor the alliance more effectively, this would likely result in a better performing alliance from the perspective of each firm. This suggests that more extensive due diligence undertaken by the partner firm will have a positive impact on alliance performance.

Hypothesis 3a: Partner due diligence extensiveness will not improve alliance performance (RBV perspective)

Hypothesis 3b: Partner due diligence extensiveness will improve alliance performance (agency theory perspective)

4.2.4 Legal Distance

This section builds on the agency theoretic predictions of Hypotheses 2 and 3b, which posit that extensive due diligence will improve alliance performance outcomes. I now consider whether the value of due diligence is moderated by legal distance between the home institutions of the partner firms. In doing so I build on Chapter 1, which demonstrated that law and order is a particularly important institutional indicator for strategic alliances, due to the increase in the extensiveness of investigations in either direction of distance.

In this chapter, I extend the work of Chapter 1, by exploring the role of legal distance on the value of due diligence for alliance performance. It is noteworthy that because the RBV perspective has been suggested “to bypass the dynamic process of interactions between organizations and their institutional environments,” (Lin et al, 2009, p.922; Oliver 1997); I consider the quality of the legal environment from the perspective of agency theory.

As noted above, agency concerns arise from goal incongruence and the difficulties in monitoring behaviour (Eisenhardt, 1989). Due to heightened information asymmetries (see Chapter 1), such concerns are likely to magnify in legally distant institutions which can negatively affect firm performance (Chao and Kumar, 2010). It has been suggested that potential for goal conflict can be lessened via socialization (Eisenhardt, 1989; Roth and O'Donnell, 1996), however in alliances socialization is challenging because the employees are from different organizations (Gulati et al, 2012). This issue may be exasperated for partners from disparate legal institutions because according to Dikova et al (2010) such transactions are burned by higher institutional complexities, and as Gulati et al (2012) point out, differences in authority structures make effective socialization less likely.

Legal distance may also slow down the time taken from the start of due diligence investigations to alliance formation. Highly efficient governments may be associated with "rigidity and inflexibility (a type of red tape)…because of the transparent and unquestionable nature of regulations" (Mohamadi, 2017, p.51). Moreover, Wangerin (2019) points out that the time taken for regulatory approval and compliance can result in due diligence becoming a lengthier process. In some circumstances this could reduce overall performance because according to (Dikova et al, 2010), the extra time taken to finalize a deal due to increased pressures for compliance with dissimilar legal systems may increase expenses. It is also noteworthy that ways to address goal incongruence may have been identified at the time of due diligence investigations, in the time to deal completion, changes may occur in internal and external organizational circumstances, as these are constantly evolving. Hence the information uncovered in due diligence may not be as easy to capitalize upon, and monitoring may become less effective.

For firms climbing down the institutional ladder, heightened information asymmetries could make investments in monitoring mechanisms less feasible, as according to (Gaur and Lu, 2007) they can be associated with increased costs. This issue may be exasperated by the increased concerns of moral hazard in weaker environments (Krammer, 2018), because even though monitoring systems can identify *free-riders*, it is more difficult to take legal action against them. As Oxley (1999, p.286) states, "where a contract…can be adequately specified and monitored, the focus shifts to the problem of enforcement in the event that a violation is detected. Ease of enforcement depends on the legal regime governing the transaction, notably the efficacy of

general contract enforcement." This suggests that firms climbing down may not make full use of the information uncovered in due diligence investigations, regarding the design of monitoring systems.

An issue specifically affecting firms climbing up the institutional ladder is that often, firms from weaker institutions will have developed firm specific advantages which allow them to deal with unstable legal environments. Although advantageous in institutionally similar environments, this does not necessarily translate when operating in robust legal institutions. (James et al, 2020). As a result, due diligence may be less effective, as legal distance increases climbing up. As due diligence facilitates effective monitoring (see Chapter 2), this suggests that monitoring will also be less effective.

The above arguments suggest that the positive effect of due diligence on alliance performance is likely to be weakened by increasing institutional distance in either direction.

Hypothesis 4a: Due diligence will be less effective as legal distance increases climbing down the institutional ladder

Hypothesis 4b: Due diligence will be less effective as legal distance increases climbing up the institutional ladder

4.3 Methods

4.3.1 Sample

As the purpose of this chapter is to consider a dual viewpoint of alliance relationships, I used a subset of the database used in chapters 1 and 2, with details of the partner screening activities from the perspective of the focal and partner firm. I have a total of 470 observations.

4.3.2 Dependent variable

The dependent variable is *alliance performance*. Arino (2003) categorizes performance in three dimensions, financial performance, operational performance, and organizational effectiveness. These refer to financial income generated from the relationship; factors which may lead to improved financial performance; and the attainment of firm objectives, respectively. I rely on revenue and attainment of non-financial objectives, both of which come under the organizational effectiveness category because rather than financial figures, I take the revenue based on firm aims. According to Arino (2003) this category offers the most comprehensive consideration of alliance performance. As objectives and revenue may be correlated (Arino, 2003). I estimate their effects separately. Revenue and objectives are measured on a 5-point scale and coded as follows:

Non-financial objectives:

- 0 = nowhere near
- 1 = taking longer than planned
- 2 = behind schedule but now almost on track
- 3 = on track
- 4 = ahead

Revenue-based Objectives:

- 0 = Nowhere near
- 1 = growth stage may not be achieved
- 2 = stability achieved
- 3 = stability achieved over time
- 4 = target exceeded

4.3.3 Independent variables

Due diligence extensiveness (see Chapter 1 section 2.3)

Partner due diligence extensiveness is measured in the same way as *due diligence extensiveness*, but the response is from the partner firm.

Complementarity measures the level of product/service complementarity (versus substitutability). Assessing resource complementarity can be challenging. Lin et al (2009) used differences in SIC codes although this has been suggested to be inefficient (Choi and Beamish, 2013), because different is not necessarily complementary. Another limitation of this approach is that each SIC level is assumed to be homogeneous which is "an unavoidable feature of the attempt to extract fine quantitative distinctions from the relatively coarse classification scheme of the SIC system" (Robins and Wiersema, 1995, p.281). According to Choi and Beamish (2013) a more appropriate way to assess resource complementarity is to ask key personnel. My data offer information from the viewpoint of each firm regarding how complementary or supplementary their key resources are. This allowed for a consideration of complementarities which are both similar and different (Fudge et al, 2021). Following the style of Fang (2011). I use a categorical scale of the level of overlapping to complementary resources, and code the measure on the following 5-point scale:

- 0 = all overlaps
- 1 = many overlaps
- 2 = some overlaps
- 3 = few overlaps
- 4 = no overlaps - completely complementary

Law and order distance – from the ICRG database (see Chapter 1 section 2.3)

4.3.4 Control variables

The control variables are listed below (details for each of these is available in Chapter 1 section 2.3):

- *Prior ties* (with the partner)
- *Relevance of partner market position*

- *Strategic importance (of the relationship)*
- *Alliance experience*
- *National cultural distance*
- *Geographic distance*
- Year dummies
- Country dummies
- Industry dummies

4.3.5 Statistical model

The basic model is:
Performance$_i$ = β_0+β_1 due diligence$_i$ partner due diligence$_i$ complementarity$_i$ legal distance^+_i legal distance ^-_i + control$_i$ + ϵ_i

Where:
$legal\ \ distance_i^+$=$legal\ \ distance_i$ x
climbing down $legal\ \ distance_i^-$=$legal\ \ distance_i$ x climbing up
$legal\ \ distance_i^-$= $legal$ distance if $legal$ *distance* > 0
$legal\ \ distance_i^-$= 0 if $legal$ *distance* ≤ 0
$legal\ \ distance_i^+$= - $legal$ *distance* if $legal$ *distance* if $legal$ distance < 0
$legal\ \ distance_i^+$= = 0 if $legal$ *distance*≥ 0

Legal distance is calculated by subtracting the law and order quality value of the partner firm from the institutional quality value of the partner firm. Control_i is a vector of control variables including cultural distance, industry dummies to control for the fact that the firms in the database come from a range of different industries, year dummies which account for macroeconomic shocks at a particular period (Scalera et al, 2018), country dummies to account for differences in home locations, partner resource dummies (focal and partner), prior ties, alliance experience dummies (focal and partner), geographic distance, the unobservable firm-specific factors, and ϵ_i is the error term. As the dependent variable is rank-ordered and categorical, I employed an ordered probit model (Newbery et al, 2006). This recognizes both

the discrete and ordinal nature of a variable and allows for the differences between rank levels. For a statistical explanation of the ordered probit model see Chapter 1, section 2.3.

4.4 Results

Tables 9 and 10 report the descriptive statistics and correlation coefficients (see Appendix 1). Similarly with chapters 1 and 2, in this dual perspective subset of the data most firms are MNEs (95.14%). The industries are pharmaceuticals (47.41%), information technology and computing (42.22%), broadcasting and communications (8.89%), and airlines (1.48%). The data show that for performance in terms of non-financial objectives the mean is 2.929 and the median is 4, the highest category; and for performance in terms of revenue the mean is 2.646 and the median is 3, the second highest category. This shows that a greater proportion of alliances in the sample achieve their revenue aims, in comparison with non-financial objectives. The mean for focal and partner due diligence is 2.631 and 2.604 respectively, and the median for both is 3. Resource complementarity has a mean of 2.491 and a median of 3. The law and order mean for the focal and partner firms is 5.157 and 5.143 respectively, and the median for both is 5. Thus, most firms are from high institutional quality nations. However, the minimum and maximum columns show a wide-ranging institutional quality across the sample, with the lowest score being 2.5 and the highest being 6 in all categories. The culture variable suggests an average of three matches (from a possible three) between the partner firms.

In most instances, the correlation coefficients among the independent/control variables are considerably below 0.4, hence multicollinearity is unlikely to be concerning. However, there are a couple of exceptions. The law and order distance variable is correlated with law and order climbing up and law and order climbing down. However, this is unlikely to be problematic because the former does not consider direction and the latter are specifically directional and only used to generate interaction terms. Additionally, the former is a control variable whereas the latter are independent variables and a product of the former, which is not problematic because the *p* value of the interaction terms is unlikely to be affected by the multicollinearity (Allison, 2020). I tested variance inflation factors as a robustness test. The explanatory variables were considerably below 10, confirming that multicollinearity is not an issue.

Table 11 (see Appendix 1) presents the results from model 1 (non-financial objectives) and model 2 (revenue-based objectives). I begin by considering the hypothesized variables.

Hypothesis 1 states that from the RBV perspective, resource complementarity will positively affect alliance performance. The regression shows that this has a negative insignificant effect (*p*=0.677 model 1; *p*=0.549 model 2), hence Hypothesis 1 is not supported. Hypothesis 2 states that from an agency theory perspective, more extensive due diligence will improve performance. The regression shows that this is the case for both non-financial objectives and revenue-based objectives (*p*=0.000 both models). I therefore find strong support for the prediction of agency theory regarding focal firm alliance screening and firm performance. Hypotheses 3a and 3b directly compare the predictions of the RBV with the predictions of agency theory. It is stated that that according to the RBV, the extensiveness of the partner's due diligence investigations will not improve alliance performance (3a), and conversely according to agency theory the extensiveness of the partner's due diligence investigations will improve alliance performance (3b). The analysis shows that partner due diligence has a positive significant effect on performance in terms of non-financial objectives (*p*=0.002) and a positive effect that falls just below significance (*p*=0.112) in terms of revenue. I therefore find support for agency theoretic reasoning regarding the partner firm's alliance screening activity.

Hypothesis 4 considers the role of law and order as a moderator on the relationship between due diligence and alliance performance. It is proposed that legal distance will reduce the positive effect of due diligence both climbing down the institutional ladder (4a) and climbing up (4b). I find that legal distance climbing down does significantly reduce the effect of due diligence on alliance performance in terms of both non-financial objectives (*p*=0.013) and revenue-based objectives (*p*=0.002), strongly supporting Hypothesis 4a. Conversely, I find that legal distance does not function as a moderator for firms climbing up the institutional ladder, in fact there is a positive but insignificant effect on both objectives (*p*=0.749) and revenue (*p*=0.129). Hypothesis 4b is therefore not supported. The findings therefore show that legal distance moderates the effect of due diligence, but only for firms climbing down to weaker legal systems.

I now turn to the control variables. These generally behave as expected. Law and order distance has a positive effect (*p=0.029 model 2)* perhaps because of the value of heterogeneous ties (see Uzzi, 1997)*; national culture has a positive effect (p*=0.000 model 1; *p*=0.001 model 2*)* indicating to the value of similarities such as language on international strategic alliances. Joshi and Lahiri (2015) have established that language friction is an issue facing alliance managers in the pre-formation phase; this chapter suggests that relevance of cultural friction carries over

to performance outcomes. G*eographic distance* has a slight positive effect *(p*=0.028 model 1; *p*=0.015 model 2), suggesting that technology has brought more distant firms to a point where they can comfortably work with one another despite the distance, and also suggests that the alliance can benefit from heterogeneous information due to differences in local knowledge and contacts. There is also a positive effect of the *relevance of market position* from the perspective of the focal firm (*p=0.087 model 1),* demonstrating the value of forming alliances which fit with the strategic business plan, though model 2 is insignificant (*p*=0.756) demonstrating that this variable is more telling for non-financial rather than financial objectives. From the partner perspective however, this variable is insignificant (*p*=0.386 model 1; *p*=0.873 model 2), perhaps this is because I measured objectives from the focal firm's perspective. Conversely, *prior ties* negatively affect performance (*p*=0.076 model 1; *p*=0.070 model 2). According to a review on prior ties in alliances by Valdés-Llaneza and García-Canal (2015) past collaboration with the partner can have a negative effect on performance due to the paradox of embeddedness (Uzzi, 1997), as too much reliance on the same partners can result in redundant information. Strategic importance is shown as having a negative but insignificant effect (*p*=0.871 model 1; *p*=0.836 model 2) on performance from the focal firm perceptive, a negative but insignificant effect (*p*=0.389) on financial objectives from the partner perspective, and a positive but insignificant effect (*p*=0.433) on non-financial objectives from the partner perspective. As these results are insignificant, they are likely due to other factors, however it is clear that the importance of a relationship does not necessarily make it more likely to fulfil alliance objectives. Drawing on the results of the previous chapters, I suggest that strategically important relationships might have suffered from a less extensive BSC (see Chapter 2), and less extensive due diligence (see Chapter 1).

Table 12 shows the marginal effects by category of alliance performance for models 1 and 2 respectively (see Appendix 1). Evidently, a one-unit increase in *due diligence extensiveness* increases the probability of being in the highest category by 4 percent (*p*=0.000) and 6 percent (*p*=0.000) for models 1 and 2 respectively, and a one-unit increase in *partner due diligence extensiveness* increases the probability of being in the highest category by 3 percent (*p*=0.000) and 2 percent (*p*=0.009) for models 1 and 2 respectively. I now turn to the moderator variables. A one-unit increase in law and order distance climbing down reduces the effect of due diligence within the highest category by 6 percent (*p*=0.010) and 9 percent (*p*=0.132) for models 1 and 2 respectively, and conversely, a one-unit increase in law and order distance climbing up

increases the effect of due diligence within the highest category by 1 percent for model 1 though this is insignificant (p=0.721) and 6 percent (p=0.126) for model 2.

As a robustness test I investigated the potential impact of due diligence being endogenous. To do so, I took the prediction of the variable *due diligence extensiveness* as explained in Chapter 1 section 2.3; and employed this as an instrument for the level of due diligence. While the endogeneity test did not suggest a problem, endogeneity tests within maximum likelihood regressions have famously low power (Train, 2002). However, the instrumental variables (IV) estimation yielded very similar results.

4.5 Discussion

4.5.1 Discussion of findings

Alliance performance has been subject to much debate in the literature, although a large proportion of alliances continue to be unsatisfactory from the perspective of the partner firms. While performance is typically understood from the RBV perspective where the potential value capture of an alliance is dependent on the complementarity of (both similar and different) resources which a firm requires. In this chapter I propose an alternative theoretical outlook which relies on the predictions of agency theory which allows for a consideration of double moral hazard risk, and the asymmetric principal-agent problem which is present in both sides of an alliance. I investigate this with a specific consideration of the ex ante formation activities of both the focal and partner firms, before considering the moderating role of legal distance between partner firms.

I begin with the well-accepted RBV prediction that greater resource complementarity among the partner firms will lead to improved alliance performance, and follow this with the prediction of agency theory which states that it is not specifically resource complementarity which improves performance, but a broader reduction of information asymmetries via extensive due diligence investigations. I do not find support for the RBV prediction, but I do find support for the agency theory prediction. This is in line with numerous studies in the alliance literature which mention the importance of due diligence for well-functioning relationships (Mitsuhashi, 2002; Gomes et al, 2013; Joshi & Lahiri, 2015). This finding also contributes to the stream of

the literature which suggests that resource complementarity alone is insufficient for understanding alliance performance, and therefore integrates the RBV with other perspectives. For example, Das and Teng (2003) add market analysis to RBV determinants, and Lin et al (2009) combine the RBV with institutional theory for the more complete view of performance. This chapter shows that rather than combine different theoretical perspectives, viewing due diligence investigations from the theoretical lens of agency theory is an appropriate route to understanding how firms can achieve non-financial and financially motivated objectives in alliance relationships.

Another important contribution of this chapter is that by drawing on agency theory, I am able to consider the partner's due diligence investigations, rather than relying exclusively on the actions of the focal firm. The RBV considers partner investigations as irrelevant to the focal firm's attainment of performance objectives, because alliance motivation stems from the need for resources which synchronize effectively with a firm's current resource base. However, agency theory offers a competing prediction, while each firm has their own private goals, which may diverge with those of the partner (Arino, 2003) alliance outcomes are linked (Hoang and Rothaermel, 2005). Hence while there are two asymmetric agency problems, if the partner firm effectively reduces information asymmetries and can therefore monitor the relationship more effectively, there is a greater likelihood of both firms benefiting from improved alliance performance. This is based on the idea that alleviating the moral hazard risk of either party is helpful for both firms because alliance outcomes are joint. I find support for the agency theory prediction. Considering the actions taken by both transacting partners rather than just the viewpoint of the focal firm supports the perspective of Driffield et al (2016), that by broadening the investigations in this way, we can generate vital insights and more accurate interpretations of firm activity.

Finally, I consider the role of legal distance as a moderator of due diligence on alliance performance. I posit that due diligence will reduce in effectiveness as legal distance increases both climbing down and climbing up the institutional ladder. I find support for the prediction climbing down, but surprisingly I find that for firms climbing up, due diligence has a positive but insignificant moderating effect. This may be because as noted in Chapter 1, in stronger institutions the legal environment is more transparent, and as lawyers, accountants and banks tend to be more developed information is more readily available (Huang and Li, 2019). It is possible that this offset the negative effects of a lack of familiarity with legally distant

environments, or the associated red tape noted by Mohamadi, (2017). This adds weights to Konara and Shirodkar's (2018) argument, that regulatory distance has an asymmetric effect on international business activity in accordance with whether the firm is climbing down or up the institutional ladder.

4.5.2 Limitations and future research

This chapter investigates the value of ex ante screening on alliance performance from an RBV versus agency theory perspective. In doing so I rely on a subset of my original database, which offers a dual perspective, and can therefore be used to measure the effect of due diligence from the viewpoint of the focal and partner firm. As the sample is of only 470 firms, I encourage future research to undertake such dual perspective investigations on a larger sample. The second hypothesis stated that more extensive partner due diligence would improve alliance performance, and I found statistical support for this in the case of non-financial objectives, but for revenue-based objectives, this fell just below significance at the $p=0.10$ level. Had this been a larger sample, this may have also proved significant. I therefore encourage researchers to further examine the value of partner actions on alliance objectives.

Additionally, this paper identifies that increasing legal distance climbing down reduces the positive effect of extensive due diligence on alliance performance. It would therefore be interesting for researchers to investigate additional factors which can help firms overcome legal institutional voids, and allow firms to fully capitalize on the information uncovered in the due diligence stage. For example, Reuer and Devarakonda (2016) discuss the value of steering committees for alliance relationships, it would be interesting to explore whether this would this help overcome difficulties associated with weak legal institutions.

A further point is that as the value of due diligence discussed in this chapter is based on agency theory predictions, the arguments are constructed around the idea that by reducing information asymmetries the firms can devise more effective monitoring mechanisms. This builds on Chapter 2 which demonstrates that more extensive due diligence results in a more comprehensive balanced scorecard. While an exploration into whether the balanced scorecard directly improves alliance performance was out of the scope of this study, such an investigation would no doubt be fruitful.

4.5.3 Implications for Practitioners

This chapter offers a number of important implications for alliance managers. Firstly, it is important not to place too much value on resource complementarity, as this focus can take the attention away from the value of more extensive due diligence investigations, which reduce information asymmetries on a multitude of factors which helps alleviate moral hazard concerns. Via extensive due diligence, firms can identify not only potential for resource synchronization, but also how to overcome differences and concerns of hidden action, for example by improved monitoring. If managers do not understand the importance of due diligence, they may scale back on investigations because as Chapter 1 notes, due diligence is expensive in terms of both time and effort. This chapter shows that investing in due diligence investigations is important because there is a direct link between due diligence extensiveness and alliance performance. Secondly, this chapter demonstrates that alliance performance is improved when the potential partner undertakes more extensive due diligence. This suggests that alliance managers should also consider the potential partner's ex ante formation activities in the decision of whether to form an alliance.

Thirdly, this paper identifies that the positive effect of due diligence is reduced as legal distance climbing down increases, although this is not the case for firms climbing up. It is important to remember that in either case, performance was shown to improve with more extensive due diligence, hence managers should not to cut back on due diligence investigations when climbing down, especially as the information uncovered via due diligence can protect firm interests. It is however important to be aware of this when climbing down to weaker legal institutions, so firms can make a more informed decision as to how the alliance should be managed.

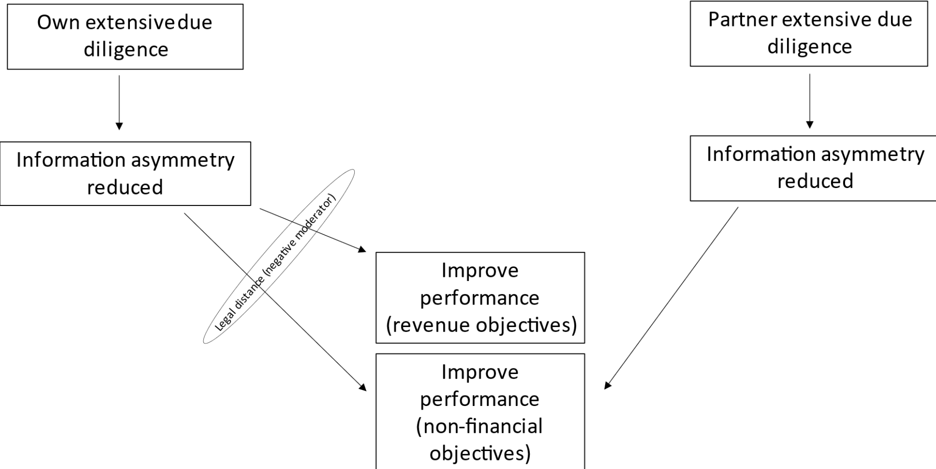
4.6 Conclusion

This is the first study to investigate the value of due diligence for alliance performance. In doing so, I compare predictions from the more predominant RBV with agency theory, by exploring ex ante partner screening and alliance outcomes. Agency theory shows that more extensive due diligence and partner due diligence improve alliance performance in terms of non-financial and revenue-based objectives, from the perspective of the focal firm. This is interesting because

extant alliance research tends to rely solely on the actions of the focal firm. I show that the screening investigations of the partner firm matter also. By finding support for agency theory predictions, I demonstrate that the theory has value which extends beyond its more common application of one-way principal-agent or principal-principal problems, and has important insights to offer the alliance field. This is broadly in line with Reuer and Ragozzino (2006), who note that despite the lack of investigations from an agency theoretic perspective in the literature on collaboration, collaborative relationships are in fact be burdened with agency hazards due to differences in formation motives.

This chapter also considers the legal environment, and finds that the value of due diligence for performance is negatively moderated in the presence of increasing legal distance climbing down the institutional ladder. This suggests that firms need be aware of this factor when forming alliances climbing down. This adds weight to Chapter 1 which states that heightened information asymmetries increase the complexity of uncovering of information in weaker institutions, and that alliance collaborations are riskier for the firm from the stronger legal environment. Overall, this study shows that even when institutional distance is great, extensive due diligence investigations are vital if alliance potential for value capture is to be realized. By reducing information asymmetries, the partners are in a better position to deal with any apparent goal incongruences, which facilitates a well-performing alliance relationship. Figure 4 demonstrates the results of this chapter.

Figure 4 – Chapter 3 Findings



5.0 CONCLUSION

This thesis has offered the first exploration into alliance due diligence. I have considered the value of due diligence for ex ante formation dynamics (Chapter 1), ex post management (Chapter 2), and performance outcomes regarding the attainment of non-financial and revenue-based objectives (Chapter 3). This has addressed the need to go beyond the factors of partner selection which typically examine the types of partners firms look for (Ahlstrom et al, 2014; Bierly III and Gallagher, 2007; Shah and Swaminathan, 2008); and considered the detailed investigations a firm undertakes in evaluating alliance feasibility. I have addressed both the underlying motives for investing in more extensive due diligence, and how the firms can use the information uncovered to capture value from the collaboration. In doing so I add to the alliance literature which recognizes the importance of due diligence but has not undertaken a specific exploration of this phenomenon (Gomes et al, 2013; Mitsuhashi, 2002).

I have also considered the role of the institutional environment of the partner firms, in Chapter 1 within the theoretical framing of legal and corruption distance which is integrated with the predictions of information economics, and in Chapter 3 as a contextual moderator on the role of due diligence on performance. Institutional distance generates a lot of attention in IB, because firms are increasingly operating in markets with dissimilar institutional profiles (Kostova et al, 2020). In this thesis I have drawn on studies which posit that the direction of distance affects firms in different ways (Hernández and Nieto, 2015; Konara and Shirodkar, 2018; Shenkar, 2001), and that bi-directional explorations offer a more complete picture of international business activity than solely focusing on either perspective (Kostova et al, 2020). I have specifically explored how climbing down and up the institutional ladder affects both the extensiveness of due diligence, and the moderating role this has on alliance outcomes. This is adds to the literature which explores the unique challenges firms face in internationalization when climbing up from weaker institutions, and the specific actions taken to overcome institutional voids (Huang and Li, 2019; Jormanainen and Koveshnikov, 2012; Mathews, 2017). In doing so I address an issue which Hitt et al (2004) point to as a specific drawback of the alliance partner selection literature, which is the tendency to concentrate on the perspective of developed economy firms (e.g. Angwin, 2001; Ahammad & Glaister, 2013).

The arguments of each chapter were constructed by applying core concepts from the theoretical paradigm of information economics, specifically considering adverse selection and moral

hazard in light of information asymmetry reduction and its implications. This is particularly appropriate for the context of this study because not only are alliances in general associated with a "veil of…secrecy," (Johnson et al, 1996, pp.982), but the institutional context is also burdened with information asymmetries (Jandik & Kali, 2009) heightening concerns faced by international alliance partners. Adverse selection risk (see Akerlof, 1970) can hinder an otherwise attractive alliance from going ahead; and moral hazard (see Eisenhardt, 1989) can hamper the effectiveness of alliance management. I therefore draw on predictions deriving from signalling theory and agency theory, which offer solutions to adverse selection and moral hazard problems.

Chapter 1 investigates whether institutional distance affects due diligence for firms climbing down and up the institutional ladder, by considering the role of due diligence for both screening and signalling advantages. I find that firms climbing down undertake more extensive due diligence as distance increases, because as a screening devise due diligence reveals information which can be used to protect the firm (Alvarez and Barney, 2001) from opportunistic behaviour (Williamson, 1996) and the possibility of the partner scaling back on commitments initially made in good faith (Verbeke and Greidanus., 2009). This is because the heightened information asymmetries not only make it more challenging to uncover information, but it is also more difficult to resolve problems. In other words, due diligence must be more extensive as the cost of adverse selection is higher. If the concerns of firms climbing down and up the institutional ladder were of the same sort, this would imply that firms climbing up would undertake less due diligence, as the information environment of the potential partner is more transparent. However, for firms from weaker institutions, the concerns are more likely to revolve around the ways in which the limitations of the institutional environment in which they are located, can be overcome (Huang and Li, 2019; Enderwick and Buckley, 2021). I draw on signalling theory, to demonstrate that as weaker institutions are associated with heightened information asymmetries, the focus is on the demonstration of firm quality. Hence due diligence is also more extensive climbing up, though in this case as a screening devise to demonstrate the firm has the necessary resources and is committed to the relationship, which portrays their value as an alliance partner. This is fitting with the work of Feldman and March (1981) who note that firms often gather more information than they appear to make use of, and that this can be explained via signalling theory. The authors note that effective information gathering offers an accurate estimation of firm quality because the costs of maintaining an information system are lower for firms which are well-managed. The findings also reinforce the importance of

understanding the different circumstances firms face, in accordance with their institutional environments (e.g. Konara and Shirodkar, 2018; Huang and Li, 2019; Driffield et al 2016).

This chapter also compares the more commonly used institutional indicator of corruption - an informal institution; with law and order – a formal institution. I find that while corruption has a significant effect on due diligence extensiveness for firms climbing down the intuitional ladder, law and order affects due diligence in both directions. Law and order is therefore the intuitional indicator which encourages firms to signal. This is because the location-specific norms that facilitate business transactions in corrupt institutions will be equally opaque to all non-local partners, not only partners from stronger institutions, reducing the benefits of signalling specifically when climbing up from a corrupt institution. Furthermore, according to Meschi (2007), in a highly corrupt environment the local partner possesses location-specific knowledge and network contacts, which is a key motivator for international collaborative relationships. This increases the value of the firm climbing up, reducing the need to signal. Conversely, firms climbing up from an environment of weak law and order must overcome the disadvantage of reduced contractual enforcement, which discourages cooperative transactions. Additionally, Choi and Contractor (2016), note that an absence of reliable legal systems can increase search and information costs. This encourages firm signalling. This finding adds weight to Estrin et al (2007) who argue that different types of institutional distance have a different effect on firms.

Chapter 2 takes due diligence investigations a step further, and considers its role for alliance management and the reduction of double moral hazard concerns. In doing so, I draw on the work of Gulati et al (2012), who offer a detailed discussion on the two facets of collaboration, coordination and cooperation. The authors point to three main drawbacks in the collaborative literature, i) there is a dearth of studies in alliance cooperation (an issue also identified by Nippa and Reuer (2019) who specifically point to a lack of studies into performance measurement systems in international collaborative relationships; ii) there is little knowledge of how cooperation and coordination are initiated; and iii) the literature generally examines coordination and cooperation separately – yet uncovering the ways in which these work together is vital for a more complete understanding of alliance dynamics.

This chapter addresses each of these limitations by asking two fundamental research questions:

- Question 1: will more extensive due diligence lead to a more extensive coordination tool - a jointly formulated balanced scorecard?
- Question 2: Will a more extensive jointly formulated balanced scorecard increase cooperation?

The empirical investigations demonstrate that the answer to each of these questions is *yes*. In investigating the first question I show that reducing information asymmetries via more extensive due diligence facilitates alliance coordination by enabling the partners to jointly develop a more extensive balanced scorecard (the balanced scorecard is a coordination tool because it organizes the contributions of the parties in the quest to fulfil the agreed upon alliance goals). This is in concurrence with Arend and Winser (2005), who suggest that due diligence is helpful for coordinating collaboration.

The second research question investigates the link between cooperation and coordination. The analysis shows that a more extensive balanced scorecard does improve cooperation. I measure this via mutual trust, which is in line with the predominant viewpoint in the literature that cooperation is about trust (Beccerra and Gupta, 1999; Gulati et al, 2012). The value of the balanced scorecard in increasing cooperation lies in logic deriving from agency theory. Specifically, the balanced scorecard subjects the firms to mutual monitoring – in other words each firm agrees to monitor and to be monitored in accordance with the jointly agreed upon metrics. Furthermore, the most extensive level of the balanced scorecard links the metrics to rewards, helping overcome goal incongruence and double moral hazard concerns. This finding adds weight to the work of Lavie et al (2012), who suggest that overcoming differences between alliance partners via methods including performance metrics, improves relational factors. I also find support for Beccerra and Gupta (1999), who link agency theory to the development of trust in organizations.

Chapter 3 links due diligence to alliance outcomes by exploring the effect of partner screening on alliance performance. Building on Chapter 2 which explains the double moral hazard concerns faced by the partners; I take a dual perspective and consider the due diligence investigations undertaken by the focal and partner firm. In doing so, I consider whether agency theory is a more appropriate lens through-which to examine the determinants of alliance performance, than the RBV which is the more typical approach in the literature. The RBV would suggest that the motivation for alliance formation is the need for complementary

resources which are more feasibly attained via collaboration, than developed internally or purchased (Gudergan et al, 2012). This theoretical perspective offers valuable insights by considering how the synchronization of resources helps firms capture value, although the focus on complementarity excludes other factors which with may have a considerable impact on the relationship. This includes how willing a partner will pool the resources in a cooperative fashion, and how firms can deal with challenges in the macro environment (see Robson et al, 2019; Lin et al, 2009). Agency theory on the other hand considers a broader reduction of information asymmetries to overcome moral hazard risk. This theory has been rarely utilized in the alliance literature but is appropriate for exploring collaboration because of the recognition that alliances are formed for numerous reasons (Reuer and Ragozzino, 2006) which may or may not stem from the need to pool resources. The determinants of alliance performance will therefore differ depending on whether an RBV or agency theoretic lens is adopted. The RBV would dedicate attention to screening resource complementarity, whereas agency theory would suggest more extensive due diligence in order to cover a broader range of relevant areas, allowing the firms to deal with goal incongruence.

I find support for the predictions deriving from agency theory, which state that i) more extensive due diligence of the focal firm will improve performance, because this allows for the development of more effective monitoring and incentives, and ii) more extensive partner due diligence will improve firm performance, because alliance outcomes are joint, and if either party can monitor effectively reducing their own moral hazard risk, both will benefit from the gains. I do not find support for the RBV predations. Finally, I consider the role of the legal distance as a contextual moderator. I do so from an agency theoretic perspective, because the RBV alone does not consider the institutional environment (Lin et al, 2009). I show that increasing legal distance reduces the beneficial effect of due diligence climbing down the institutional ladder, because even if effective monitoring identifies problems, remedial action in weaker legal institutions is more challenging (Li, 2005). This finding adds weight to Reuer and Ragozzino (2006), who find that collaborative relationships are associated with agency hazards due to differences in formation motivates, and Stephen et al (1993) who argues that a reducing information asymmetry subsequently reduces concerns of moral hazard. Additionally, the findings of this chapter support the argument of Driffield et al, (2016), that considering the actions of both parties of a transaction allows for a richer understanding of international business activity.

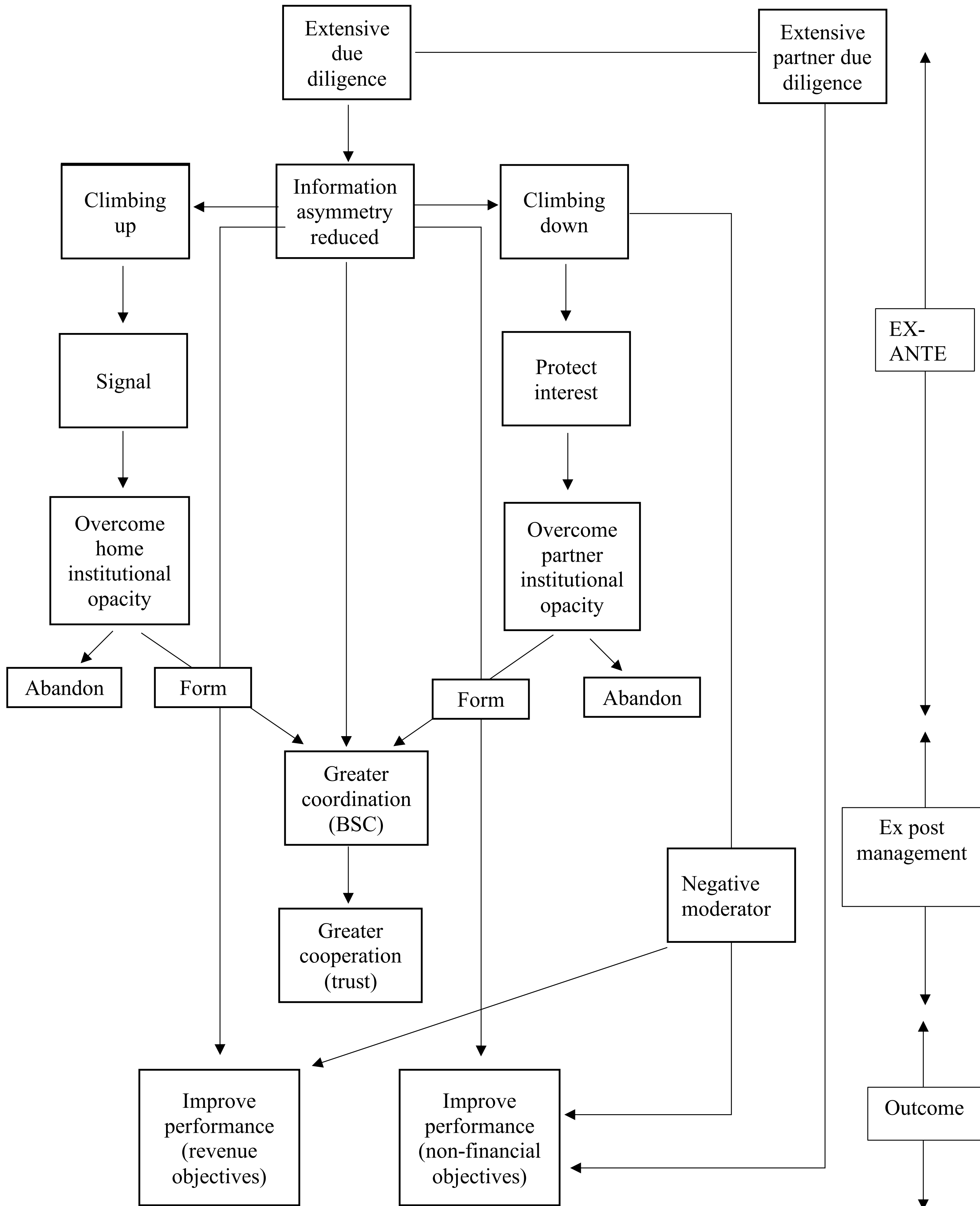
Overall, this thesis has offered a detailed exploration into due diligence and its role for value capture in international strategic alliances. I have considered the value of due diligence extensiveness across ex ante formation dynamics, ex post management, and alliance outcomes, in order to generate a comprehensive picture of the ways in which the reduction of information asymmetries can be utilized in various stages of an alliance relationship. I also consider the role of the institutional environment in accordance with whether firms are climbing down or up the institutional ladder. This approach offers a more nuanced understanding than categorizing firms into high or low levels of institutional quality, as it allows for a consideration of the direction of distance not only between developed or developing institutions, but also where both parties are located in an institution which falls into a particular category such *developed*, *developing*, or *transition* economy, yet there is institutional distance (climbing down/up) between them. It is noteworthy however, that one limitation of this thesis is that I did not have information on the reasons why alliances were abandoned following pre-formation investigations, nor do I know which alliances were terminated without achieving their objectives. This leads to a certain bias which is not uncommon in the literature. For example, many researchers in IB use ORBIS or Thompson SDC data, which to my knowledge is also subject to such limitations. While we can nevertheless gain important insights from such data, it would be insightful for future research to combine the dataset utilised with survey data which could shed light on the reasons between alliance abandonment.

Figure 5 depicts the overall findings of the thesis. Institutional distance refers to law and order, as I find this to be the telling institutional indicator in strategic alliances, due to the contractual nature of the collaboration. Evidently, in the formation stage due diligence investigates the viability of the potential partnership. Extensive investigations enable firms climbing down to overcome the information asymmetries of the partner's institutional environment, and allows firms climbing up to overcome the limitations of information opacity in their home institution. In the ex post management stage; the information uncovered via due diligence investigations is leveraged to formulate a more extensive coordination tool – the balanced scorecard, which increases alliance cooperation; and finally, I show that due diligence extensiveness is directly linked to improved alliance outcomes, as this increases the likelihood of meeting both non-financial and revenue-based objectives. This is the case for firms climbing down and up the institutional ladder, although for firms climbing down the effect is negatively moderated as

legal distance increases. This indicates to the challenges of leveraging information and weaker legal environments.

The overarching insights of this thesis are of value for academics and practitioners alike. It has been demonstrated that extensive due diligence is vital for firms climbing both down and up the institutional ladder, although the way in which value is extracted depends on the specific challenges faced in accordance with the direction of distance. A key point deriving from the findings of all three chapters, is that firms should therefore invest in more extensive due diligence in order to maximise value capture from strategic alliances. Additionally, in navigating the various stages of the partnership, the partners must be aware of role of the legal environment.

Figure 5 – Thesis Findings



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Appendix 1: Tables

Table 1 – Signaling Theory and TCE

	Application focused on	**Market Friction**	**Main Concern**	**Solution**
Signalling Theory	Ex ante	Information Asymmetry	Adverse Selection	Governance systems
Transaction Cost Economics	Ex post	Bounded rationality; Opportunism; Asset specificity; information asymmetry	Incomplete contracting	Demonstration of quality

Table 2 - Descriptive statistics

Variable	Obs	Mean	SD	Min	Max
Due Diligence Extensiveness	2080	2.636	1.448	0	4
Law and order (focal firm)	2080	5.19	0.568	2	6
Corruption (focal firm)	2080	4.258	0.756	2	6
Law and order (partner)	2080	5.174	0.534	2.5	6
Corruption (partner)	2080	4.264	0.733	2	6
Culture	2080	2.104	1.309	0	3
Geographic Distance	2080	1249.509	3019.069	0	14418.61
Relevance of partner market position	2080	0.189	0.392	0	1
Complementarity	2080	0.374	0.484	0	1
Strategic fit	2080	0.121	0.326	0	1
Alliance experience	2080	0.119	0.324	0	1
Prior ties	2080	0.067	0.251	0	1

Table 3 - Correlation Coefficients

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Due Diligence	1													
2 Law and order (focal firm)	-0.01	1												
3 Law and order climbing up	0.02	0.02	1											
4 Law and order climbing down	-0.01	0.35	0.06	1										
5 Corruption (focal firm)	0.04	0.71	0.18	0.22	1									
6 Corruption climbing up	-0.01	0.1	0.61	-0.07	0.25	1								
7 Corruption climbing down	0.06	0.26	-0.03	0.62	0.38	0.07	1							
8 Culture	0.13	0.03	-0.32	0.25	0	-0.39	0.42	1						
9 Geographic Distance	-0.06	-0.16	0.41	0.51	-0.14	0.45	0.61	-0.58	1					
10 Relevance of partner market position	-0.08	-0.04	-0.05	0.03	-0.03	-0.05	0.06	-0.03	0.02	1				
11 Complementarity	0.02	0	-0.06	-0.02	-0.03	-0.03	-0.03	0.05	-0.08	0.61	1			
12 Strategic fit	-0.15	0	-0.05	0.05	-0.01	-0.04	0.09	-0.07	0.05	0.25	0.1	1		
13 Alliance experience	-0.06	-0.02	-0.05	0.05	-0.04	-0.07	0.06	-0.02	0.02	0.16	0.04	0.26	1	
14 Prior ties	-0.05	-0.01	-0.02	0	0.01	-0.01	0.05	-0.03	0.04	0.2	0.07	0.35	0.27	1

Table 4 - Ordered Probit Regression Analysis

Variables	Model 1		Model 2	
Law and order home	-0.137 (0.095)	*0.148*		
Corruption home			0.045 (0.057)	*0.004*
Law and order climbing down	0.313 (0.115)	*0.006*		
Corruption climbing down			0.270 (0.095)	*0.004*
Law and order climbing up	0.292 (0.131)	*0.026*		
Corruption climbing up			0.169 (0.103)	*0.102*
National culture	0.425 (0.064)	*0.000*	0.458 (0.066)	*0.000*
Geographic distance	7.25e-06 (0.000)	*0.592*	8.11e-06 (0.000)	*0.571*
Relevance of partner market position	-1.165 (-1.165)	*0.000*	-1.17 (0.113)	*0.000*
Complementarity	1.370 (0.1)	*0.000*	1.38 (0.1)	*0.000*
Strategic importance	-0.389 (0.085)	*0.000*	-0.393 (0.085)	*0.000*
Alliance experience	-0.009 (0.083)	*0.915*	0.003 (0.083)	*0.971*
Prior ties	0.318 (0.11)	*0.004*	0.319 (0.11)	*0.004*
Observations	2080		2080	
Pseudo R2	0.144		0.145	

Standard errors are in parentheses, *p*-values are in italics
All estimations include year dummies, industry dummies, country dummies, and firm type dummies

Table 5 - Marginal Effects

Variables	Category	Model 1	*p*	Model 2	*P*
Law and order climbing down	Category 1	-0.062	*0.009*		
	Category 2	-0.03	*0.001*		
	Category 3	-0.043	*0.026*		
	Category 4	0.018	*0.199*		
	Category 5	0.117	*0.002*		
Law and order climbing up	Category 1	-0.062	*0.014*		
	Category 2	-0.03	*0.003*		
	Category 3	-0.043	*0.033*		
	Category 4	0.018	*0.205*		
	Category 5	0.118	*0.004*		
Corruption climbing down	Category 1			-0.048	*0.009*
	Category 2			-0.023	*0.001*
	Category 3			-0.034	*0.026*
	Category 4			0.014	*0.203*
	Category 5			0.092	*0.002*
Corruption Climbing up	Category 1			-0.023	*0.157*
	Category 2			-0.011	*0.135*
	Category 3			-0.016	*0.178*
	Category 4			0.007	*0.309*
	Category 5			0.044	*0.138*

Table 6 - Descriptive Statistics

Variable	Obs	Mean	Median	SD	Min	Max
Due Diligence	2080	2.636	2	1.448	0	4
Balanced scorecard	2034	1.935	2	1.196	0	4
Trust	2034	2.029	2	1.181	0	4
Law and order (focal firm)	2080	5.19	5	0.568	2	6
Law and order (partner)	2080	5.174	5	0.534	2.5	6
Culture	2080	2.80	3	1.309	0	3
Geographic Distance	2080	1249.5	0	3019.1	0	14418.6
Relevance of partner market position	2080	2.086	3	1.52	0	4
Complementarity	2080	2.260	3	1.742	0	4
Strategic fit	2080	1.782	2	1.403	0	4
Alliance experience	2080	2.042	3	1.261	0	4
Prior ties	2080	1.266	1	1.326	0	4

Table 7 - Correlation Coefficients

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Due Diligence	1												
2. Balance Scorecard	0.16	1											
3. Trust	0.15	0.20	1										
4. Law and order (focal firm)	0.12	0.02	0.03	1									
5. Law and order climbing up	0.01	-0.01	0.03	0.04	1								
6. Law and order climbing down	0.02	-0.04	0.003	-0.36	0.17	1							
7. Culture	0.0008	0.02	0.03	-0.30	-0.32	-0.06	1						
8. Geographic Distance	-0.07	-0.01	-0.02	-0.65	-0.14	0.40	0.50	1					
9. Relevance of partner market position	-0.05	-0.04	-0.03	-0.07	-0.0001	-0.05	0.05	0.03	1				
10. Complementarity	0.27	-0.20	-0.01	0.04	-0.005	-0.07	-0.01	-0.08	0.61	1			
11. Strategic fit	-0.11	-0.04	0.01	-0.07	0.02	-0.05	0.05	0.05	0.24	0.10	1		
12. Alliance experience	-0.03	0.08	-0.04	-0.02	-0.03	-0.05	0.04	0.02	0.16	0.04	0.26	1	
13. Prior ties	-0.04	0.03	-0.03	-0.05	0.02	-0.02	0.005	0.04	0.20	0.07	0.35	0.27	1

Table 8 – Seemingly Unrelated Regression Analysis

Variables	Model 1		Model 2	
Balanced scorecard	0.260 (0.023)	*0.000*		
Trust			0.190 (0.021)	*0.000*
National Culture	0.539 (0.081)	*0.000*	0.105 (0.076)	*0.166*
Law and order home	-0.012 (0.085)	*0.892*	0.004 (0.079)	*0.965*
Law and order climbing down	0.462 (0.117)	*0.000*	-0.182 (0.110)	*0.097*
Law and order climbing up	0.418 (0.128)	*0.001*	0.015 (0.120)	*0.900*
Geographic distance	-3.83e-06 (0.000)	*0.787*	7.99e-06 (0.000)	*0.547*
Relevance of partner market position	-0.757 (0 .102)	*0.000*	0.324 (0.095)	*0.001*
Complementarity	1.169 (0.085)	*0.000*	-0.527 (0.079)	*0.000*
Strategic importance	-0.279 (0.087)	*0.001*	-0.194 (0.081)	*0.017*
Alliance experience	-0.004 (0.084)	*0.960*	0.191 (0.078)	*0.014*
Prior ties	0.214 (0.114)	*0.060*	0.188 (0.106)	*0.076*
Observations	2034		2034	
Pseudo R2	0.403		0.240	

Standard errors are in parentheses, *p*-values are in italics
All estimations include year dummies, industry dummies, country dummies, and firm type dummies

Table 9 - Descriptive Statistics

Variable	Obs	Mean	Median	SD	Min	Max
Performance (objectives)	470	2.929	4	1.342	0	4
Performance (revenue)	470	2.646	3	1.459	0	4
Due Diligence	470	2.631	3	1.479	0	4
Partner due diligence	470	2.604	3	1.534	0	4
Law and order (focal)	470	5.157	5	0.502	2.5	6
Law and order (partner)	470	5.143	5	0.493	2.5	6
Culture	470	2.717	3	0.592	0	3
Geographic Distance	470	2077	0	3736	0	14418.6
Relevance market position (focal)	470	1.866	2	1.629	0	4
Complementarity	470	2.491	3	1.462	0	4
Strategic importance	470	1.642	2	1.484	0	4
Alliance experience	470	2.008	2	1.324	0	4
Prior ties	470	1.233	1	1.400	0	4

Table 10 - Correlation Coefficients

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 Objectives	1																	
2 Revenue	0.70	1																
3 Due Diligence	0.56	0.50	1															
4 Partner Due Diligence	0.52	0.43	0.58	1														
5 Law and order distance	-0.03	-0.02	-0.01	-0.02	1													
6 Law and order climbing up	0.03	-0.04	-0.01	-0.01	0.75	1												
7 Law and order climbing down	0.08	-0.01	-0.003	0.01	-0.72	-0.08	1											
8 Culture	0.15	0.19	0.29	0.29	-0.11	-0.38	-0.24	1										
9 Geographic Distance	-0.03	-0.10	-0.24	-0.21	-0.001	0.46	0.47	-0.76	1									
10 Relevance of market position (focal)	-0.18	-0.16	-0.20	-0.28	0.01	-0.05	-0.06	0.001	-0.01	1								
11 Relevance of market position (partner)	-0.25	-0.19	-0.29	-0.21	-0.01	-0.05	-0.04	-0.01	0.01	0.27	1							
12 Complementarity (focal)	-0.13	-0.13	-0.15	-0.19	-0.02	-0.06	-0.03	-0.07	0.03	0.20	0.09	1						
13 Complementarity (partner)	-0.10	-0.14	-0.18	-0.15	0.07	0.003	-0.09	-0.07	0.04	0.11	0.21	0.10	1					
14 Strategic fit (focal)	-0.21	-0.17	-0.26	-0.19	-0.09	-0.11	0.02	-0.05	0.05	0.27	0.14	0.28	0.02	1				
15 Strategic fit (partner)	-0.16	-0.15	-0.22	-0.25	0.07	0.013	-0.10	-0.08	0.06	0.15	0.26	0.01	0.27	0.15	1			
16 Alliance experience (focal)	-0.09	-0.05	-0.11	-0.04	-0.03	-0.08	-0.04	0.06	-0.04	0.25	0.09	0.16	0.03	0.24	0.09	1		
17 Alliance experience (partner)	-0.11	-0.06	-0.03	-0.11	0.01	-0.05	-0.07	-0.01	-0.03	0.10	0.26	0.003	0.19	0.10	0.25	0.15	1	
18 Prior ties	-0.20	-0.14	-0.24	-0.15	0.02	-0.04	-0.08	-0.05	0.02	0.20	0.09	0.17	0.01	0.33	0.13	0.19	0.02	1

Table 11 – Ordered Probit Regression Analysis

Variables	Model 1		Model 2	
Due Diligence	0.249	*0.000*	0.231	*0.000*
	(0.060)		(0.057)	
Partner Due Diligence	0.161	*0.002*	0.083	*0.112*
	(0.052)		(0.052)	
Complementarity (focal)	-0.062	*0.677*	-0.080	*0.549*
	(0.149)		(0.133)	
Complementarity (partner)	-0.079	*0.596*	-0.197	*0.135*
	(0.148)		(0.132)	
Relevance of partner market position (focal)	0.266	*0.087*	0.048	*0.756*
	(0.155)		(0.153)	
Relevance of market position (partner)	-0.135	*0.386*	-0.025	*0.873*
	(0.155)		(0.153)	
Law and order climbing down*due diligence	-0.382	*0.013*	-0.393	*0.002*
	(0.154)		(0.124)	
Law and order climbing up*due diligence	0.052	*0.749*	0.248	*0.129*
	(0.163)		(0.163)	
Law and order distance	0.398	*0.177*	0.649	*0.029*
	(0.295)		(0.297)	
National Culture	0.748	*0.000*	0.590	*0.001*
	(0.210)		(0.184)	
Geographic distance	0.0001	*0.028*	0.0001	*0.015*
	(0.000)		(0.000)	
Strategic importance (focal)	-0.031	*0.871*	-0.039	*0.836*
	(0.191)		(0.187)	
Strategic importance (partner)	0.149	*0.433*	-0.160	*0.389*
	(0.190)		(0.189)	
Alliance experience (focal)	-0.044	*0.831*	-0.229	*0.236*
	(0.208)		(0.194)	
Alliance experience (partner)	0.059	*0.774*	0.068	*0.719*
	(0.205)		(0.188)	
Prior ties	-0.384	*0.076*	-0.379	*0.070*
	(0.216)		(0.209)	
Observations	470			
Pseudo R2	0.236			

Table 12 - Marginal Effects

Variables	Category	Model 1	*p*	Model 2	*p*
Due diligence	Category 1	-0.028	*0.000*	-0.032	*0.000*
	Category 2	-0.013	*0.000*	-0.016	*0.000*
	Category 3	-0.006	*0.008*	-0.008	*0.002*
	Category 4	0.008	*0.004*	0.0002	*0.825*
	Category 5	0.039	*0.000*	0.056	*0.000*
Partner due diligence	Category 1	-0.021	*0.001*	-0.011	*0.116*
	Category 2	-0.010	*0.002*	-0.006	*0.114*
	Category 3	-0.004	*0.016*	-0.003	*0.123*
	Category 4	0.006	*0.012*	0.00006	*0.829*
	Category 5	0.030	*0.000*	0.020	*0.109*
Law and order climbing down	Category 1	0.044	*0.012*	0.054	*0.002*
	Category 2	0.021	*0.015*	0.027	*0.003*
	Category 3	0.009	*0.046*	0.013	*0.010*
	Category 4	-0.012	*0.034*	-0.0003	*0.827*
	Category 5	-0.061	*0.010*	-0.095	*0.001*
Law and order climbing up	Category 1	-0.007	*0.722*	-0.034	*0.132*
	Category 2	-0.003	*0.722*	-0.017	*0.135*
	Category 3	-0.001	*0.721*	-0.008	*0.138*
	Category 4	0.002	*0.725*	0.0002	*0.830*
	Category 5	0.009	*0.721*	0.060	*0.126*

Standard errors are in parentheses, *p*-values are in italics
All estimations include year dummies, industry dummies, country dummies, and firm type dummies

Appendix 2: Survey questions in subset of data used

Respondent name:

Respondent job title:

Respondent contact details:

Company name:

Partner company name:

Size of unit:

Firm type:

- MNE
- Subsidiary
- Standalone

Location (country) of HQ if subsidiary:

Company Location (country):

Partner location (country):

Year of alliance formation (write "planning" if alliance not yet formed):

Industry of alliance operation:

How many prior collaborations have for you formed with the same partner?

- None
- Very few
- Some
- Quite a lot

- A lot

Have you undertaken due diligence prior to relationship formation? If yes, what level of due diligence have you undertaken? (If the given ordering does not fit with your due diligence investigations, please provide details in the box below)

- No due diligence
- Hard elements internal. Examples include cash, technology, inventory, patents/trademarks, accounts receivable.
- Hard elements internal and external: External refers to micro-environment, examples include market share and distributor/supplier contracts
- Hard and soft elements limited focus: Due diligence is further broadened to include cultural and human aspects. Here the aspects considered include: quality of management/human resources, intellectual property, customer loyalty, corporate culture
- Full and complete due diligence: In addition to the above, there is an inclusion of economic macro factors, and how these affect the collaboration in areas such as the industry of operation, and opportunities and risks.

How relevant is the partner's market position for your strategic path?

- Irrelevant
- Little relevance
- Some relevance
- Quite relevant
- Very relevant

How important is this relationship for your strategic aims?

- Not at all
- Very little
- Somewhat useful
- Important
- Very important

What is your experience with alliance relationships?

- None – this is our first alliance
- Little experience – we have formed a couple of alliances
- Quite experienced – we have formed quite a few alliances
- Experienced – we have had numerous alliance relationships
- Very experienced – we have had a many alliances and collaboration is a big part of our strategic focus

Do you use a performance measurement system for the relationship? If yes, what do you include? (If the given ordering does not fit with performance measurement system, please provide details in the box below)

- None
- Yes, financial measures only
- Yes, multidimensional including financial and non-financial measures
- Yes, in addition to the above, describes strategy using cause and effect metrics
- Yes, in addition to the above, this defines objectives and is connected to incentives

What is the level of trust in the relationship?

- None
- Okay
- Good
- Very good
- Excellent

How many over laps in products/services do you have with the partner?

- All overlaps
- Many overlaps
- Some overlaps
- Few overlaps
- No overlaps - completely complementary

How close are you to the attainment of your non-financial objectives?

- Nowhere near
- Taking longer than planned

- Behind schedule but now almost on track
- On track
- Ahead

How close are you to the attainment of your revenue-based objectives?

- Nowhere near
- Growth stage may not be achieved
- Stability achieved
- Stability achieved over time
- Target exceeded