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Rogue and Deviants: A Game-Theoretic Perspective on Opportunism in Strategic Alliance Relationships

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Rogues And Deviants: A Game-Theoretic Perspective On Opportunism In Strategic Alliance Relationships

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ABSTRACT

Opportunistic behavior is often studied in interfirm relationships, yet we don't know the different types of behavior that are hidden behind the general opportunism label. Therefore, using game theory as guidance, this dissertation examines the roots of and influences on two types of opportunistic behaviors in strategic alliances. Specifically, the author suggests that the strategic alliances literature would benefit from recognizing that opportunistic behaviors don't always originate from the firm (rogue-firm opportunism), but instead often originate from individual alliance employees (deviant-personal opportunism). Moreover, this dissertation examines how relational factors between two alliance partners impact these two types of opportunistic behaviors. The relational factors considered in this dissertation are trust, monitoring, and relative alliance identity.

Hypotheses presented in this dissertation are tested across two studies. The first study utilizes a behavioral business simulation. It combines survey data collection with objective performance data obtained from the simulation. The second study investigates the hypothesized relationships in a cross-sectional sample of strategic alliance executives. It primarily replies on survey data collection, but also introduces secondary data from SDC Platinum database.

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CHAPTER I: INTRODUCTION TO RESEARCH

Rogue-Firm Versus Deviant-Personal Opportunistic Behavior

The often observed tension between cooperation and competition in strategic alliances pulls partner firms to behave opportunistically (Li, Boulding, and Staelin 2010; Rindfleisch and Moorman 2001). Opportunistic behavior has been originally defined as "self-interest seeking with guile," (Williamson 1979, p. 6) where guile often is represented by devious, cunning, sneaky, deceitful, and sometimes outright cheating alliance partner behavior. Opportunistic behavior poses a real threat to strategic alliances because an inability to effectively prevent opportunistic behavior causes alliances to fail. While there are various reasons why alliances may fail, the academic literature suggests that out of the reported 50% to 80% failure rates of strategic alliances, a significant portion can be attributed to opportunistic behavior (Cui 2013; Greve et al. 2010; Kogut 1989; Noordhoff et al. 2011).

Past research in strategic alliances focused on general opportunistic behavior at partner firm-level only. Wathne and Heide (2000) argue that we must understand various types of opportunistic behaviors before we can explain properly the high failure rates. Their conceptual review of the construct is one of only a few reviews that attempt to build a typology of opportunistic behavior (discussed in detail in Chapter 2). However, none of the existing conceptual typologies differentiate between firm-level and individual-level opportunistic behavior. The popular press offers plentiful examples of opportunism at the individual level in interorganizational relationships. Yet, no attention has been given to these exhibits of opportunism in the academic literature on strategic

alliances. The individual-level opportunistic behavior is termed here as *deviant-personal opportunistic behavior*, and it is defined as an individual alliance employee's self-interest seeking through devious means that threatens the well-being of an alliance, its members, or both. The firm-level opportunistic behavior is termed here as *rogue-firm opportunistic behavior*; and its definition remains consistent with existing literature. Rogue-firm opportunistic behavior is defined here as an alliance partner-firm's own self-interest seeking and violations of expected norms of behavior at the expense of another alliance partner – adapted from Jayachandran et al. (2013).

A majority of the studies on strategic alliances and exchange relationships in general utilize transaction cost economics (TCE) theory to explain opportunistic behavior. TCE implicitly treats opportunism as a firm-level phenomenon (Wathne and Heide 2000); hence, the lack of focus on deviant-personal opportunistic behavior. New theoretical perspectives must be considered to bring to light the presence of deviant-personal opportunistic behaviors. Therefore, this dissertation draws on game theory, a theory that is capable of explaining both rogue-firm and deviant-personal opportunistic behaviors. More on game theory is offered later in this chapter and in Chapter 2.

As a consequence of the dominant presence of TCE, the academic literature offers countless examples of rogue-firm opportunistic behavior (Anderson et al. 2013) but lacks examples of deviant-personal opportunistic behavior. Table 1 offers some representative examples of rogue-firm opportunism. This research myopia has created a gap in the literature. The gap is the lack of focus on deviant-personal opportunistic behavior and relational factors that can effectively prevent, minimize, or at least detect deviant-personal opportunistic behavior. Deviant-personal opportunism examples,

mostly from popular press, are presented in Table 2. One of the most telling examples is that of the “Lopez Saga.” Mr. Lopez was indicted by a Detroit grand jury on charges including fraud and transportation of stolen documents that damaged his employer, General Motors, and the perception of GM in the eyes of its strategic partners. BusinessWeek offers a summary of the saga.

> *During his nine month control of General Motors’ purchasing department, Mr. Lopez, in an attempt to slash $4 billion from the carmaker’s parts bill, was accused of employing a range of questionable strategies. Strategic suppliers alleged that Lopez exaggerated rivals’ bids to compel them to bid lower still. … [In addition to] his rush to cut costs, Lopez leaked suppliers’ proprietary information to the competition.* (Kelly and Kerwin 1992)

Many more examples of deviant-personal opportunistic behaviors exist. Many come from the pharmaceutical industry, an often studied industry because of its heavy use of strategic alliance partnerships. In addition to the two examples offered in Table 2, GlaxoSmithKline, Abbott Laboratories, Johnson & Johnson, K.V. Pharmaceutical, and Synthes were, in recent history, all charged with a variety of behavioral misconduct originating from various management levels (Thomas and Schmidt 2012). The behavioral misconduct is often initiated by single manager or a small deviant group of two or three managers whose misbehaviors were not sanctioned by the firm. These are all major companies in the industry and are regularly creating strategic alliances with other pharmaceutical firms.

Table 1. Examples of Rogue-Firm Opportunistic Behavior

Source	Opportunistic Behavior
Dutta, Bergen, and John 1994*	Manufacturer-reseller relationships: Resellers violating explicit resale agreements.
Wilkie, Mela, and Gundlach 1998*	Suppliers providing an alluring but insincere offer to sell a product or service they do not intend or want to sell.
Murry and Heide 1998*	Manufacturer-retailer relationships: Retailers receiving a priori allowances for displaying promotional materials without following through on the original agreement.
Lee 1998	Exporter-importer relationships: Exporters sometimes intentionally lie to importers in order to make the transaction.
Achrol and Gundlach 1999	Vertically arranged relationships: breaching formal and informal agreement.
Jap and Anderson 2003	Supplier-buyer relationships: making false accusations, failure to provide proper notification, not doing as promised.
Anderson and Jap 2005	Supplier-customer relationships: Supplier cutting corners by applying 2 instead of 3 coats on auto parts without telling the customer.

*Adopted summary from Wathne and Heide (2000)

Table 2. Examples of Deviant-Personal Opportunistic Behavior

Source	Opportunistic Behavior
Phillips 1982*	Salespeople exaggerating expenditure reports.
Kelly and Kerwin 1992*	Mr. Lopez single-handedly exaggerating the bids from rival suppliers to obtain lower bids and leaking information to competition.
Lyons, Krachenberg, and Henke 1990	Corporate-level cooperative relationships systematically undermined by individual purchasing agents across automotive firms treating suppliers in an opportunistic fashion.
Healy and Palepu 2003	Mr. Skilling, Mr. Fastow, and Mr. Lay keeping losses from JEDI joint venture with CalPERS off of Enron's books by creating Chewco L.P. Ultimately these practices led to Enron's bankruptcy, also affecting its partner firms.
Dash 2004	Brystol-Myers Squibb executives pressuring wholesalers to buy substantial amounts of pharmaceuticals ahead of anticipated demand in order to look attractive in front of business partners of current and future joint ventures.
SEC 2003	Four executives of Nicor Energy LLC (a joint venture) inflating net income by $11 million. Consequently, parent companies of the alliance experienced unexpected transaction costs.
Koleva 2012	"Protocol 007" scandal: MERCK's lab supervisor was caught manually changing test results for MMR-II vaccine in order to deliver on its business partner's specifications. The business partner was the US government.

*Adopted summary from Wathne and Heide (2000)

Since opportunistic behavior is often the central construct of interest in strategic alliances, the research agenda in marketing and management focuses on explaining and minimizing the risk of opportunism. Therefore, the research focus is predominantly on either control mechanisms or relational factors that help with discouraging and capturing opportunistic behavior (e.g., Sartor and Beamish 2014; Xu, Fenik, and Shaner 2014). The primary objective of this dissertation is to investigate relational factors that can effectively explain both rogue-firm and deviant-personal opportunistic behavior. To date, the vast majority of research has focused on control mechanisms (economic perspective) or relational factors (social exchange theory perspective) in isolation when attempting to understand opportunism. The key argument here is that instead of focusing on one perspective or one factor, it is fruitful to theory and practice to look at how these factors work together, which factors are dominant preventers of opportunism, how some of the factors interact, and ultimately how they impact behavior of alliance partners. Recent research calls align well with this argument (Heide, Wathne, and Rokkan 2007; Santos and Eisenhardt 2005).

A Game Theoretical Perspective

The latest advancements in game theory successfully bring the rational economic perspective together with the more sociological perspective. Gintis (2009) notes:

> *The various behavioral disciplines (economics, psychology, sociology, politics, anthropology, and biology) are currently based on distinct principles and rely on distinct types of data. However,* ***game theory fosters a unified framework*** *available to all the behavioral disciplines. This facilitates cross-disciplinary*

information exchange that may eventually culminate in a degree of unity within the behavioral sciences now enjoyed only by the natural sciences. (p. 48)

Therefore, game theory is used as the guiding theory for this dissertation. Game theory helps us to explain the behavior of individuals or groups (i.e., alliance employees or alliance partner-firms) whose outcomes depend on the behavior of others in a strategic interaction. Moreover, game theory is helpful to predict how various factors of the strategic interaction will influence the behaviors of these individuals or groups (Axelrod 2006; Chen and Chen 2011; Cox 2004; Uzea and Fulton 2009).

Game theory has come a long way from single-shot (i.e., one round) prisoner's dilemma games and Nash equilibrium. Game theory addresses the behavior of two parties in a so-called "mixed-motive social dilemma" (Dawes 1980). This dilemma exists in strategic alliances at the firm- and individual-level, because "parties often have motives to both cooperate and compete with each other, to maximize the collective interest yet also maximize their self-interest at the expense of the collective interest" (Ferrin, Bligh, and Kohles 2007, p. 468). Therefore, game theory researchers focus on studying factors that can influence levels of opportunistic behavior between two or more parties. Various game types have been investigated (e.g., single- vs multiple-shot games, full- vs partial-information available, trust games, prisoner's dilemma, ultimatum game, social goods game, tit-for-tat, and many others), but the most applicable game to strategic alliances is the prisoner's dilemma game (Parkhe 1993). Experimental economists playing out the prisoner's dilemma game investigate how monitoring (Axelrod 2006), trust (Cox 2004), and social identity (Chen and Chen 2011), among other factors, influence the utility function of each party involved in the game. Thus, a

prisoner's dilemma application of game theory is very suitable to help explain how these factors affect rogue-firm and deviant-personal opportunism in strategic alliances. While this dissertation draws on other theories (transaction cost economics, social exchange theory, and social identity theory), game theory provides a foundation for all the theoretical lenses used in this dissertation.

Research Questions

The main objective of this study is twofold. First, I seek to build on and to enhance existing knowledge of opportunistic behavior in strategic alliances. Based on business press examples and some exploratory field interviews, the objective is to differentiate between *rogue-firm* and *deviant-personal* opportunistic behavior. Despite evidence from popular press that deviant-personal opportunism is a problem, the academic literature in strategic alliances does not recognize this phenomenon. To address this phenomenon, it is imperative to consider other theoretical views than TCE, because TCE's focus on firm-level analysis offers at best a limited explanation of deviant-personal opportunistic behavior. Game theory (GT) and its incorporation of the social identity theory (SIT), social exchange theory (SET), and transaction cost economics (TCE) are used as the conceptual perspectives to explain both rogue-firm and deviant-personal opportunistic behavior. Second, this study introduces *relative alliance identity* as a relational factor that is expected to impact deviant-personal and rogue-firm opportunistic behaviors above and beyond other relational factors explored here; specifically, partner monitoring and trust. Moreover, the game theory suggests that the interaction between trust and monitoring explains and predicts opportunism more holistically. To accomplish these objectives, the primary research question guiding

this study is: *What are the roots of and influences on rogue-firm and deviant-personal opportunistic behaviors in strategic alliances?* Within this overall research question, the more specific sub-questions came to surface:

1) Which of the studied (relative alliance identity, monitoring, and trust) relational factors is most effective at minimizing rogue-firm opportunistic behavior, and which is most effective at minimizing deviant-personal opportunistic behavior?
2) Do trust and monitoring factors exhibit a supplementary (additive) or complementary (interactive) role in explaining the two types of opportunism?
3) Do contextual considerations, such as stable relationship conditions, affect these relational factors differently?
4) Does rogue-firm opportunistic behavior affect alliance outcomes differently from deviant-personal opportunistic behavior?

Contributions

This study contributes to marketing knowledge in several areas. First, marketing literature has not explicitly addressed rogue-firm versus deviant-personal opportunistic behavior in business-to-business relationships, such as strategic alliances. This new conceptualization is likely to refresh our perspective on opportunistic behavior and, consequently, improve exchange relationship theories. Second, marketing literature thus far has mostly utilized TCE, SET, and commitment-trust theory. While these theories greatly contribute to knowledge in marketing, they are not sufficient to explain deviant-personal opportunism and all the factors studied here. Game theory and its incorporation of TCE, SET, and SIT theories brings in a fresh perspective on opportunism and provides arguments for the interactive relationship between trust and

monitoring and its effect on the two types of opportunism. Third, social identity theory has been primarily applied at the individual level within a single organization, but it has not been considered in strategic alliances where individuals and firms have to cooperate while also competing. Game theory addresses identity issues within a mixed-motive social dilemma setting that is present in strategic alliances. Moreover, the use of game theory as the overarching and foundational theory for the three factors and their respective theories (i.e., monitoring and TCE, trust and SET, relative alliance identity and SIT) for the purposes of studying rogue-firm and deviant-personal opportunistic behavior will improve our knowledge of strategic alliances.

This study also contributes to marketing practice. First, understanding which relational mechanisms reduce rogue-firm and which reduce deviant-personal opportunistic behavior can offer potential cost savings for alliance partner-firms through an establishment of more efficient relational systems. Second, finding what role a relative alliance identity plays in minimizing opportunistic behavior is managerially important because managers need to know how much effort should be put into building a sense of identity among alliance partners. Third, the need to monitor and to build trust is a relatively well established practice in corporate world; however, how these two interact and to what extent managers should invest in one, the other, or both simultaneously is of interest to managers. In summary, helping managers realize the optimal investments in a mix of relational factors can help them engage more effectively with their exchange partners.

Relational Factors

Studies examining strategic alliances utilize several streams of literature, but always in isolation. While isolated literature streams have yielded powerful insights, such isolated perspectives also have limited external validity and have constrained the academic conversation about the studied phenomenon (Santos and Eisenhardt 2005). Therefore, one of the objectives of this research is to use game theory to integrate distinct literatures in order to explain exchange relationships within the context of strategic alliances. I utilize game theory in this dissertation because it is a foundational theory for the streams of literature relevant to the relational factors studied here. Game theory brings together three perspectives and their key constructs that influence relational behaviors. Together, these key constructs impact rogue-firm and deviant-personal opportunistic behavior. Specifically, game theory ties together monitoring of alliance partner (TCE), relative alliance identity (SIT), and trust in the alliance partner (SET). The three relational factors and their impact on opportunistic behavior and outcomes are depicted in the conceptual model of this dissertation presented in Figure 1.

Transaction cost economics (TCE) draws on a game theory-based argument which suggests that monitoring of alliance partners should aid in suppressing opportunistic behavior (Williamson 1985). Under certain assumptions, game theory suggests that monitoring creates a game where full information is available to all participants, thus dwarfing opportunism. In other words, monitoring eliminates, at least to a certain degree, information asymmetries often present in strategic relationships.

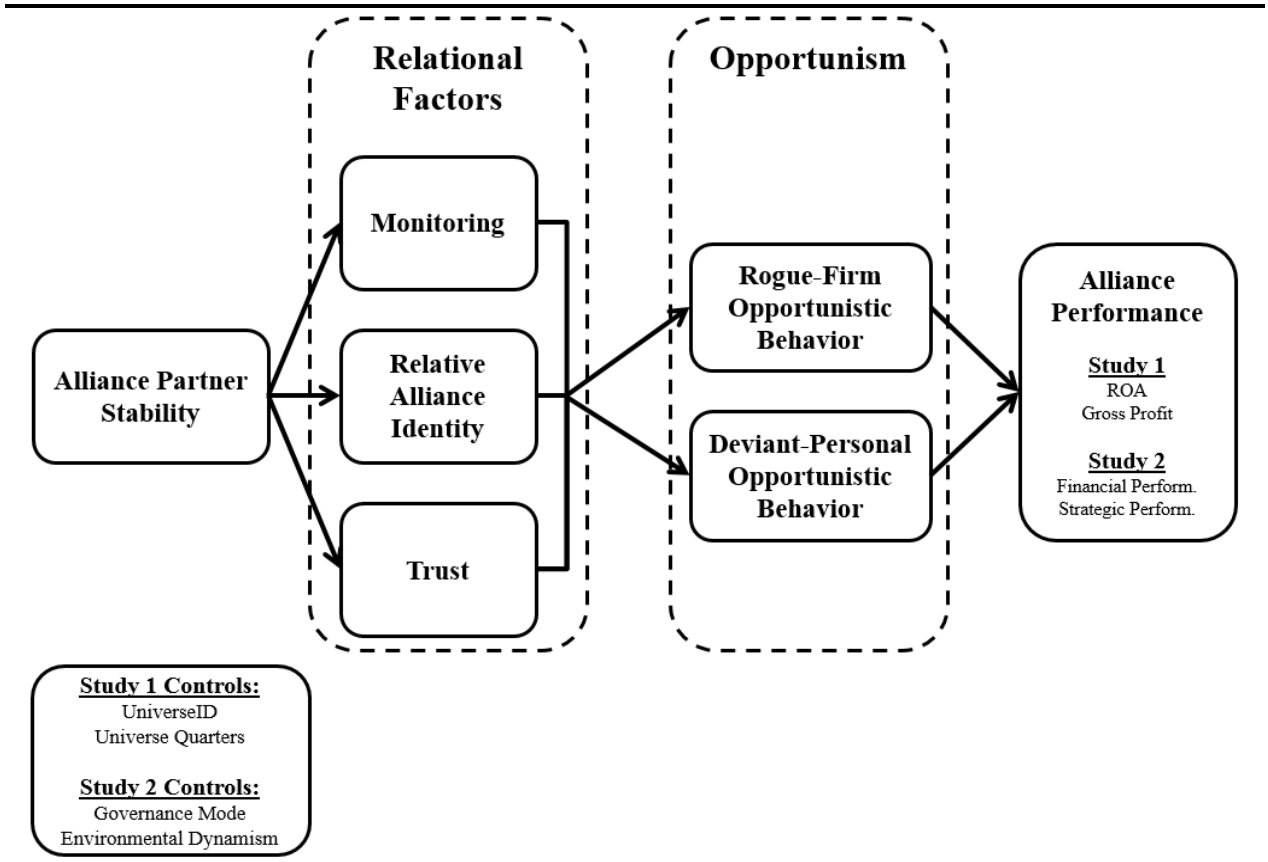

Figure 1. Conceptual Model

Monitoring

While "monitoring programs are integral part of many firms' relationship strategies" (Ghosh and John 1999), strategic alliance studies do not directly discuss and empirically test monitoring mechanisms. In arm's length B2B relationships literature, Heide et al. (2007, p. 426) support this claim by stating that "…the monitoring phenomenon remains poorly documented" in interfirm relationships. Narayandas and Rangan (2004, p. 75) note that "a worthwhile area for research is to identify whether and when performance evaluation based on outcomes [outcome-based monitoring] or actions [behavior-based monitoring] is more critical to the development of [an interfirm]

relationship." Calls to enhance the theory of monitoring remain mostly unanswered (Jensen 1998).

Relative Alliance Identity

According to game theory, low group identity leads to an inefficient equilibrium solution in a minimum effort game (Chen and Chen 2011), and in a repeated-play public goods game a team identity limits shirking and free-riding behavior (Eckel and Grossman 2005). This incorporation of social identity into game theory can offer a fresh take on a range of phenomena in organizational studies. "The turn to identity could be regarded as a source of revitalization for existing research areas, novel in that it continues establishing lines of inquiry by different means" (Alvesson, Ashcraft, and Thomas 2008, p. 6). It is argued in this dissertation that assessing to what degree individual employees of an alliance identify with the alliance as opposed to their respective alliance partner firms can help us better understand the complexity of the largely unexplored (Wathne and Heide 2000) phenomenon of interest – opportunistic behavior.

Social identity theory is based on the minimal group paradigm, also known as the psychological group (Tajfel 1982). The main argument of the theory states that members of the in-group do not even have to explicitly interact with other in-group members to exhibit favorable behavior towards in-group members and unfavorable behavior towards out-group members (Tajfel and Turner 1979).

Extension of the psychological group suggests that the out-group does not have to explicitly exist. The out-group only needs to be ingrained in the psyche of the in-group members. Once the psychological out-group exists in the in-group members' psyche,

the in-group members will start to behave favorably towards other in-group members. An isomorphic argument in strategic alliances would suggest that if the alliance management can create a sense of threat from other competitors in the market, it can consequently create a sense of psychological in-group among alliance employees. The competitors do not necessarily have to be explicitly described beyond the fact that they pose a threat to the livelihood of the alliance and its partners. This argument is supported by Santos and Eisenhardt (2005), who state that "identity can be a source of competitive strength by distinguishing the organization from potential competitors." The word *potential* is key in their statement. A competitor (i.e., an out-group) does not necessarily have to explicitly exist at the moment. Thus, competitive intensity in the market and market uncertainty, together also known as environmental dynamism (Miles, Covin, and Heeley 2000; Sarkar, Echambadi, and Harrison 2001) can have an impact on relative alliance identity. In this case, the environmental dynamism makes the in-group more salient to members of the group. In prisoner's dilemma and battle-of-the sexes games, Charness, Rigotti, and Rustichini (2007) support the notion that when groups are more salient, group membership significantly affects individual behavior. While the interest in this dissertation is to explore relational and not environmental factors, due to the above reasons, it is necessary to at least control for environmental dynamism. Furthermore, environmental dynamism has been shown to affect other relational factors as well as opportunistic and cooperative behaviors (Jansen, Vera, and Crossan 2009; Joshi and Campbell 2003).

"Identity offers an alternative to more rigid and suboptimal control strategies like [monitoring] behavioral rules and output measures" (Alvesson, Ashcraft, and Thomas

2008). In other words, building an argument for an opportunistic behavior based on the relative alliance identity rather than monitoring of alliance partners is likely to offer a superior predictive and explanatory power. This argument is supported by Santos and Eisenhardt (2005), who conceptually argue that “identity often dominates efficiency [TCE perspective] considerations” when it comes to organizational boundaries. It is argued here that alliances that are able to reshape the boundaries of their partners such that the bordering partner boundary weakens while the outer boundary of the alliance strengthens will experience decreased level of both rogue-firm and deviant-personal opportunistic behavior. From game theory point of view, such reshaping of a boundary creates “identity costs” (Uzea and Fulton 2009) which hurt parties that choose to defect (i.e., be opportunistic) in the prisoner’s dilemma game (i.e., the alliance).

Some may see relationship marketing literature as synonymous with social identity literature. While the majority of scholars have come to the conclusion that the two in fact offer distinct perspectives on organizational studies, it is useful to address the concern. Identification with a group can exist even in the absence of interpersonal cohesion, similarity, or interaction. The absence of the relational factors (e.g., trust) does not change the fact that social identification (e.g., relative alliance identity) impacts affect and behavior. A series of laboratory experiments proved that in-group favoritism occurs even without interaction with in-group members or with other out-groups (Tajfel 1982). Explicit random assignment of participants into groups leads to discrimination against out-groups and enhanced cooperation between members of an in-group (Locksley, Ortiz, and Hepburn 1980). Social identity is a psychological phenomenon. The in-group members “credit the group with a psychological reality apart from their

relationships with its members" (Ashforth and Mael 1989). Ultimately, relational factors such as trust don't have to be present to have an identity.

SIT has been initially conceptualized at the individual level (Tajfel and Turner 1979). Thus, the relative alliance identity mechanism is expected here to perform best against deviant-personal opportunistic behavior. However, in more recent literature, arguments are being made for a group level of analysis (Ashmore, Deaux, and McLaughlin-Volpe 2004). Therefore, it is expected that relative alliance identity will also influence rogue-firm opportunistic behavior.

Trust

From the game theory perspective, trust "facilitates cooperation because a party who believes the partner is trustworthy will develop a higher willingness to risk, and therefore in conditions of risk, the party is more likely to engage in risk-taking behavior" (Ferrin, Bligh, and Kohles 2007, p. 474). In the prisoner's dilemma game, the riskier but more profitable option is for parties to cooperate. With trust, one is more likely to engage in the riskier proposition due to the belief that the other party will choose to cooperate. This basic idea is also reflected in social exchange theory, where trust is an important relational mechanism that encourages future exchange in a relationship (Morgan and Hunt 1994). The definitions of trust vary across studies. However, at the core of each definition is the belief that the other party in a relationship will do as promised. Therefore, trust is defined here as the perceived credibility that the alliance partner will behave in the best interest of the exchange relationship.

Trust as an antecedent to relational behaviors has consistently been found to be an important factor in relationship marketing literature (Hewett and Bearden 2001).

However, its effect on relational behaviors proves to be a two-sided coin. One side of the coin suggests that when trust is established between business partners, commitment levels rise (Morgan and Hunt 1994). Trust in B2B relationships has been shown to lead to lower levels of opportunistic behaviors (Rindfleisch and Moorman 2001). As a result of lower opportunistic behaviors, partners are less hesitant to make financial and knowledge idiosyncratic investments (Noordhoff et al. 2011). These investments in turn offer higher chances of a healthy collaborative relationship between partners.

On the other side of the coin, scholars have shown that in highly trusted relationships, partners stop challenging each other's thinking because their way of thinking merges. Because it is impolite to challenge a "friend" (Anderson and Jap 2005), partners fail to switch to new partners when they should (Gu, Hung, and Tse 2008), and partners have a better chance of getting away with opportunistic behavior (Selnes and Sallis 2003). This view is supported by Atuahene-Gima and Li (2002), who caution that empirical evidence does not support the positive relationship between trust and performance and caution that "trust may be in danger of being oversold and inappropriately used in practice."

These conflicting views have received more attention in recent literature. For example, Noordhoff et al. (2011) show that embedded ties between supplier and customer firms have both bright and dark sides that influence supplier innovation. Similarly, Anderson and Jap (2005) argue that "[t]he very factors [trusted & close relationships] that make partnerships with customers or suppliers beneficial can leave those relationships vulnerable to deterioration" (p. 76). The authors offer a telling

example. A supplier of auto parts developed a very close relationship with its automaker customer. They built trust with the customer by encouraging its employees to go to dinners, play football, and go to other social events with employees from the automaker firm. Once the trust was established, the purchasing department eased up on its total quality management practices. As a result, the supplier started to cut its production costs by eliminating one of three coats of paint. The cost savings were not shared with the customer. “In this manner, the trust, social relationships and investments that were developed to make the relationship successful became the doorway to the dark side” (Anderson and Jap 2005, p. 77).

This discussion illustrates the strengths and the weaknesses of purely trust-based relationships. Moreover, existing studies focus on organizational level of analysis only and, therefore, do not explicitly investigate the existence of deviant-personal opportunistic behavior. Thus, it is imperative to push research to explore other factors and theoretical perspectives that can together better explain and predict rogue-firm and deviant-personal opportunistic behavior.

Alliance Partner Stability

Game theory suggests that any factors that can destabilize a strategic relationship will negatively impact relational factors between strategic partners and consequently increase the chances of opportunistic behavior (Parkhe 1993). In strategic alliances, such destabilizing factors can originate from internal sources since there are at least two partners to an alliance among which competition or sources of uncertainties can exist. If the partners themselves are competitors, as is the case in horizontal

alliances, then there is a stronger sense of internal competitive intensity than in the case of vertical alliances (Luo, Rindfleisch, and Tse 2007).

Differences in national and organizational cultures between alliance partners can also act as a destabilizing force in a strategic relationship. “The underlying values and attitudes of different cultural groups can influence the behavior of those groups, as well as the nature of decisions they make” (Hewett and Bearden 2001). Empirical studies exist linking cultural distance (Hofstede 1980) to level of cooperativeness among two parties from different national cultures (Chatman and Barsade 1995; Li et al. 2010; Williams, Han, and Qualls 1998).

Another potentially destabilizing factor is the degree to which an alliance partner is dependent on the other. If one party depends on another, the dependent party tends to lose its autonomy and power to decide for itself (Geyskens et al. 1996). Such a loss of autonomy can result in distrust, less identification with the power-wielding partner, and implementation of more robust monitoring mechanisms. Also, the power-wielding partner may see an opportunity to act opportunistically against a partner whose defenses are weakened due to being dependent on the partner. Therefore, it is argued in this dissertation that stable partner conditions, such as partner independence, cooperation rather than competition among partners, and organizational culture proximity will positively impact relational factors between two partners.

Method Overview

This dissertation carried out two studies using diverse settings and data collections to assure a rigorous understanding of relational factors in strategic alliances and their combined influence on rogue-firm and deviant-personal opportunistic behavior.

First, relevant academic literature in marketing and other disciplines was reviewed. The literature review was supplemented with qualitative fieldwork data in an effort to arrive at a conceptually sound and practically grounded model. Then, the conceptual model and its hypotheses were tested using two studies. In the first study, the model and the hypotheses were tested using a multi-period business simulation. Laboratory simulation techniques have been used extensively in the behavioral sciences to provide an analogy to a variety of social phenomena often related to the business world (Gundlach, Achrol, and Mentzer 1995). The simulation was a suitable environment to study exchange relationships directly in a laboratory-like setting. The analysis of the conceptual model presented in this dissertation benefited from such laboratory conditions. In the second study, a sample of relevant strategic alliances was obtained along with some variables of interest from SDC Platinum database of strategic alliances. Key informants from firms within this sample were approached to participate in a large-scale, survey-based study. First, the measurement model was examined to ascertain psychometrically sound measures for both studies. Then, the hierarchical linear regression was used for analysis.

Organization of Dissertation

The remainder of the dissertation is organized as follows. Chapter 2 offers a detailed literature review of related theories and phenomena from marketing and other fields. Hypotheses are offered in this chapter as well. The next chapter, Chapter 3, describes two studies and their respective research methodologies used to test the conceptual model. Chapter 4 presents the analysis and findings of the two studies. Chapter 5 offers an in-depth discussion of the results, a contribution discussion for

academia and practitioners, future research, limitations of the dissertation, and a conclusion.

CHAPTER II: LITERATURE REVIEW

Strategic Alliances and Marketing

The exchange function is recognized as the primary function of marketing (Maclaran 2009). The examination of antecedents and consequences of various types of exchange relationships is arguably the primary area of research inquiry in marketing (Dwyer, Schurr, and Oh 1987; Rindfleisch and Moorman 2001). One place where these exchange relationships present themselves is in strategic alliances. Strategic alliances play a vital role in today's global marketplace and thus are a key element of marketing strategy (Fang et al. 2008). Definitions of strategic alliances are diverse across the academic literature. Similarly, among practitioners, a regional chapter representative of the Association of Strategic Alliances Professionals (ASAP) stated in one of the fieldwork interviews that ASAP's ongoing struggle is to offer a unifying definition of the term strategic alliance. Representative definitions from across the academic literature are presented in Table 3. The common thread across these definitions is part of the definition used here. In this dissertation, strategic alliances are defined as collaborative exchange relationships between two or more firms to gain a competitive advantage from joint efforts, risk sharing, and meeting complex market demands.

When effective, strategic alliances can produce a variety of marketing benefits to partner firms. New product development, marketing initiatives, customer orientation, competitor orientation, and financial performance are just a few examples of marketing phenomena well represented in the strategic alliances research. An example of each of the mentioned marketing phenomena is offered next.

Table 3. Definitions of Strategic Alliances

Source	Construct Name	Definition
Gulati 1995	Alliance	Any independently initiated interfirm link that involves exchange, sharing, or co-development.
Rindfleisch and Moorman 2001	New Product Alliances	Formalized collaborative arrangements among two or more organizations to jointly acquire and utilize information and know-how related to the research and development (R&D) of new product (or process) innovations.
Rindfleisch and Moorman 2003	New Product Alliances	Formal collaborative arrangements among two or more firms to conduct these [R&D] activities.
Swaminathan and Moorman 2009	Marketing Alliances	Formalized collaborative arrangements between two or more organizations focused on downstream value chain activities.
Krishnan, Martin, and Noorderhaven 2006	Strategic Alliance	Any extended cooperative agreement intended to jointly develop, manufacture, and/or distribute products.
Bucklin and Sengupta 1993	Co-marketing Alliance	Contractual relationships undertaken by firms whose respective products are complements in the marketplace.
Kale, Singh, and Perlmutter 2000	Strategic Alliance	A purposive strategic relationship between independent firms that share compatible goals, strive for mutual benefits, and acknowledge a high level of mutual dependence.

Strategic alliances are often created to develop new products as a response to complex market demands. Rindfleisch and Moorman (2001) find that alliances with higher levels of knowledge redundancy and lower levels of relational embeddedness are associated with lower levels of information acquisition but higher levels of information utilization. The high levels of information utilization help alliance partners to enjoy increased levels of "new product creativity and faster speed of development due to synergy created by the redundancy of their product development-related knowledge, skills, and capabilities" (Rindfleisch and Moorman 2001).

Strategic alliances are also useful with co-marketing efforts. Bucklin and Sengupta (1993) investigate co-marketing alliances, which are alliances between two or more partners who together market complementary products or product lines. Through the combined marketing efforts, each partner benefits because co-marketing alliances can intensify and build consumers' awareness of benefits derived from the products' complementarities. The authors suggest that co-marketing alliances can enhance the competitive advantage of each partner. They show that project selection, finding the right partner, and minimizing power imbalances have a direct effect on the effectiveness of co-marketing alliances.

Rindfleisch and Moorman (2003) study the effects of alliance characteristics on customer orientation. They find empirical support for the hypothesis that a firm's participation in horizontal alliances weakens that firm's customer orientation. This is not the case in vertical alliances. The reasoning is based on the idea that when a firm allies with a competitor, then the firm must be overly vigilant of the possibility that the competitor in the alliance will act against the interest of the focal firm. Therefore, the

focal firm will have to invest in monitoring of the partner rather than in understanding the customer. Furthermore, the authors suggest that a third-party monitor (e.g., government agency) and strong relational ties between the competing partners can attenuate the need to monitor each other and instead the slack resources can be devoted to customer orientation.

Luo et al. (2007) show how the profitability of horizontal alliances depends on competitor orientation. They find that a firm's level of participation in horizontal rather than vertical alliances has an inverted U-shaped relationship with return on equity of that firm. This association strengthens when the focal firm's competitor orientation focuses on building effective relationship between the allying rivals. However, if the focal firm's competitor orientation focuses more on destroying the competition, then the inverted U-shaped relationship weakens such that the return on equity is lower and the dark side of the horizontal alliances presents itself sooner.

While these examples illustrate that strategic alliances can have a positive impact on various marketing-related phenomena, academic and popular press literature report that 50% to 80% of strategic alliances fail (Cui 2013; Greve et al. 2010; Kogut 1989; Noordhoff et al. 2011). Various reasons have been attributed to failures of strategic alliances. However, the most common reason attributed to the high failure rates is opportunistic behavior within an alliance. It is argued here that opportunistic behavior can be rogue-firm (i.e., firm-level) or deviant-personal (i.e., individual-level) in nature. Therefore, the next two sections review literature relevant to both rogue-firm and deviant-personal opportunistic behavior. Hypotheses regarding the impact of rogue-firm

and deviant-personal opportunistic behavior on alliance outcomes are developed in the two sections.

Rogue-Firm Opportunistic Behavior

Rogue-firm opportunistic behavior often is the primary construct of interest in strategic alliances research. A review of empirical research investigating opportunistic behavior and its antecedents is offered in Table 4. Rogue-firm opportunism exists in strategic alliances because of what game theory refers to as “mixed-motive social dilemma” (Dawes 1980). This dilemma exists in strategic alliances because “parties often have motives to cooperate and compete with each other, to maximize the collective interest yet also maximize their self-interest at the expense of the collective interest” (Ferrin et al. 2007, p. 468). Marketing scholars have also referred to this dilemma as a cooperation-competition tension (Li et al. 2010).

Definitions of opportunistic behavior differ across contexts, but the majority adapt the definition offered by Williamson (1979). He defines opportunism as “self-interest seeking with guile.” In his later work, Williamson (1985) elaborates more on this definition and explains that the guile presents itself in practice as a form of “lying, stealing, cheating, and calculated efforts to mislead, distort, disguise, obfuscate, or otherwise confuse” (p. 47). Others have added to this list by equating the guile with shirking, deceiving, misrepresenting, cunning, evasive, devious, or deceitful behavior of one party towards another. In more general terms, opportunism can be thought of as an engagement in a behavior that goes against existing understanding or even against existing contract. Table 5 offers a representative list of definitions of opportunism seen in academic literature. In this dissertation, I define rogue-firm opportunistic behavior as

an alliance partner's own self-interest seeking and violations of expected norms of behavior at the expense of the other alliance partner – adapted from Jayachandran et al. (2013). Research devoted to conceptualization of types of opportunism is almost non-existent, despite the call for the need to understand different types of opportunism (Wathne and Heide 2000). To the best of my knowledge, only two manuscripts exist that attempt to develop a typology of rogue-firm opportunism.

One of the two typologies is offered by Wathne and Heide (2000). They conceptually differentiate between active and passive opportunistic behavior. Active opportunism takes place when a partner purposefully breaks the contract in some way. For example, in marketing alliances and in horizontal alliances, territorial exclusivity contracts often exist between partners. These contracts are often and purposefully violated (Anderson and Weitz 1992; Heide, Dutta, and Bergen 1998). In R&D alliances, contracts are written to protect intellectual property brought into the alliance by each party and to establish levels of knowledge transfers. However, it is very common to see incomplete R&D contracts because the outcomes of R&D alliances are often unclear at the outset of the alliance (Xu, Fenik, and Shaner 2014). Purposeful violations of R&D contracts take place because of the incompleteness of the contracts.

Passive opportunism takes place when a partner to the exchange purposefully holds back effort, know-how, or information that would otherwise enhance the outcomes of a partnership. Such hold backs drive Wathne and Heide (2000) to define passive opportunism as opportunism by omission. When a party omits some information from another party, it is not necessarily breaking an explicit contract, but it is jeopardizing the full potential of the partnership.

Table 4. Representative Empirical Findings of Opportunism

Source	Independent Variables and Hypotheses	Dependent Variable	Control Variables	Theory	Empirical Setting
John 1984	Bureaucratic structuring (+) Perception of coercive power (+) Noncontingent power (- partial)	Opportunism	NA	TCE Attribution theory	Dealer relationships of one major oil supplier
Gundlach et al. 1995	Disproportional commitment (+ marginal) Long-term commitment intensions (ns) Relational social norms (-)	Opportunism	NA	TCE Social Exchange Theory	Supplier-Buyer multi-period behavioral simulation
Dahlstrom and Nygaard 1999	Interfirm cooperation (- partial support) Formalization (-)	Franchisor opportunism	NA	TCE Control theory	Franchisee-franchisor relationships in Norwegian distribution system
Kale et al. 2000	(RC) Relational capital (+) (CM) Conflict management (+)	Protection of proprietary assets	Partner fit: complementarity & compatibility Alliance governance Prior alliances Nationality Age	TCE Relational exchange theory Social exchange theory	Strategic Alliances
Hewett and Bearden 2001	Trust (+)	Cooperation (opposite of opportunism)	Subsidiaries sales Industry dummy variables	The commitment-trust theory Social exchange theory	Foreign subsidiaries of U.S.-based global firms

Table 4. Continued

Source	Independent Variables and Hypotheses	Dependent Variable	Control Variables	Theory	Empirical Setting
Carson, Madhok, and Wu 2006	Volatility w/ formal govern. (+) Volatility w/ relational govern. (ns) Ambiguity w/ formal govern. (ns) Ambiguity w/ relational govern. (+)	Supplier opportunism	Reputation Continuity Trust History of relationship Specific assets Duration Number of suppliers Development work Radical innovation	TCE Sociological arguments	Outsourced R&D relationships for NPD – outsourcing R&D suppliers
Heide et al. 2007	(OM) Output monitoring (-) (BM) Behavior monitoring (+) BM x microlevel social contracts for behavior (-) OM x microlevel social contracts for output (-)	Supplier opportunism	Relative firm size Supplier's dependence on the buyer Opportunism at time 1	TCE Reactance theory Social contract theory	Supplier-buyer relationships
Crosno and Dahlstrom 2010	Own transaction specific investments (+) Partner transaction specific investments (ns) Environmental uncertainty (ns) Behavioral uncertainty (ns) Dependence (ns) Centralization (+) Formalization (-) Communication (-) Norms (-)	Opportunism	NA	TCE Resource dependence theory Relational contracting theory	Marketing channel members

Table 5. Definitions of Opportunism

Source	Construct Name	Definition
Williamson 1979	Opportunism	Self-interest seeking with guile
John 1984	Opportunistic Behavior	Deceit-oriented violation of implicit or explicit promises about one's appropriate or required role behavior.
Wuyts and Geyskens 2005	Opportunism	Self-interest seeking with guile; it includes such behaviors as lying and cheating as well as more subtle forms of deceit, such as not fully disclosing information or violating the spirit of an agreement.
Luo 2006a	Opportunism in a cooperative alliance	The act or behavior performed by one party from one country to seek its unilateral gains at the substantial expense of other parties from other countries by breaching contract or agreement, exercising private control, withholding or distorting information, withdrawing commitments or promises, shirking obligations, or grafting joint earnings.
Jayachandran et al. 2013	Postcontractual Opportunism	One party acting in its own self-interest at the expense of the other party and violating expected norms of behavior.

In their multi-method empirical study, Seggie, Griffith, and Jap (2013) examine how active and passive opportunism in interfirm relationships hinder satisfaction with the relationships' performance. In their first experimental study, they show that firms have more tolerance towards passive opportunism than active opportunism. However, their follow up field study reveals that over an extended period of time, passive opportunism has a more detrimental impact on relationship satisfaction than active opportunism. Their second experimental study suggests that active opportunism immediately raises transaction costs and thus the value of the relationship is lowered. If passive opportunism lingers over time, the transaction costs necessary to counter passive opportunism become higher than the transaction costs needed to counter active opportunism. Overall, their findings support the notion that active and passive opportunism uniquely affect performance outcomes (Wathne and Heide 2000).

In his conceptual review of opportunism in inter-firm exchanges in emerging markets, Luo (2006b) differentiates between a strong and a weak form of opportunism. The strong form of opportunism presents itself when an alliance partner directly violates the contract of an alliance. Alliance contracts incorporate norms, clauses, and conditions that each party must follow. Luo (2006b) offers an extensive list of how strong form violations present themselves in practice. The strong form violations of a contract include:

1) deceiving another party in critical information sharing as required by contract
2) stealing joint assets that belong to all exchange parties
3) expropriating critical knowledge or technology that belong to all exchange parties

4) exploiting a partner firm's specific assets or appropriating a partner firm's key personnel or know-how without provision or remedy
5) colluding or bribing another party's personnel (executive or board members) so that collective decisions or activities are undertaken only to the bribing party's own advantage
6) failing to invest various resources, such as technologies, managerial expertise, capital, or human talents as required by contract
7) cheating in recording and disclosing accounting information in search of higher unilateral returns or dividends
8) evading contractual obligations in selling joint products, upgrading technologies, or building distribution channels
9) terminating the contract or agreement without a partner firm's consensus
10) failing to honor contractual liabilities in undertaking collaborative operations or collective activities, such as joint research and development, joint production and marketing, and joint training and management

The weak form of opportunism presents itself when an alliance partner violates existing relational norms that are a common understanding among parties involved in the relationship but that are not explicitly stated in a contract. Examples of weak form opportunism are:

1) terminating unwritten commitments or dishonoring oral promises
2) not adhering to trust-building and equity-exchange principles
3) breaking mutual forbearance and knowledge-sharing rules
4) hiding critical resources needed by another party

5) misrepresenting a party's own abilities
6) standing by unconcerned when another party or joint entity is suffering
7) withholding full effort and cooperation in an ongoing relationship
8) not adhering to explicit or implicit collective controls governing inter-party exchange
9) reacting dishonestly to contractual renegotiations or change
10) making calculated efforts to confuse and manipulate information or incompletely disclose information to another party

Hawkins, Pohlen, and Prybutok (2013) empirically investigate under what circumstances buyers in buyer-supplier relationships engage in strong and weak forms of opportunism. Their findings suggest that when the leader of a buyer's team is opportunistic in nature, engages in willful ignorance, and is characterized as dishonest, then the buyer firm is more likely to engage in weak-form opportunism, but not the strong-form opportunism. The authors argue that "under weak-form opportunism, buyers may feel less accountable and susceptible to punishment" (p. 1273). This is in accordance with the argument that weak-form opportunism is harder to detect since it does not explicitly violate the contract (Luo 2006b). On other hand, the power differential and competitiveness among partners cause buyers to engage in strong-form opportunism, but not weak-form opportunism. This is in accordance with the proposition that uncertainty due to bargaining asymmetry and competitiveness in the relationship is likely to cause the presence of explicit contract violations (Luo 2006b).

All conceptual and empirical research investigating opportunism converges on the fact that rogue-firm opportunism, regardless of the type, has serious consequences

for interorganizational exchange (Luo 2006b); for example, it affects relationship satisfaction (Seggie et al. 2013), financial and strategic performance (Gundlach and Cannon 2010; Luo et al. 2007; Wathne and Heide 2000), and long-term collaboration (Hawkins, Knipper, and Strutton 2009). This perspective is in line with game theory's mixed-motive social dilemma present in the prisoner's dilemma game. Since the prisoner's dilemma game is closely related to relationships existent in the strategic alliances (Parkhe 1993) and since this game's basic arguments are driving most hypotheses that follow in this dissertation, it is useful to review the game here.

Game theory researchers focus on studying factors that can influence levels of opportunistic behavior between two or more parties. Various game types have been investigated (e.g., single- vs. multiple-shot games, full- vs. partial-information available, trust games, prisoner's dilemma, ultimatum game, social goods game, tit-for-tat, and many others), but the most applicable game to strategic alliances is the prisoner's dilemma game. Experimental economists playing out the prisoner's dilemma game and its variants investigate how monitoring (Axelrod 2006), trust (Cox 2004), and social identity (Chen and Chen 2011), among other factors, influence the utility function of each party involved in the game. Thus, prisoner's dilemma application of game theory is very suitable to help explain how these factors affect rogue-firm and deviant-personal opportunism in strategic alliances.

In the prisoner's dilemma game, two players are imprisoned due to a suspicion that they committed a crime. The two players are held in separate jail cells and are unable to communicate with each other. Therefore, each is unaware whether the other did not disclose information about the other's involvement in the crime (i.e., cooperates

with crime partner) or whether the other became a snitch (i.e., defects by acting opportunistically). The authorities have sufficient evidence to convict both players on a lesser charge. If neither player snitches, both will receive a small punishment for the lesser charge. This is equivalent to mutual cooperation (MC). If one of the players decides to snitch while the other remains quiet, the snitch will go free. This is equivalent to unilateral opportunism (UO). Because of the snitch, the cooperative player will receive a heavy sentence. This is equivalent to unilateral cooperation (UC). If both will snitch, both will receive a moderate sentence. This is equivalent to mutual opportunism (MO) (Parkhe 1993). These four scenarios are depicted in a 2 x 2 matrix in Figure 2.

In this game, the order of preferred outcome for each player is UO > MC > MO > UC. Regardless of what the other player decides to do, each player will benefit more from snitching than cooperating, because UO > MC and MO > UC. However, if both players decide to snitch, both will receive a longer sentence than if both would cooperate, because MC > MO. This is why the game is called the prisoner's *dilemma*.

Sentence (P1; P2)		Player 1 (P1)	
		Opportunistic Behavior	Cooperative Behavior
Player 2 (P2)	Opportunistic Behavior	Mutual Opportunism (MO) Sentence (moderate; moderate)	P1: Unilateral Cooperation (UC) P2: Unilateral Opportunism (UO) Sentence (high; go free)
	Cooperative Behavior	P1: Unilateral Opportunism (UO) P2: Unilateral Cooperation (UC) Sentence (go free; high)	Mutual Cooperation (MC) Sentence (low; low)

Figure 2. Prisoner's Dilemma Game

Similarly, the dilemma exists in strategic alliances. On one side, partners to an alliance are motivated to behave opportunistically because of what is known as "learning races" (Kale et al. 2000). Learning races arise from the hidden motive driven by partner-firms' desire to gain access and internalize other partners' know-how faster than the other partners, hence the name learning races. If such opportunistic behavior is unilateral (UO), then the alliance offers a higher return to the opportunistic party than the cooperative alternative (MC) would offer. Thus, the prisoner's dilemma assumption that UO > MC is satisfied in a strategic alliances setting. However, on the other side of the dilemma, alliance partners know that the partner may behave opportunistically as well. Since both partner-firms are expected to behave opportunistically, then both will be hesitant to contribute through cooperation. As a result, the alliance will fail to create value and will be likely to dissolve – this would be an example of MO. Therefore, the MC option starts to look more attractive to partner-firms, because MC > MO. In order to resolve the dilemma in strategic alliances, partner-firms must decide on an effective governance mode. In other words, partner-firms must evaluate the environment within which the alliance exists and access which relational factors are likely to drive the alliance to a prosperous future.

Ultimately, what the prisoner's dilemma game illustrates is that opportunistic behavior appears to be a safer and a more profitable option in the mixed-motive social dilemma scenarios such as strategic alliances (Parkhe 1993). Therefore, opportunism is to some degree always expected in strategic alliances. Opportunistic behavior creates moral hazards (Williamson 1985) which must be preempted with partner monitoring initiatives and/or building relational norms that can govern the exchange relationship.

Whether the nature of the governance mode is more economic (e.g., monitoring), relational (e.g., trust) or psychological (e.g., alliance identity), developing and maintaining it increases transaction costs. Empirical research supports the notion that rogue-firm opportunistic behavior increases transaction costs and, consequently, damages outcomes of the partnership; for example, partner relationship satisfaction (Seggie et al. 2013), financial and strategic performance (Gundlach and Cannon 2010; Luo et al. 2007; Wathne and Heide 2000), and long-term collaboration (Hawkins et al. 2009). Thus, in line with the prisoner's dilemma game and with the conceptual and empirical works in strategic alliance research, it is hypothesized here that,

H1: Rogue-firm opportunistic behavior is negatively associated with alliance performance.

In summary, currently only two conceptually developed typologies of opportunism exist in interorganizational relationships that are actively present in empirical research. There is active and passive opportunism (Wathne and Heide 2000) and there is strong and weak opportunism (Luo 2006b) typology. Both Luo (2006b) and Wathne and Heide (2000) acknowledge that opportunism is a complex phenomenon that deserves additional attention and that future research should devote time to develop additional typologies of opportunism. We must understand dimensionalities of opportunism before we can further clarify some of the contradictory empirical findings in the literature. Therefore, this dissertation addresses the plentiful examples of individual-level opportunism in popular press, social psychology, and organizational behavior theories

by differentiating between rogue-firm (firm-level) and deviant-personal (individual-level) opportunistic behavior. The next section explores deviant-personal opportunistic behavior.

Deviant-Personal Opportunistic Behavior

Opportunistic behavior is also a problem at the individual alliance employee level. This dissertation refers to individual-level misconduct as *deviant-personal opportunistic behavior*. This naming is consistent with the study of deviant workplace behavior in psychology and organizational behavior literature (Zagenczyk et al. 2011).

Deviant behavior is a real organizational threat. Literature reports that anywhere between 33 to 75 percent of all employees engage in some form of deviant behavior (Robinson and Bennett 1995), which is also evident from a national poll in which 48 percent of workers admitted to a behavior that was harmful to either their organization or their co-workers (Litzky, Eddleston, and Kidder 2006). Not only is this a real threat, but it is also a costly one. The financial losses stemming from deviant-personal opportunistic behavior nationwide exceed $200 billion annually and cause 30 percent of all business failures (Bolin and Heatherly 2001).

Robinson and Bennett (1995) define employee deviance as “voluntary behavior that violates significant organizational norms and in so doing threatens the well being of an organization, its members, or both.” Other definitions are consistent with this one, and often this definition is adopted verbatim (Bolin and Heatherly 2001; Litzky et al. 2006). This definition is merged with the definition of opportunistic behavior offered by transaction costs economics to arrive at the definition of deviant-personal opportunistic behavior used in this dissertation. Deviant-personal opportunistic behavior is defined

here as an individual employee's self-interest seeking through devious means that threatens the well being of an alliance, its members, or both.

A seminal typology of deviant workplace behaviors is offered by Robinson and Bennett (1995). The authors used multidimensional scaling technique to investigate similarities across 45 different deviant behaviors. They found that deviant-personal opportunistic behavior can be categorized along two dimensions. The first dimension is concerned with the severity of the behavior. Its anchors are "minor" and "serious" deviant behavior. The second dimension is concerned with who is being harmed by the deviant behaviors. Its anchors are "organizational" and "interpersonal" deviant behavior.

These two dimensions together create four quadrants. The organizational-serious quadrant is labeled "property deviance" and includes behaviors such as sabotaging R&D efforts, accepting kickbacks, lying, and stealing knowledge or technologies from a company. The organizational-minor quadrant is labeled "production deviance" and includes such behaviors as withholding effort, wasting resources, leaving early, and taking excessive breaks. The interpersonal-serious quadrant is labeled "personal aggression" and includes behaviors such as verbal abuse, stealing from co-workers, endangering co-workers, and even sexually harassing others. The interpersonal-minor quadrant is labeled "political deviance" and includes behaviors such as showing favoritism, gossiping, blaming others, and competing non-beneficially. While deviant behaviors from all these quadrants may exist in an alliance setting, the most damaging to the alliance outcomes are the behaviors from the two organizational quadrants. These deviant-personal opportunistic behaviors are likely to create distrust among alliance partners because they can be perceived as aiming directly at the well-

being of the offended partner firm. Thus, the partner may interpret deviant-personal opportunism as rogue-firm opportunism. Consequently, due to deviant-personal opportunistic behavior, the offending partner's reputation will suffer.

An alliance partner-firm's employees assigned to a newly formed alliance can experience a role ambiguity. Among few other triggers, Litzky et al. (2006) point out that role ambiguity could be a trigger of deviant-personal opportunistic behavior. Role ambiguity implies that an employee does not have an adequate level of information about his or her new role. The lack of information creates a sense of uncertainty about the expected behavior in the new role. Consequently, one's job performance may suffer, and employees may respond by behaving opportunistically in order to compensate for the low job performance. The authors point out that role ambiguity can be especially salient for employees who are in boundary-spanner roles. Partner firm employees assigned to an alliance are in a boundary-spanner role where they are viewed as a liaison between their firm and the partner firm.

The deviant-personal behavior of alliance employees can be either self-serving or company-serving. For example, due to the stress from role ambiguity mentioned above or simply due to the competitive nature of an employee, alliance employees are likely to engage in self-serving deviant behavior that improves employees' personal job satisfaction, future job advancements, or plainly a behavior that integrates their job more effectively with their lives. The self-serving deviant behavior is not specifically targeted at one or the other alliance partner as long as the behavior results in personal gain of sorts. Also stemming from the role ambiguity or the competitive nature, employees may behave in a way that they think might be more satisfactory with the

upper management's expectations. However, because of the ambiguity, the interpretation of what is expected may be misjudged, resulting in deviant behavior towards one's own firm or towards the other alliance partner-firm. One's competitive nature is more likely to result in deviant behavior against the other alliance partner-firm in order to attempt to speedily satisfy upper management's performance goals. In summary, whether the deviant behavior is self-serving or targeted against one of the alliance partners, ultimately such behavior can be viewed as a threat to one of the partners. Consequently, such behavior is likely to be met with countermeasures in the form of retaliation or increased costs due to the need to monitor more closely the alliance employees.

The prisoner's dilemma game explains deviant-personal opportunistic behavior similarly to rogue-firm opportunistic behavior because it is conceptualized at both the individual and group level. The offended partner in an alliance may view the deviant-personal opportunistic behavior as a direct threat targeted at its firm. Therefore, as game theory suggests, a defection by one player will be met with a defection of the second player during the next move. Such retaliation in strategic alliances is counterproductive to the alliance, and the outcomes of such retaliation result in loss of profits, poor reputation, less likely future partnerships, increased transaction costs, or even early termination of the alliance (Litzky et al. 2006). In any way, the performance of the alliance suffers, thus:

H2: Deviant-personal opportunistic behavior is negatively associated with alliance performance.

Relational Factors

Controlling opportunistic behavior in a relationship between alliance partners can take on a formal or an informal form (Carson et al. 2006). Formal control is represented by often written contractual safeguards which are enforced by monitoring of exchange partners, while informal control is represented by often unwritten relational contracts and norms (Tiwana 2010). Relational contracts can exhibit themselves through trust or identification with alliance partners. Both formal and relational contracting in strategic alliance settings have proved to be valuable; however, relational contracting so far has not received empirical inspection on par with the empirical inspection of formal contracting (Carson et al. 2006). Moreover, three areas exist in strategic alliances literature that call for more research. First, the majority of existing research has focused on either formal or relational contracting, but not both. As a consequence, theory is unclear whether the two interact or supplement each other (Tiwana 2010). This is supported by the conceptual argument that “neither economic (e.g., monitoring) nor social forces (e.g., relative alliance identity or trust) by themselves suffice in suppressing opportunism; a mix of both will always be more operative and effective” (Luo 2006a, p. 59). In the case of theory of marketing channel relationships, Stern and Reve (1980) similarly criticize that fragmenting the exchange relationship theory into rational economic-based and social behavioral-based arguments, without consideration of their interactions, can produce only a limited knowledge of the phenomenon. Second, organizational identity is practically non-existent in strategic alliances research or in interfirm relationships in general, yet there are calls for incorporating this construct into organizational boundaries and interfirm relationships (Santos and Eisenhardt 2005).

Third, each study about interfirm relationships is often guided by one isolated theory. While there are good reasons to do so, such isolated perspectives also have limited external validity and as a result have constrained the academic conversation about phenomena related to strategic alliances (Santos and Eisenhardt 2005). An empirical response to the points above will contribute by offering an explanation of existing contradictory findings in strategic alliances and interfirm relationships literature in general.

For these reasons, three relationship factors are explored in this dissertation. Specifically, the next section reviews existing literature about and related theories to monitoring, relative alliance identity, and trust. Game theory is utilized throughout the review because it is foundational to the three constructs and their relevant theories. The main effects, the interactive effect between trust and monitoring, and their impact on opportunistic behavior are explored as well.

Monitoring

Transaction cost economics (TCE) draws on the game theory-based argument which suggests that monitoring of alliance partners should aid in suppressing opportunistic behavior (Williamson 1985). The prisoner's dilemma game tells us that monitoring allows an alliance partner to collect evidence of whether the other alliance partner is going to cooperate. Lacking monitoring means lacking information about a partner's likelihood to cooperate; therefore, game theory rationale is for an alliance partner to compete. In game theory terms, monitoring allows the game to be played under the assumption of full information about other's behaviors. More realistically, monitoring attenuates information asymmetry between alliance partners (Eisenhardt

1985). Either way, this argument suggests that monitoring creates conditions where alliance partners can be more cooperative instead of competitive towards each other. As a result, less opportunism exists in the relationship, and, consequently, the alliance can be more profitable. While empirical research of monitoring effects is still relatively scarce (Heide et al. 2007), some evidence of the positive side of monitoring exists in marketing literature.

Definitions of monitoring differ slightly across disciplines and across contextual differences of individual studies. However, in general monitoring can be defined as "an effort made by one party to measure or meter the performance of another" (Heide et al. 2007). A representative set of definitions used across marketing, management, and economics literature is presented in Table 6. In this dissertation, monitoring is defined as procedures designed and incorporated within a strategic alliance relationship by one party to acquire information and ascertain a partner's activities and conduct – adapted from Gundlach and Cannon (2010).

Since formal control is defined with respect to the level of monitoring between two parties (Costa and Bijlsma-Frankema 2007), Anderson and Oliver (1987) draw on formal control literature (Ouchi 1977) to introduce their conceptualization of outcome-based and behavior-based monitoring of sales personnel. Recently their typology was adapted into interfirm relationships (Heide et al. 2007). In strategic alliances, an outcome-based monitoring system (OBMS) can be defined as a monitoring system involving measurements of the visible *consequences* of an alliance partner (Heide et al. 2007). These visible consequences can vary across alliances but often include some form of measuring the timely delivery of a pre-specified objective, delivering accurately

on a given objective, and delivering an expected level of R&D quality. For example, an alliance partner may monitor the quality of components produced by other partners that are necessary to get closer to the ultimate R&D alliance goal of producing new innovative products, technology, or knowledge. Under OBMS, individual partners are left alone to choose how they go about delivering these components, and fairly little direction for each partner is offered about how to achieve the outcomes that are monitored (Anderson and Oliver 1987). Therefore, OBMS is focused on the alliance goals, but it can miss partners' behaviors that may not align with the monitoring partner's corporate mission statement as pertained to, for example, labor practices, supplier relations, customer relations, etc.

Based on the TCE perspective, OBMS has been described as a market oriented flat monitoring system, where competitive forces of the market determine survival (Anderson and Oliver 1987; John and Weitz 1989). In a strategic alliance, if one partner does not meet pre-specified objectives, and builds its reputation as being opportunistic, future participation in potentially lucrative alliances with the same partner, or other firms, will not be possible for the opportunistic firm. Thus, firms that can offer successful outcomes by eliminating inefficient and unattractive processes on their own are more likely to enjoy economic rents out of an alliance setting and participation in future alliances based on their positive reputation of being able to deliver results. These future partnership considerations are referred to in game theory as the "shadow of the future" (Bó 2005; Heide and Miner 1992; Parkhe 1993). However, the need to deliver results no matter what may originate from behaviors that are opportunistic in nature. Thus, there is a need to monitor behaviors.

Table 6. Definitions of Monitoring

Source	Construct Name	Definition
Ferrin et al. 2007	Monitoring	Behaviors conducted by one party to gain information about another party's level of cooperation.
Heide et al. 2007	General Monitoring	An effort made by one party to measure or meter the performance of another.
Heide et al. 2007	Output Monitoring	Measurement of the visible consequences of a partner's actions.
Heide et al. 2007	Behavior Monitoring	Evaluation of the processes that are expected to produce the focal outcomes.
Gundlach and Cannon 2010	Monitoring	Procedures designed and incorporated within an exchange relationship by one party to acquire information and ascertain a partner's activities and conduct.

A *behavior-based monitoring system* (BBMS) is defined as a monitoring system involving evaluation of the *processes* that are expected by management to produce the desired outcomes of a strategic alliance (Heide et al. 2007). Under BBMS, individual partners of an alliance must regularly report to the alliance management about their daily tasks and how they go about completing specified objectives. Alliance management offers specific direction for each partner and monitors each partner's actions and behaviors along the way. For example, under BBMS an alliance partner can monitor other partners by inspecting their production facilities, question their internal business practices, or monitor closely their interactions with potential customers of the

upcoming new product, technology, or knowledge that is likely to result from an alliance. Therefore, BBMS can help partner-firms maintain their corporate mission statement standards by monitoring specific behaviors of other partners. This extensive behavior-based monitoring may, however, un-purposefully cause loss of focus on the outcomes of R&D alliance.

According to TCE, BBMS is suspect due to the attempt to substitute outcome-based with behavior-based performance signals (Anderson and Oliver 1987). BBMS may be viewed as a command-based hierarchical type of control system. Williamson (1981) questions management's motives behind attempts to directly control individual behaviors rather than choosing more objective control measures. He states that such management has egoistic motives instead of desire for the behavior controls to truly provide higher performance. Thus, BBMS may be viewed as opportunistic in nature and cause negative perception of the monitoring by the monitored alliance partner.

The two monitoring systems are an extreme example of a continuum (Oliver and Anderson 1995). Both have advantages and disadvantages that must be carefully considered. BBMS is very qualitative in nature, which can translate into subjective evaluations. The hierarchical aspect of BBMS can quickly become too complex and create organizational paralysis. BBMS can, however, be very valuable when uncertainty among alliance partners exists. Under uncertain conditions, outcomes may be unknown and thus not possible to measure. Therefore, OBMS can be a dangerous option under uncertain conditions. Consequently, alliance partners may behave opportunistically under uncertain conditions without BBMS. On the positive side, OBMS is much more objective in nature and tends to be a less expensive monitoring option that is based on

"survival of the fittest" market oriented principle. Due to these advantages and disadvantages of both monitoring systems, a hybrid monitoring system may offer higher performance outcomes (Oliver and Anderson 1995). Therefore, attempting to maximize one or the other may result in an inferior performance when compared to finding an optimal point between the two. Hence, it is suggested that the focus should be on optimization of the two rather than maximization of one or the other monitoring system (Oliver and Anderson 1995).

In their study, Heide et al. (2007) investigate the effects of monitoring on opportunistic behavior in the interfirm relationship between buyers and suppliers in a building material product category. They find that the effects differ across form of monitoring and based on the context in which monitoring takes place. For the form of monitoring, they consider output and behavior monitoring (Anderson and Oliver 1987). They find that output monitoring decreases opportunism and behavior monitoring increases opportunism. They built their reasoning based on TCE and reactance theories. As stated earlier, output based monitoring is cheaper to implement and a less obtrusive form of monitoring. The opposite is true for behavior monitoring. The monitoring partner has to spend more time, effort, and finances to implement behavior monitoring, and the monitored party perceives such efforts as detrimental to its autonomy and self-controlling entity. Hence, opportunistic behavior increases under behavior monitoring.

Their study has certain limitations, however. First, they assume that output and behavior monitoring is an "either / or" choice, which contradicts with the conceptualization and empirical work of the original authors of the monitoring typology

(Anderson and Oliver 1987; Oliver and Anderson 1995). The original authors point out that both types are often used by any given organization and that future research should focus on finding an optimal point between the two (i.e., optimal ratio) rather than which one is the better or worse option. Second, their study is limited to a very specific product category; thus, their generalizability suffers. The third point is not a limitation per se, but it is important to this dissertation. The authors examine supplier-buyer relationships which have been shown to behave differently from strategic alliances. Thus, their research is informative, but may not generalize into strategic alliances literature.

In their examination of buyer-supplier relationships, Gundlach and Cannon (2010) examine whether verification strategies positively impact partners' performance. They conceptualize verification strategies as monitoring, assurance, and corroboration. Assurance is operationalized as information exchange (e.g., sharing proprietary knowledge, joint planning and sharing costs, supply and demand information), and corroboration pertains to actively monitoring the external market. The most relevant dimension of their verification strategies to this dissertation is monitoring. They operationalize monitoring as formal supplier evaluations through "formal collection of information on product quality, delivery, price, support services, etc., through inspection and evaluation processes" (Gundlach and Cannon 2010, p. 404). Their logic behind their hypothesis is based on TCE. Specifically, they argue that monitoring allows the monitoring partner to make sure that the monitored partner performs as expected and does not deviate from cooperative behavior. However, they do not find support for their positive relationship hypothesis. This lack of support may suggest that monitoring may interact with other relationship factors; thus, research should consider what these

factors may be. Later sections of this chapter will address the possibility of interaction between monitoring and trust.

In summary, game theory and TCE arguments suggest that monitoring can attenuate information asymmetries between alliance partners and therefore lower opportunistic behavior. Also, the continuum between outcome-based and behavior-based monitoring suggests that some optimal point between the two types of monitoring produces more favorable partner behaviors. This point is incorporated into the adapted monitoring scale used in this dissertation. Therefore, it is hypothesized here that:

H3: Monitoring alliance partners is negatively associated with deviant-personal opportunistic behaviors.

H4: Monitoring alliance partners is negatively associated with rogue-firm opportunistic behaviors.

Trust

Trust is an important construct in exchange relationships that influences the behaviors of the partners. Many studies incorporate trust into their conceptual models, yet the precise effects of trust are still not known (Gundlach and Cannon 2010). It is an intricate and elusive construct that is presented in literature with various definitions and dimensionalities. Thus, before investigating the effects of trust on opportunistic behaviors of an alliance, a conceptual review of trust is appropriate here.

Gulati (1995) differentiates between knowledge-based trust and deterrence-based trust. He conceptualizes knowledge-based trust based on previous business experience between two alliance partners. If two partners have had previous business engagements, they have likely learned how trustworthy the other party is. Thus, each party developed knowledge about the other's trustworthiness. Deterrence-based trust is conceptualized based on utilitarian considerations. The expectations of sanctions if one misbehaves can be costly to an alliance partner. The costs are loss of repeat business with the same partner and hindered reputation other market actors allocate to the misbehaved firm, which consequently can create long-term costs of transacting with future potential alliance partners (i.e., game theory's "shadow of the future" mentioned previously).

In their conceptual paper about trust and control in strategic alliances, Das and Teng (2001) differentiate between competence trust and goodwill trust. They view competence trust as "the expectation of technically competent role performance" (Das and Teng 2001, p. 256). This expectation can be based on an alliance partner's demonstrated ability or expertise. The conceptualization is similar to knowledge-based trust (Gulati 1995). Goodwill trust refers to "the expectation that some others in our social relationships have moral obligations and responsibility to demonstrate a special concern for other's interest above their own" (Das and Teng 2001, p. 256).

Williamson (1993) distinguishes between calculative trust and personal trust. Calculative trust, similarly to deterrence-based trust (Gulati 1995), occurs when the trustor chooses to entrust the trustee on the basis of an anticipated utility calculation. Personal trust, similarly to knowledge-based (Gulati 1995) and goodwill (Das and Teng

2001) trust, is based on the trustor's feeling and belief that entrusting the trustee is the right choice.

While dimensionalities of trust have been suggested, at the aggregate level, trust refers to trustor's expectancy of reciprocal behavior of the trustee where a payoff comes for something done or given (Berg, Dickhaut, and McCabe 1995). The definitions of trust vary across studies. However, at the core of each definition is the belief that the other party in a relationship will do as promised or as expected. Therefore, trust is defined here as the perceived credibility that the alliance partner will behave in the best interest of the exchange relationship. Representative definitions of trust from across disciplines are listed in Table 7.

Trust as an antecedent to relational behaviors has consistently been found to be an important factor in relationship marketing literature. However, trust has a bright and a dark side. On the bright side, trust has been shown to be an important relational mechanism. For example, Hewett and Bearden (2001) investigate how multinational corporations (MNCs) manage their global marketing operations. They find that trust between the headquarters of a MNC and its foreign subsidiaries enhances cooperation among the two units and consequently improves performance of the whole organization.

In their empirical investigation of new product alliances, Rindfleisch and Moorman (2001) find support for the hypothesis that relational embeddedness will be positively related to information utilization in new product alliances in the form of new product creativity and new product development speed. They argue that under conditions of relational embeddedness, partners experience higher levels of trust. As a result of trust, there is a higher level of commitment between partners (Morgan and

Hunt 1994), which lowers opportunism. Under a smaller possibility of opportunistic behavior, information can be utilized more effectively. Similar arguments are presented by Moorman, Zaltman, and Deshpande (1992), who find that embedded relations between marketing research firms and their customers improve utilization of the marketing research information generated by the marketing research firms. They operationalize embedded relations in terms of organizational trust.

Şengün and Wasti (2007) test some of the propositions offered by Das and Teng's (2001) conceptual framework of trust, control and risk in strategic alliances. In their investigation of pharmaceutical buyer-supplier relationships, the authors find empirical support that goodwill trust is positively related with willingness to take a performance risk. Same cannot be said about competence trust. They operationalize performance risk in terms of delays in payments and delays in order delivery. They justify their finding by stating that goodwill trust is based on the trustor's perception of the trustee's willingness to return a "favor in tight situations." Therefore, while one might have the ability (i.e., competence) to deliver or pay on time, it does not mean that one is willing to offer that competence because other goodwill or relational ties take precedence. Hence, the definition used here does not necessarily consider an alliance partner's ability, but instead focuses on the credibility or expectation that one can be trusted to not behave against expectations. Relationship marketing theory (Morgan and Hunt 1994) proposes that trust is one of the key antecedents to cooperative behaviors and performance outcomes of an exchange relationship; however, more recent literature suggests that there may be a negative side to trust in an exchange.

Table 7. Definitions of Trust

Source	Construct Name	Definition
Gulati 1995	Trust	A type of expectation that alleviates the fear that one's exchange partner will act opportunistically.
Mayer, Davis, and Schoorman 1995	Trust	The willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party.
Nooteboom, Berger, and Noorderhaven 1997	Trust	Belief or confidence about another party's integrity (including reliability, predictability, and dependability) and/or benevolence (including goodwill, motives, intentions, and caring).
Zaheer, McEvily, and Perrone 1998	Trust	The expectation that an actor (1) can be relied on to fulfill obligations, (2) will behave in a predictable manner, and (3) will act and negotiate fairly when the possibility for opportunism is present.
Geyskens, Steenkamp, and Kumar 1998	Trust	The extent to which a firm believes that its exchange partner is honest and/or benevolent.
Hewett and Bearden 2001	Trust	The perceived credibility and benevolence of a target of trust.
Sarkar et al. 2001	Mutual Trust	The degree of confidence shared by partners regarding each other's integrity.
Krishnan et al. 2006	Interorganizational Trust	The expectation held by one firm that another will not exploit its vulnerabilities when faced with the opportunity to do so.

In their examination of interactive effects between trust and verification strategies in supplier-buyer relationships, Gundlach and Cannon (2010) point out the *dilemma of trust*, which suggests that trust in an exchange partner can also have a dark side. The logic behind the dilemma of trust lies in the realization that trust can be abused. A trusted party to an exchange may justify to itself that behaving opportunistically will not necessarily be viewed by the trustor as a mischievous undertaking since the relationship is built on trust. Gundlach and Cannon's (2010) empirical findings suggest that to achieve higher performance outcomes under high levels of trust, it can be beneficial for the trustor to incorporate some verification strategies. Specifically, they find that frequent information sharing and monitoring of the external market can limit an exchange partner's exposure to the dark side of trust. However, they do not find support for their substitutive interactive effect between trust and monitoring of a partner, suggesting that monitoring of partners and trust are complementary instead (this interaction is explored in a later section).

Anderson and Jap (2005) offer a review of several cases of failed supplier-buyer exchange relationships. They conclude that many of these failed relationships initially benefited from trust; however, at a certain point trust became the culprit behind their failures. They state that "the very factors [trusted & close relationships] that make partnerships with customers or suppliers beneficial can leave those relationships vulnerable to deterioration" (p. 75). Furthermore, they conclude that trust allowed the entrusted suppliers in the relationships to "systematically cheat their clients on an ongoing basis" (p. 77). The business cases reviewed clearly present that the initial benefits of trust-based relationships change into trust-abusing relationships. One of their

examples is especially telling. A supplier of auto parts developed a very close relationship with its automaker customer. They built trust with the customer by encouraging its employees to go to dinners, play football, and go to other social events with employees from the automaker firm. Once trust was established, the purchasing department eased up on its total quality management practices. As a result, the supplier started to cut its production costs by eliminating one of three coats of paint. The cost savings were not shared with the customer. “In this manner, the trust, social relationships and investments that were developed to make the relationship successful became the doorway to the dark side” (Anderson and Jap 2005, p. 77). In trust-based relationships, partners have a better chance of getting away with opportunistic behavior (Selnes and Sallis 2003). This view is supported by Atuahene-Gima and Li (2002) who caution that empirical evidence fails to support the positive relationship between trust and performance and caution that “trust may be in danger of being oversold and inappropriately used in practice” (p. 62).

From the game theory perspective, trust “facilitates cooperation because a party who believes the partner is trustworthy will develop a higher willingness to risk, and therefore in conditions of risk, the party is more likely to engage in risk-taking behavior” (Ferrin et al. 2007, p. 474). In the prisoner’s dilemma game, the riskier but more profitable option is for parties to cooperate. With trust, one is more likely to engage in the riskier proposition due to the belief that the other party will choose to cooperate. This basic idea is also reflected in social exchange theory, where trust is an important relational mechanism that encourages future exchange in a relationship (Morgan and Hunt 1994).

Unlike social exchange theory, game theory goes beyond the bright side of trust and offers an explanation why trust has a curvilinear effect on opportunistic behavior. Game theoreticians consider the trust game theory to explain the curvilinear relationship. The trust game is a variant of the prisoner's dilemma game and is played as follows. There are two parties to a game; one is called the trustor and the other trustee. Both receive some set dollar amount at the beginning of the game. For an example, consider Engle-Warnick and Slonim (2004), who started each party with a $.40 amount. The trustor then has to make a decision to send his $.40 to the trustee or to keep all the money. If he keeps the money, the game ends. If he decides to send the money, then the trustee receives $.80 (double the $.40 to indicate benefit of cooperation). The trustee then has to make a decision to send $.60 (half of his current $1.20) back to the trustor, or he can decide to keep all the money. If the trustee keeps all, the game ends. If the trustee decides to send $.60 back to the trustor, the game goes to a second round. This is isomorphic to a strategic alliances setting where firms have to make a decision whether to disclose know-how, make alliance specific investments, or to sacrifice some other exposure in hopes to make the outcome of an alliance more profitable than an outcome of working individually (this is the doubling of $.40 effect).

The trust game can be a single-shot game, in which case it is almost identical to classical prisoner's dilemma game. However, the trust game can also consist of several rounds. Therefore, trust games are often set up with a certain termination rule, which suggests the expected length of the game. Generally, three decision rules are used in the prisoner's dilemma-like games (Normann and Wallace 2012). Specifically, the

termination rules are (1) *finite horizon* – parties here are aware that the game has a finite number of repetitions; (2) *unknown horizon* – participants do not know the number of rounds in the game; and (3) *random-stopping rule* – participants are made aware that each round comes with some probability of game termination. Most often termination probability used is 0.2, or 20 percent.

Normann and Wallace (2012) find that in social dilemma settings (e.g., strategic alliances), the termination rule does not have a significant effect on average cooperation rates. In other words, on average the same level of opportunistic acts exists across the three termination rules. However, they also find that cooperation over time is affected by the termination rule. Specifically, a known finite horizon and a random-stopping rule with high termination probability reveal negative time trend when it comes to cooperation. This is suggestive of the curvilinear effect of trust on cooperation, where exchange relationships initially benefit from trust-based exchanges; however, over time trust becomes the culprit behind opportunistic acts. This is likely due to both parties' end-game strategies clearly present in the prisoner's dilemma game where the equilibrium exists in the scenario of both parties defecting. Thus, trust initially helps parties overcome the worry of end-game strategy, but ultimately, such strategies take over and the relationship moves to the equilibrium.

Similarly, Engle-Warnick and Slonim (2004) investigate how experience (i.e., repeated supergame) in a trust game affects levels of trust. They consider finite and random-stopping termination rules. They find that the level of trust is the same between the two termination rules when parties to the exchange are inexperienced (i.e., first time playing the game). However, as the two parties gain experience, the level of trust

decreases in the finite horizon game, but does not decrease in the random-stopping horizon game. Moreover, they find that regardless of experience or termination rule, trust level declines over rounds of a game, but it resets when new relationships begin. These findings again point to the curvilinear conceptualization of the relationship between trust and opportunistic behavior. In early stages of the game, trust establishes cooperation, but as the relationship matures, trust is misused towards one's self-interest.

H5: Trust in alliance partners has a U-shaped relationship with deviant-personal opportunistic behavior, such that the intermediate level of trust is most effective at minimizing deviant-personal opportunistic behavior.

H6: Trust in alliance partners has a U-shaped relationship with rogue-firm opportunistic behavior, such that the intermediate level of trust is most effective at minimizing rogue-firm opportunistic behavior.

Relative Alliance Identity

Organizational identity has a rich history in academic literature. Yet, the construct is not often considered in interorganizational research and is non-existent in strategic alliances. Recently, scholars started to call on researchers to consider this construct in organizational boundaries settings such as strategic alliances (Alvesson et al. 2008; Santos and Eisenhardt 2005). Alvesson et al. (2008) argue that "the turn to identity could be regarded as a source of revitalization for existing research areas, novel in that

it continues establishing lines of inquiry by different means" (p. 6). Moreover, organizational identity is regarded as superior to some other theoretical explanations of competition and opportunism (Santos and Eisenhardt 2005). Therefore, organizational identity is incorporated into this dissertation, and it is argued that alliances that enjoy higher levels of *relative alliance identity* will also enjoy lower levels of rogue-firm and deviant-personal opportunistic behaviors.

An individual's identity within a group affects the individual psychologically and behaviorally. From the psychology perspective, group identity helps one to answer the question "Who am I?" This is possible because one's self-image is defined by membership to a certain group (Tajfel 1982). From the behavioral perspective, group identity helps one to answer the question "How should I act?" Once an individual reaches some level of self-identity, then the individual strives to maintain that identity. To maintain their identity, individuals start to behave in ways advocated by the social group with which they identify. It is this behavioral dimension that makes social identity important to organizational studies because organizational identity can influence intergroup opportunistic behavior, conflict, and cooperation (Ashforth and Mael 1989) in a way to maintain a positive identity of self. However, employees can belong to various groups within an organization (Tajfel and Turner 1979), such as marketing, engineering, sales, organizational committee membership, level of management, etc. Similarly, alliance employees can identify with their respective firm or with the alliance. For this reason, capturing *relative* alliance identity as opposed to just alliance identity is a more precise measure of how significant an employee's alliance identity truly is. Fisher, Maltz, and Jaworski (1997) made similar arguments at the functional level within an

organization. Therefore, their definition is adapted here to define relative alliance identity as the extent to which alliance managers feel a sense of connection with the alliance rather than with their respective alliance partner-firm. Definitions related to organizational identity are presented in Table 8.

Marketing literature utilizes the social identity theory in a variety of domains. In the sales management literature, Wieseke et al. (2012) explore how salespeople's identification with their work team versus identification with the organization influences their stereotypes towards the headquarters. Their findings suggest that work team identification cultivates negative stereotyping towards the headquarters more strongly when organizational identity is low. Furthermore, they show that through headquarters stereotypes, team work identification mixed with low organizational identification indirectly impacts sales performance of the sales force. Since negative stereotypes inhibit positive behavior (Ashforth and Mael 1989), together their results show that identification can influence organizational behavior.

Social identity has also been applied in cross-functional research in marketing. Often seen problem in organizations is the communication difficulty between marketing and engineering function. Fisher et al. (1997) offer two factors affecting productive communication behaviors between the two functions. The first is information-sharing norms defined as "organizational guidelines and expectation that foster the free exchange of information between functions" (p. 56). These norms dictate how organizational members should communicate across functions. However, the authors find that in the marketing-engineering interactions, the norms work only in the case where employees identify less with their respective functional area than with the

organization. They find that when employees have high “relative functional identification,” then the effect of organizational norms is muted. The second factor affecting communication behaviors of these two functions are goals that are integrated across the functions. Integrated goals are “superordinate to the interests of individuals … because the achievement of each person is facilitated by the achievement of others” (p. 57). Therefore, in the case of high relative functional identity, integrated goals are a more suitable way to promote productive communication behavior than information-sharing norms. Furthermore, the authors show that productive communication behavior leads to positive communication outcomes. Similarly, the conceptual model of this dissertation suggests that opportunistic behavior will have negative consequences on performance outcomes.

Within the marketing ethics and corporate social responsibility (CSR) literature, Martin et al. (2011) position organizational identity as the mechanism driving responses to institutional pressures and marketing ethics initiatives. They differentiate between authentic and calculative ethical identity. Calculative ethical identity is driven by external motivation to respond to pressures from the market. Such external motives are often viewed by consumers as “greenwashing” and can have a detrimental impact on firm performance. Authentic ethical identity is driven by internal motivation of the organization to do practice in a socially responsible way. Through experimental game theory modeling, the authors show that authentic ethical identity has a more beneficial impact on performance outcomes than does calculative ethical identity. The construct of relative alliance identity is more synonymous with the authentic ethical identity.

Table 8. Definitions Related to Relative Alliance Identity

Source	Construct Name	Definition
Fisher et al. 1997	Relative functional identification	The extent to which managers feel a sense of connection with their function compared with the organization as a whole.
Peteraf and Shanley 1997	Strategic group identity	A set of mutual understandings, among members of a cognitive intraindustry group, regarding the central, enduring, and distinctive characteristics of the group.
Haslam 2004	Social identification	A relatively enduring state that reflects an individual's readiness to define him- or herself as a member of a particular social group.
Homburg, Wieseke, and Hoyer 2009	Customer- and Employee-company identification	The degree to which customers and employees, respectively, identify with a company to fulfill self-definitional needs and the resultant emotional reactions to this identification.
Wieseke et al. 2009	Organizational identification	A process in which leaders instill into followers a sense of oneness with the organization.
Martin, Johnson, and French 2011	Authentic ethical identity	Institutional norm adherence due to internal motivations.
	Calculative ethical identity	Institutional norm adherence due to external motivations.
Wieseke et al. 2012	Social identification	The process by which a group becomes directly linked to its members' sense of self.

Zaheer et al. (1998) investigate supplier-buyer relationships within an electrical manufacturing industry. They find that trust negatively impacts costs of negotiation between partners to the exchange. They argue that negotiations costs decrease when trust exists between partners, because contracts can be written and agreements can be reached more quickly as partners are able to readily arrive at a "meeting of the minds." They argue that the meeting of the minds is possible thanks to a high level of trust. However, it can be argued that their proposition is incorrectly attributed to trust. A meeting of the minds suggests that two parties are closer to being "one" or, in other words, more closely identify with each other. Thus, their conceptualization more closely matches the idea that if two alliance partners can identify relatively more with the alliance than with their own firm, then the alliance is likely to enjoy lower negotiation costs. However, they failed to operationalize meeting of the minds as identity, thus further analysis is warranted.

Organizational identity has been explored in other marketing domains as well. For example, Homburg et al. (2009) find that employee-company identification influences customer-company identification, which ultimately impacts customer loyalty and willingness to pay. Their empirical finding suggests that this path explains loyalty and willingness to pay beyond the more established employee job satisfaction-customer satisfaction path. Organizational identity also influences internal marketing. Wieseke et al. (2009) find that employees' organizational identification (OI) is stronger whenever their leaders' OI is stronger. Moreover, they find that employees' OI improves their performance, and when the leader and the employees have strong OI, their business unit enjoys greater financial performance. Taken together, all the marketing studies

presented here suggest that organizational identity influences organizational members' behavior positively and consequently improves a firm's performance.

Differences between identity and seemingly related constructs. Some may see the relationship marketing literature synonymous with social identity literature. While a majority of scholars have come to a conclusion that the two, in fact, offer distinct perspectives on organizational studies, it is useful to address the concern. Identification with a group can exist even in the absence of interpersonal cohesion, similarity, or interaction. The absence of the relational factors (e.g., trust) does not change the fact that social identification (e.g., relative alliance identity) impacts affect and behavior. A series of laboratory experiments proved that in-group favoritism occurs even without interaction with in-group members or with other out-groups (Tajfel 1982). Explicit random assignment of participants into groups leads to discrimination against out-groups and enhanced cooperation between members of an in-group (Locksley et al. 1980). Social identity is a psychological phenomenon. Members of an in-group "credit the group with a psychological reality apart from their relationships with its members" (Ashforth and Mael 1989, p. 24). Ultimately, relational factors such as trust don't have to be present to have an identity.

Similarly, Homburg et al. (2009) offer conceptual differentiation between customer-company identification and customer commitment. They point out that identification "includes both self-definitional and an emotional meaning for a person" (p.42). Commitment does not cover the psychological oneness and self-definition. A customer may be committed to purchasing a company's product because he or she

does not have any other alternative, but that does not necessarily mean that the customer identifies with a firm.

Santos and Eisenhardt (2005, p. 502) conceptually argue that organizational "identity often dominates" other more established perspectives about organizational boundaries. It is argued here that alliances that are able of reshaping the boundaries of their partners such that the bordering partner boundary weakens, while the outer boundary of the alliance strengthens, will experience a decreased level of both rogue-firm and deviant-personal opportunistic behavior. From a game theory point of view, such reshaping of a boundary creates "identity costs" (Uzea and Fulton 2009) which hurt parties that choose to defect (i.e., be opportunistic) from the prisoner's dilemma game (i.e., the alliance). The authors find that breaking away from the strategic group negatively affects the break-away party's utility. In other words, if an alliance partner behaves opportunistically against the alliance, not only will this partner incur economic costs, but also identity costs. This happens because, for a partner who highly identifies with an alliance, opportunistic behavior is incompatible with the partner's identity. In turn, the possibility of these utility costs (identity costs) deters a party's incentive to swerve from the in-group norms (Akerlof and Kranton 2000).

Additionally to the prisoner's dilemma game, social identity proves to have a positive effect on cooperative behaviors in a variety of game types. For example, low group identity leads to an inefficient equilibrium solution in a minimum effort game (Chen and Chen 2011); in a repeated-play public goods game, a team identity limits shirking and free-riding behavior (Eckel and Grossman 2005); and in bargaining games group identity builds negative out-group opinions which in turn reinforce in-group identity

and consequently improve cooperative behavior among in-group members (McLeish and Oxoby 2007). Considering the game-theoretic and social identity theory (SIT) perspectives, intra-organizational empirical support, and experimental economics support, it is hypothesized here:

H7: Relative alliance identity is negatively associated with deviant-personal opportunistic behavior.

H8: Relative alliance identity is negatively associated with rogue-firm opportunistic behavior.

Interactive Effect between Trust and Monitoring

Gundlach and Cannon (2010) hypothesize that the positive effect of verification strategies on performance is weaker at higher levels of trust. They operationalize verification strategies as a three-dimensional construct that includes (1) monitoring of exchange partners, (2) monitoring the external market, and (3) presence of a certain level of information exchange between partners. The most relevant to this study is the first dimension. Specifically, with this dimension they argue that if one party has trust in another, then there is no need to monitor the trusted party as much. Their hypothesis is based on the logic that monitoring and trust are two substitutive interfirm control mechanisms, hence the expected negative interaction. However, their empirical findings do not support this hypothesis, thus suggesting that the two constructs may be complementary rather than substitutive in nature. The argument for complementary

interaction is supported by the proposition that “in strategic alliances the trust level will exert a moderating effect in a manner so that control mechanisms will achieve a greater level of control in high-trust situations than in low-trust situations” (Das and Teng 1998, p. 503). Similarly, Carson et al. (2006) conclude that formal (i.e., monitoring) and relational contracts (i.e., trust) are not simply substitutive. Game theory also offers a logical explanation of why the interaction between trust and monitoring is of a complementary rather than a substitutive nature.

In the investment game, which is based on the trust game, player A is given $10. Player A is then given an option to keep the $10 or send some amount between $0 and $10 to a player B who is located in a separate room. Player A is also told that whatever amount he or she sends to player B will automatically triple even before getting to player B. Player B is not aware of the tripling effect. Player B is then given an option to either keep all the money or send some amount back. Just like in the prisoner’s dilemma game, the Nash equilibrium would suggest that player A should act opportunistically and not send any money to player B. However, results of this experiment suggest that people will send on average $5.16 to an unknown counterpart in another room trusting that the person will reciprocate and send at least some money back (Berg et al. 1995). In this game, player A does not know player B, does not know the average amount sent by other participants, and does not know the probability of player B sending some amount back. Thus, player A’s decision is solely based on trust and belief that player B will reciprocate cooperatively.

The fact that on average players A send out $5.16 to players B is suggestive of a curvilinear effect between trust and cooperation. If player A would have no trust in

player B, then player A would not send any money. Sending out the whole $10 would be suggestive of maximum trust. The fact that the average of $5.16 is right in the middle of the range is indicative of people's wanting to trust others but being cautious at the same time. In other words, people don't mind trusting others but at the same time would like to verify others' credibility before engaging in more involved cooperative decisions. If information asymmetries would be lowered through monitoring, then that would suggest to player A that he or she can expect an increased level of reciprocity from player B. Consequently, the average amount sent by player A would increase under scenarios of having close to full information about the expected behavior of player B (Berg et al. 1995). This logic lands support for complementary interactive effect between trust and monitoring being superior to a main effect of one or the other. Formally,

H9: The interaction between trust and monitoring will reduce deviant-personal opportunistic behavior beyond the direct effects of trust or monitoring.

H10: The interaction between trust and monitoring will reduce rogue-firm opportunistic behavior beyond the direct effects of trust or monitoring.

Alliance Partner Stability

The internal environment of an alliance, in other words, the relationship stability between two partners, determines the degree of trust, monitoring, and relative alliance identity present between alliance partners. In general, the alliance partner stability is the

degree of stability among factors related to the internal alliance environment as presented by the presence of organizational proximity and presence of partner independence (adapted from Luo 2006b). Alliance partner stability exists under low organizational distance (i.e., organizational proximity) and low dependence on the alliance partner (i.e., independence). Effects of alliance partner stability on the three relational factors (trust, monitoring, and relative alliance identity) are discussed next.

Impact on Monitoring

Lack of stability between alliance partners creates uncertainties that require alliance partners to acquire more information about the environment they operate in to keep the transaction costs down (Luo 2006b). From a game theory perspective, stability is necessary to keep the parties from misbehaving towards each other. Therefore, in the absence of stable conditions, more control is required by incorporating monitoring efforts into the exchange relationship.

Game theory suggests that in strategic alliances the risk arises from unilaterally losing core proprietary know-how to the partner. Alliances are burdened with the hidden motives driven by partner-firms' desire to gain access and internalize other partners' know-how faster than the other partners. This phenomenon is known as "learning races" (Kale et al. 2000). Learning races are intensified when interpartner competition is high, because the party that can learn and absorb knowledge faster can also respond faster and more effectively to the competitive nature of its partner. As a result, alliance partner-firms are prone to increase their monitoring efforts when interpartner competition is high.

Furthermore, horizontal alliances experience more competition among alliance partners then vertical alliances (Rindfleisch and Moorman 2001). As a result of competitive forces among partners, alliance partners must increase their monitoring efforts (Rindfleisch and Moorman 2003) despite the findings that such increased monitoring efforts may damage customer orientation (Rindfleisch and Moorman 2003) or increase the possibility of marketing warfare among partners (Luo et al. 2007) – a closely related concept to the learning races mentioned above. While competition is clearly stronger in horizontal alliances, it can also exist in vertical alliances. Suppliers create alliances with downstream partners who do not offer significant market share, but can offer know-how that may be beneficial to other downstream partners outside of the focal alliance; this is another illustration of the learning races concept in strategic alliances. Taken together, stable conditions where interpartner competition is not present would lower the need to monitor alliance partners because there is no sense of urgency to collect more information about the partner.

It is well established in strategic alliances literature that similar organizational cultures create more certain and predictive conditions between alliance partners (Choi and Lee 1997; Simonin 1999). Such stable conditions result in higher levels of knowledge transfer, which is critical to productive cooperative relationships. Consequently, alliance partners don't have a reason to monitor their alliance partners. On other hand, if organizational differences exist, such differences create internal struggles due to alliance partner firms' differing management styles, marketing practices, and difficult inter-firm communication. Lu and Beamish (2004) find that international alliance partners experience increased levels of "coordination costs." Their

argument is based on differing organizational and national cultures. Moreover, Sirmon and Lane (2004) argue that in international joint ventures it is the organizational culture differences that impact the joint venture performance more than national culture. Overwhelmingly, existing literature supports the idea that organizational distance between business partners results in increased levels of partner monitoring.

In summary, alliance partner stability decreases the need to monitor alliance partners, because stable conditions – lack of competitiveness between partners, organizational proximity, and partner independence – do not require heightened alertness in the form of increased levels of partner monitoring. Stated formally:

H11: Alliance partner stability is negatively associated with monitoring.

Impact on Trust

Prior alliance research suggests that firms in competitor-dominated alliances display lower levels of mutual trust than firms in channel-dominated alliances (Bucklin and Sengupta 1993). This weakened level of trust arises from firms in competitor-dominated alliances facing a higher potential for opportunism that is present due to the competitive forces existent among partners of a competitor-dominated alliance (Rindfleisch and Moorman 2003). The competitive forces among alliance partners signal threats to the alliance that create unstable conditions in the relationship.

As stated previously, working with alliance partners that have different organizational cultures creates liabilities due to coordination costs (Lu and Beamish 2004). Different cultural norms and values dictate different social relations norms.

Literature recognizes several categories of organizational cultures. The most often cited are clan, adhocracy, market, and hierarchy (Moorman 1995). Similarly to national cultures, the more collectivistic cultures are expected to act more cooperatively then individualistic cultures, and some cultures tolerate more uncertainty and instability than others (Hofstede 1980). It is easier to rely on trust in collectivistic cultures because by definition one can expect more relational types of behaviors. On other side, trust may be harder to come by in individualistic countries.

In his seminal work about alliance partner familiarity and trust, Gulati (1995) finds empirical support for the hypothesis that familiarity with an alliance partner improves trust. In other words, partnering with a partner who has a proven record improves trust, because the proven record creates stable conditions within which the relationship can flourish. Stated formally:

H12: Alliance partner stability is positively associated with trust.

Impact on Relative Alliance Identity

Social identity theory maintains that the motives behind one's identification with a certain social group can be due to the desire to achieve self-enhancement (Tajfel and Turner 1979), but also due to desire to reduce social uncertainty (Grieve and Hogg 1999). Uncertainty identity theory, an extension of SIT, suggests that one's identification with a social group (i.e., a strategic alliance) can be a direct response to perceived uncertainty from the social context (Hogg 2000). Similarly, game theory states that the magnitude of the identity costs depends on the context salience (Akerlof and Kranton

2000; Uzea and Fulton 2009). This suggests that salience of any instability between partners influences the magnitude of identity costs. In the context of this dissertation, lack of alliance partner stability can be viewed as a source of uncertainty that can determine an alliance employee's degree of identity with the alliance.

The presence of uncertainty between partners can destabilize the alliance identity. Strategic alliances literature often cites three sources of partner instability. First is the interpartner competition. If the partners themselves are competitors, as is the case in horizontal alliances, then there is a stronger sense of internal competitive intensity than in the case of vertical alliances (Luo et al. 2007). In this case, it is expected that individual actors will identify more with their firm rather than with the alliance.

The second source of instability is due to organizational distance among the alliance partners. "The underlying values and attitudes of different cultural groups can influence the behavior of those groups, as well as the nature of decisions they make" (Hewett and Bearden 2001). Empirical studies exist linking cultural distance (Hofstede 1980) to level of cooperativeness among two parties from different national cultures (Chatman and Barsade 1995; Li et al. 2010; Williams et al. 1998). Organizational distance is also more closely associated with the most significant dimension of organizational identity – distinctiveness. Ashforth and Mael (1989) state that distinctiveness in values, beliefs, and social norms of a group in relation to those of comparable groups enhances identity with an in-group. Organizational cultures have distinctive values, beliefs, and social norms. Thus, managers are less likely to identify with the alliance and more with their firms when there is a significant organizational

distance between alliance partners. Therefore, organizational proximity is viewed here as one indicator of alliance partner stability that can enhance relative alliance identity.

The third potentially destabilizing factor is the degree to which an alliance partner is dependent on the other. If one party is dependent on another, the dependent party tends to lose its autonomy and power to decide for itself (Geyskens et al. 1996). Such loss of autonomy can result in less identification with the power-wielding partner. Also, the power-wielding partner may see an opportunity to act opportunistically against a partner whose defenses are weakened due to being dependent on the partner. Together, the three sources of alliance partner stability will help social actors of the alliance to strongly identify with the alliance. Stated formally:

H13: Alliance partner stability is positively associated with relative alliance identity.

Table 9 below offers a summary of hypotheses introduced in this chapter. Table 10 offers summary of construct definitions used in the conceptual model of this dissertation and in the hypotheses of this dissertation.

Table 9. Summary of Hypotheses

Hypothesis 1	Rogue-firm opportunistic behavior is negatively associated with alliance performance.
Hypothesis 2	Deviant-personal opportunistic behavior is negatively associated with alliance performance.
Hypothesis 3*	Monitoring alliance partners is negatively associated with deviant-personal opportunistic behaviors.
Hypothesis 4	Monitoring alliance partners is negatively associated with rogue-firm opportunistic behaviors.
Hypothesis 5*	Trust in alliance partners has a U-shaped relationship with deviant-personal opportunistic behavior, such that the intermediate level of trust is most effective at minimizing deviant-personal opportunistic behavior.
Hypothesis 6*	Trust in alliance partners has a U-shaped relationship with rogue-firm opportunistic behaviors, such that the intermediate level of trust is most effective at minimizing rogue-firm opportunistic behavior.
Hypothesis 7*	Relative alliance identity is negatively associated with deviant-personal opportunistic behaviors.
Hypothesis 8*	Relative alliance identity is negatively associated with rogue-firm opportunistic behaviors.
Hypothesis 9*	The interaction between trust and monitoring will reduce deviant-personal opportunistic behaviors beyond the direct effects of trust or monitoring.
Hypothesis 10*	The interaction between trust and monitoring will reduce rogue-firm opportunistic behaviors beyond the direct effects of trust or monitoring.
Hypothesis 11*	Alliance partner stability is negatively associated with monitoring.
Hypothesis 12*	Alliance partner stability is positively associated with trust.
Hypothesis 13*	Alliance partner stability is positively associated with relative alliance identity.

*hypotheses not previously explored in the extent literature

Table 10. Construct Definitions

Construct	Definition
Strategic Alliances	Collaborative exchange relationships between two or more firms to gain a competitive advantage from joint efforts, risk sharing, and meeting complex market demands.
Rogue Opportunism	An alliance partner's own self-interest seeking and violations of expected norms of behavior at the expense of other alliance partner.
Deviant-Personal Opportunism	An individual alliance employee's self-interest seeking through devious means that threatens the well-being of an alliance, its members, or both.
Monitoring	Procedures designed and incorporated within a strategic alliance relationship by one party to acquire information and ascertain a partner's activities and conduct.
Trust	The perceived credibility that the alliance partner will behave in the best interest of the exchange relationship.
Relative Alliance Identity	The extent to which alliance managers feel a sense of connection with the alliance rather than with their respective alliance partner-firm.
Alliance Partner Stability	The degree of stability among factors related to the internal alliance environment as presented by the lack of interpartner competition, presence of organizational proximity, and presence of partner independence.

CHAPTER III: METHODOLOGY

The purpose of this chapter is to present the method that was used in this research. This chapter consists of two sections. The first section details the multi-period behavioral simulation that was used to collect and analyze Study 1 data. A general overview is provided, the sample is described, the data collection procedure is explained, the measurement technique is discussed, and the analytical techniques for testing hypotheses are reviewed. The second section explains the methodology that was used to analyze cross-sectional data in Study 2. Similarly to Study 1, a general overview is provided, the sample is described, the data collection procedure is explained, the measurement technique is discussed, and the analytical techniques are reviewed.

Study 1: Behavioral Simulation of Supplier-Buyer Relationships

To gain more realism from studies on exchange relationships, it is useful to analyze data collected from a behavioral business simulation. Exchange relationship environments that mimic a true business environment are valuable for studying exchange behavior such as opportunism (Achrol, Reve, and Stern 1983). Research in marketing has employed a variety of simulation techniques to study exchange relationships (Gundlach et al. 1995). A marketing channel simulation by Cadotte (1990) has been successfully utilized in marketing research studying phenomena related to business-to-business relationships (Arias-Aranda 2007; Gundlach et al. 1995; Gundlach and Cadotte 1994). This simulation has been identified as the most relevant to the phenomenon of interest that is explored in this study.

Research Setting

The multi-period behavioral simulation closely mimics vertical strategic alliances between suppliers and resellers of microcomputer industry in its early stages of development. The simulation data together with a survey can capture individual partners' strategic decisions, contractual arrangements, strategic behavior, and the outcomes of the relationship. Moreover, the contractual arrangements range from arm's length to long-term relational contracts, which can be very useful when assessing some of the constructs of interest here.

Sample

Senior undergraduate students in marketing participated in the simulation. The participants were enrolled in a capstone marketing strategy class across several major U.S. based universities during the fall 2014 and spring 2015 semesters. Students within any given class were randomly assigned to a group of four or five member teams. Each team was then randomly assigned to be a manufacturer or a reseller of microcomputers. Prior to initiating the simulation itself, each team self-selected its members' role responsibilities. Each member chose primary and secondary role responsibilities from the following options: president, supply chain relationships, marketing & marketing research, sales management, purchasing, and accounting & finance. In total, the sample consisted of 228 potential respondents. This sample size ultimately produced 134 evaluated relationships between suppliers and resellers (refer to Chapter 4 for more details).

Procedure

A survey was administered to participants prior to the last cycle (i.e., prior to the last business quarter being processed). The survey was administered during this time to allow for an in-simulation monetary incentive that was reported on each team's financial statements after the last business quarter was processed. Performance data was obtained from the objectively collected data through the simulation itself. The survey data along with performance data available from the simulation were then analyzed.

Measurement: Alliance Partner Stability

As stated in Chapter 2, alliance partner stability is the degree of stability among factors related to the internal alliance environment as presented by the presence of organizational proximity and presence of partner independence (adapted from Luo 2006b). Alliance partner stability is measured as a composite score of these two dimensions.

Organizational Proximity. An adaptation of Simonin's (1999) measure was used to capture similarities in alliance partners' organizational cultures. The measure is a 7-point Likert scale consisting of three items. Specifically, the items are (1) the management style of your partner is very similar to the management style of our firm; (2) the business culture of your partner is very similar to ours; and (3) the business practices of your partner are very similar to the business practices of our firm.

Partner Independence. An adaptation of Sivadas and Dwyer (2000) measure was used to capture the degree to which partners were independent from each other. The measure is a 7-point Likert scale consisting of three items. Specifically, the items are (1) this partner provided vital resources we would find difficult to obtain from other

resellers; (2) It would have been difficult to replace this partner; and (3) Our strategic objectives would suffer greatly if we would have lost this partner. Since it was of interest to capture independence rather than dependence of alliance partners, reverse coded values were used for analysis purposes.

Measurement: Relational Factors

Trust. The measure of trust was adapted from the Hewett and Bearden (2001) adaptation of the Doney and Cannon (1997) scale. The measure is a 7-point Likert scale consisting of six items. Specifically, the items are (1) this partner kept promises it made to our firm; (2) this partner was not always honest with us (R); (3) we believe the information this partner provided to us; (4) this partner was trustworthy; (5) this partner was genuinely concerned that our supply chain relationship succeeds; and (6) Our firm trusts that this partner kept our best interests in mind.

Monitoring. A combination of existing measures of monitoring was adapted from sales literature (Anderson and Oliver 1987) and supplier-buyer relationships literature (Gundlach and Cannon 2010; Heide et al. 2007). Anderson and Oliver's (1987) measure of monitoring efforts is within the sales management literature. Their measure was adapted and brought into supplier-buyer relationships literature by Heide et al. (2007). Gundlach and Cannon (2010) developed their own measure of monitoring of B2B exchange relationships. While not one of the three measures on its own translates well into the context of this dissertation, combining the three measures together offered a strong starting point for a measure of monitoring strategic alliance partners. The measure used here is a 7-point Likert scale consisting of four items. Specifically, the respondents were asked how much their firm monitored their business partners across

the following dimensions: (1) overall investment in the relationship; (2) level of cooperation; (3) activities outside of our supply chain relationship; and (4) response speed when undergoing contract negotiations.

Relative Alliance Identity. This measure was adapted from Fisher et al. (1997) and Wieseke et al. (2012). The measure is a 7-point Likert scale consisting of five items. Specifically, the items are (1) seeing both our firm and [partner name] succeed would feel more satisfying than seeing only our firm succeed; (2) attacks by other firms on [partner name] would feel like attacks on our own firm; (3) someone praising our relationship with [partner name] would feel like a personal compliment; (4) if I had to make a choice between doing what was best for my firm or for the supply chain relationship with [partner name], I would do what was best for the relationship; and (5) when I talked with other about the relationship with [partner name], I usually say “we” rather than “they.”

Measurement: Rogue-Firm and Deviant-Personal Opportunism

Rogue-firm Opportunism. Several operationalizations of opportunistic behavior exist in literature. The differences stem predominantly from contextual variations. While not one measure of opportunism seems to dominate in the literature, all the measures share some commonalities. The measure used in this dissertation is adapted from Gundlach et al. (1995) for three reasons. First, this measure captures the shared commonalities in a most effective manner. Second, the authors study buyer-supplier exchange relationships. The relationship between buyer and supplier is most often the relationship represented in vertical alliances. Vertical alliances are the studied sample here. Third, the authors utilize their measure in the same multi-period behavioral

simulation used in this study. Thus, using a measure that is proven to work in the same simulation environment is warranted. The measure is a 7-point Likert scale consisting of four items. Specifically, the items are (1) this partner exaggerated needs to get what it desires; (2) this partner was not always sincere; (3) this partner altered facts to get what it wanted; and (4) This partner breached agreements to its benefits.

Deviant-Firm Opportunistic Behavior. Individual alliance employees engage in opportunistic behavior passively or actively. Individuals who engage in passive opportunistic behavior don't seek out such behavior, but instead when an opportunity presents itself they don't necessarily do anything to correct their behavior. On the other hand, individuals who actively behave in an opportunistic manner seek out relationship arbitrages that hurt some other employee or party involved in the exchange. To capture this passive and active dimension of opportunism, a measure from Seggie et al. (2013) was adapted here. Some adaptation was necesary because their research investigates passive and active opportunism at the partner-firm rather than individual level. The measure is a 7-point Likert scale consisting of five items. Specifically, the items are (1) people delivered on their promises; (2) people offered their best effort to make the relationship work; (3) people responded in timely manner to our inquiries; (4) people provided truthful information to us; and (5) people followed closely their verbal agreements with our firm.

Measurement: Outcomes

Performance outcomes were measured using two measures obtained directly from the objective simulation data: (a) partner's return on assets (ROA) and (b) partner's gross profit resulting from the focal relationship. The ROA measure was

obtained from the financial statements of each firm. The end of the simulation ROA was used here (i.e., ROA after the last business quarter was processed). The gross profit from the focal relationship was computed as the revenue minus the cost of products sold as a result of a specific relationship rather than just an overall firm's gross profit that covers business dealings across various relationships. Strategic alliance research often relies on perceptual measures of performance because it is difficult to obtain objective data for a specific alliance. This is an often noted limitation of strategic alliance research. It is a limitation of Study 2 in this dissertation as well (refer to Study 2 section below). However, the use of the business simulation is very helpful in this regard since it is possible to obtain objective performance data not only at the firm level but at a business relationship level. Unstandardized beta coefficients are reported in Chapter 4 because the objective data allow for direct interpretation of the beta coefficients. In the case of ROA, the beta coefficient represents a percentage change in the ROA for each additional unit of deviant-personal or rogue-firm opportunism. In the case of gross profit, the beta coefficient represents the gross profit dollar change for each additional unit of deviant-personal or rogue-firm opportunism.

Measurement: Controls

Universe Quarters. This variable is used to control for number of simulated business quarters in the simulation. The simulations used by professors across the US come in two different versions. One version is four quarters long, and the other version is six quarters long. All other aspects of the simulation are identical. The length of the simulation could affect financial outcomes as well as the relational variables examined here. Therefore, this control variable is warranted.

UniverseID. This variable is used to control for possible differences due to number of different class sections. Each simulation session is referred to by the management team of the simulation and by the simulation coaches as a universe. Often, one universe exists per each class. The data was collected across various classes from various US-based universities. These location variations could introduce variance within the collected data. Controlling for this potential noise will minimize the error term in the analysis.

Analysis

Structural equation modeling in AMOS version 20 was utilized to assess the measurement model. SEM is the appropriate technique used to purify the measurement items for each of the constructs shown in the conceptual model of this dissertation (Figure 1 in Chapter 1). A measurement model seeks to evaluate how well the observed indicators (survey data points) serve as a measurement instrument for the latent variables depicted in the conceptual model of this dissertation. This statistical technique allows the testing of construct validity (i.e., convergent validity, and discriminant validity) within a single research study (Garver and Mentzer 1999) by utilizing confirmatory factor analysis.

Previous studies utilizing this specific business simulation that investigated business-to-business relationships successfully utilized multiple regression technique (Gundlach et al. 1995; Gundlach and Cadotte 1994). For this reason, hierarchical linear regression was also used here to analyze the hypothesized relationships in SPSS version 22. In addition, as conceptual models become more complex, it becomes difficult to assess which terms in the regression models drive the explanatory power of

the model. Hierarchical linear regression (HLR) can be used in such instances to help identify which terms of the regression models make a significant statistical and practical contribution to the conceptual model. HLR is often used to compare successive regression models and to determine the significance that each of the terms introduced in any successive regression model has above and beyond the formal model. Each HLR model introduces a new set of regression terms in addition to the previous model in a hierarchical manner.

Study 2: Cross-Sectional Examination of Strategic Alliances

This study examines the hypothesized relationships across a cross-sectional sample of strategic alliances. Specifically, the interest is to examine (1) contextual factors that affect the presence or the need for the relational factors, (2) the direct effects and the interaction between trust and monitoring on rogue-firm and deviant-personal opportunistic behavior, and (3) the impact of opportunistic behaviors on alliance partner performance. Hierarchical linear regression is used to analyze the hypotheses.

Sample

The sample frame for this study came from the Securities Data Company (SDC) Platinum database. SDC database is the most extensive and most reliable secondary database utilized in empirical research of strategic alliances (Schilling 2009). The sample frame consists of strategic alliances that were in existence as of January 1st, 2014 and did not dissolve prior to December 31st, 2014. Study 1 data collection took

place during February and March of 2015. This time lag will allow the capture of outcome variables for fiscal year 2014.

The starting sample size consisted of 1,944 strategic alliances where both partners were from the US. The US based partners-only sample was considered for two reasons. An international sample would introduce unnecessary noise in the data due to different national cultures. The data needed for calculating the environmental dynamism control variable and variables used to analyze endogeneity concerns (See Chapter 4) are readily available only for US industries. The sample consisted of strategic alliances that were established between January 1st, 2010 and December 31st, 2014 and still met the criteria mentioned above. Data collection continued until a sample size of 180 completed responses was established. Considering similar data collections attempts in strategic alliances literature (e.g., Rindfleisch and Moorman 2003; Sartor and Beamish 2014), this sample size is sufficient to allow for empirical evaluation of the conceptual model presented in this dissertation.

Procedure

Existing research utilizing secondary datasets to study partner-level and alliance-level constructs is plentiful (e.g., Sampson 2007). However, secondary data alone does not offer proper proxies for studying individual-level variables such as deviant-personal opportunistic behavior and even some firm-level relational constructs. This may be another reason why opportunistic behavior at the individual level has been ignored in the existing literature. To assess both rogue-firm and deviant-personal opportunistic behavior, the secondary SDC data was combined with a primary survey data collection. Secondary alliance databases in combination with primary data collection techniques

such as surveys have been used in prior research successfully (Krishnan et al. 2006; Li et al. 2010).

The survey instrument was constructed utilizing the measures from Study 1. Minor adjustments were made to some of the measures in order for the measures to be more suitable for the context of this study. The changes predominantly consisted of minor wording edits that did not change the meaning of the original items. Face validity of the wording changes was discussed among academic experts. Based on their input, the survey instrument was appropriately adjusted and finalized.

Dun & Bradstreet (D&B), Mergent Database, Ward's Business Directory of US Private and Public Companies, corporate websites, or SEC filings were utilized to collect contact information for each of the partner firms represented in the final sample of strategic alliances. A key informant from each partner firm from the sample was identified, contacted, and prequalified by an email (Campbell 1955). This approach helped with (1) assessing whether the key informant is highly knowledgeable about the specific alliance, (2) obtaining cooperation, and (3) verifying the informant's email. It was expected that some of the key informants were no longer working with the firm participating in a respective alliance, while others were not interested in participating in the study. This expectation ultimately eliminated some alliance partner firms from the sample (refer to Chapter 4 for more details). However, the vast number of alliances established during the time frame considered ultimately provided a sufficient sample size.

To help increase the response rate, each participant was promised the following monetary and non-monetary incentives:

1) $20 towards St. Jude Children's Research Hospital.
2) Respondents were assured that their individual responses would stay highly confidential and that the researchers would adhere to a strict university data collection policy.
3) Anonymity was also promised to respondents. However, in order to donate the $20 towards St. Jude Children's Research Hospital, respondents' names and email addresses were collected and disclosed through the survey to the primary researcher only.
4) A summary of generalized findings was offered to each respondent.

Measurement

The measurement section is split into five sections describing variables of interest from left to right on the conceptual model depicted in Chapter 1. Specifically, the sections are alliance partner stability, relational factors, opportunism, outcomes, and controls.

Measurement: Alliance Partner Stability

As stated in Chapter 2, alliance partner stability is the degree of stability among factors related to the internal alliance environment as presented by the presence of organizational proximity and presence of partner independence (adapted from Luo 2006b). Alliance partner stability is measured as a composite score of these two dimensions.

Organizational Proximity. Adapted Simonin's (1999) measure was used to capture similarities in alliance partners' organizational cultures. The measure is a 7-

point Likert scale consisting of three items. Specifically, the items are (1) the management style of our alliance partner is very similar to the management style of our organization; (2) the corporate culture of our alliance partner is very similar to ours; and (3) the business practices of our alliance partner are very similar to the business practices of our organization

Partner Independence. The measure was adapted from the dependence measure established by Sivadas and Dwyer (2000). The measure is a 7-point Likert scale consisting of three items. Specifically, the items are (1) our alliance partner provided vital resources we would find difficult to obtain elsewhere; (2) it would be difficult to replace our alliance partner; and (3) our strategic objectives would suffer greatly if we would lose our alliance partner. Since it was of interest to capture independence rather than dependence of alliance partners, reverse coded values were used for analysis purposes.

Measurement: Relational Factors

Trust. The same measure as in Study 1 was used to capture trust in an alliance partner. It is a 7-point Likert scale consisting of six items. Specifically, the items are (1) the alliance partner firm keeps promises it makes to our firm; (2) the alliance partner firm is not always honest with us (R); (3) we believe the information that the alliance partner firm provided to us; (4) this alliance partner firm is trustworthy; (5) the alliance partner firm is genuinely concerned that our alliance succeeds; and (6) our firm trusts that the alliance partner firm keeps our best interests in mind.

Monitoring. The same measure as in Study 1 was used here to capture monitoring of alliance partners. Small wording edits were required to translate the items

into the context of this study. For example, the reference to the simulation's "supply chain relationship partner" was replaced with "partner" to better reference the alliance partner that the respondents were thinking of while taking the survey. The measure is a 7-point Likert scale consisting of four items. Specifically, the items are (1) partner's overall investment in the relationship; (2) partner's level of cooperation; (3) partner's activities outside of the relationship; and (4) response timeliness of the partner.

Relative Alliance Identity. The same measure with slight changes was used here as in Study 1 to capture relative alliance identity. It is a 6-point Likert scale consisting of five items and anchored by "my firm" and "the alliance." Using these anchors forced respondents to cognitively recognize which organization they identify with more – the firm or the alliance. The items used here are (1) [my firm/the alliance]'s successes are my successes; (2) when someone criticizes the colleagues in [my firm/the alliance], it feels like a personal insult; (3) when someone praises [my firm/the alliance], it feels like a personal compliment; (4) if I had to make a choice between doing what was best for my firm or for the alliance, I would do what was best for [my firm/the alliance]; and (5) when I talk about the colleagues in [my firm/the alliance], I usually say "we" rather than "they."

Measurement: Rogue-Firm and Deviant-Firm Opportunism

Rogue-Firm Opportunism. The same measure as in Study 1 was used to capture rogue-firm opportunism in an alliance partner. It is a 7-point Likert scale consisting of four items. Specifically, the items are (1) our partner firm exaggerated needs to get what it desires; (2) our partner firm is not always sincere; (3) senior management at the

partner firm alters facts to get what it wants; and (4) our partner firm breaches formal or informal agreements to its benefits.

Deviant-Personal Opportunistic Behavior. The same measure as in Study 1 was used to capture deviant-personal opportunism. It is a 7-point Likert scale consisting of five items. The following preamble was used to introduce the items: "To what extent would you agree/disagree that certain individuals from the partner firm …" Then, the items that followed are (1) … do not deliver on their promises; (2) … withhold effort; (3) … responded in timely manner to our inquiries (R); (4) … provide false information; and (5) … breach agreements to benefit personally.

Measurement: Outcomes

Alliance Financial Performance. To capture the alliance financial performance, a commonly used measure in the business-to-business relationship literature was used here (e.g., Hewett and Bearden 2001). Specifically, this measure captures market share, sales, return on assets (ROA), profit margin, and return on investment (ROI). Considering that objective alliance performance data is not readily available to academia, perceptual measures of alliance performance is a suitable option. Perceptual alliance performance measures are well accepted in strategic alliances research (Sarkar et al. 2001).

Alliance Strategic Performance. A measure from Sarkar et al. (2001) was utilized to capture the alliance strategic performance. Specifically, this perceptual measure captures the degree to which it is anticipated that strategic objectives of an alliance will be met. It is a 7-point Likert scale consisting of three items. Specifically, the items are (1) during the last year, the collaboration provided a great opportunity to learn from our

partner firm; (2) collaborating with this alliance partner firm during the last year was a wise business decision; and (3) our strategic objectives set for this alliance for the year 2014 were achieved.

Measurement: Controls

Alliance Governance Mode. TCE suggests that the level of risk (i.e., opportunistic behavior) from transactional hazards depends on whether an alliance is a non-equity (i.e., market organization) or equity (i.e., hierarchy organization) based alliance. Alliance governance mode was operationalized as a binary variable, where non-equity alliances were coded with 0 and equity alliances were coded with 1. The data were collected from the SDC database.

Environmental Dynamism. The primary focus of this dissertation is to estimate how various relationship-related constructs affect opportunistic behaviors, because existing literature in strategic alliances offers still relatively limited research in this area. However, existing research is abundant on the topic of business environment and how it affects the structuring of alliances and behaviors of alliance partners. For this reason, environmental dynamism must be controlled for in this dissertation. Environmental dynamism is a composite measure of competitive intensity in the market (Ang 2008) and market uncertainty (Li et al. 2010).

To capture competitive intensity in the market, the formula offered by Ang (2008) was adapted here. First, a 4-digit SIC code for the alliance was obtained from the SDC database. Second, data regarding the market size within the industry (in terms of sales) was recorded. Third, data regarding the number of competitors within the 4-digit SIC code was recorded. Both the industry sales and number of competitors' data points

were obtained from the *First Research Mergent* database. Fourth, competitive intensity was computed by dividing the market size by the number of competitors within the industry. Fiscal year 2014 was considered for this computation.

Market uncertainty is defined at time *T* as the standard deviation of the monthly return of the value-weighted industry *i* portfolio from time *T-120 months* to time *T.* Time *T* was set to January 1st, 2014 since this was the beginning of the fiscal year considered for the outcome measures. "Monthly stock return data are available for various industries from Kenneth French's website (http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/)". An SIC code for the alliance was obtained from the SDC database and used to identify the correct industry for the monthly stock return data from Kenneth French's website. This measure has been successfully applied in strategic alliances research. Li et al. (2010) used this measure of market uncertainty to capture external threats to strategic alliances. This measure offers a sense of a volatility in the market due to changing wants and needs of customers within that industry (Li et al. 2010; Robinson 2008).

As mentioned previously, environmental dynamism is a composite score of the two dimensions. To create the composite score, both variables were first standardized since each utilizes a different scale. Z-scores were calculated for each variable and then added together to get at environmental dynamism.

Appendix A presents the items used in a survey for Study 1 and Study 2 in a more readable tabular form.

Analysis

Hierarchical linear regression was used to analyze the hypotheses. As conceptual models become more complex, consisting of several direct effects of independent variables and possible interactions, it becomes difficult to assess which terms in the regression models drive the explanatory power of the model. However, as theory and practical considerations narrow down the list of variables and focus the conceptual model, hierarchical linear regression (HLR) can then be used to help identify which terms of the regression models make a significant statistical and practical contribution to the conceptual model. HLR is often used to compare successive regression models and to determine the significance that each of the terms introduced in any successive regression model has above and beyond the formal model. Each HLR model introduces a new set of regression terms in addition to the previous model in a hierarchical manner.

CHAPTER IV: DATA ANALYSIS AND RESULTS

This chapter presents the analysis and results of the dissertation. The chapter is divided into two main sections, one detailing Study 1 and the other Study 2 analysis and results. In Study 1, sample characteristics are first presented followed by the measurement model. The measurement model sub-section checks for validity and reliability of each measure used in both studies. Lastly, the hypotheses' tests and results are offered using hierarchical linear regression. In Study 2, the sample characteristics are presented first. Second, an endogeneity test of the relational factors variables is presented to check for a potential reverse causality concerns. Then, the hypotheses' tests and results are offered using hierarchical linear regression.

Study 1 Analysis

Sample Characteristics

The data was collected through undergraduate student participation in a web-based business simulation designed for supply chain management capstone business courses. The simulation exposed students to various aspects of managing strategic relationships with supply chain business partners. The strategic relationships consisted of suppliers and resellers. Each company, whether a supplier or a reseller, consisted on average of four students.

Students participating in the simulation were located at universities across the United States. Students who participated in the simulation during the fall 2014 and spring 2015 academic semesters were considered for the data collection. In addition to

the objective performance data collected directly from the simulation, an online survey was created on a secure university-hosted Qualtrics server to capture the additional variables of interest as dictated by the conceptual model of this dissertation. Each company (i.e., student team) had a unique business name. Therefore, the survey was tailored to each class, such that it reflected a set of companies that existed within that class only. Each team was then asked to evaluate two strategic partner firms on a set of items that remained identical across all classes and universities. Students were asked to evaluate two strategic partner firms with which their firm interacted most often during the span of the simulation.

Two versions of the simulation were played by the students. The only difference between the two versions is the number of business quarters played by participants. Professors chose either four- or six-quarter simulations for their classes. Professors were asked to introduce the survey to students shortly after the quarter prior to the last quarter was processed (i.e., either after quarter three in the four-quarter version or after quarter five in the six-quarter version). Depending on class schedule, this allowed students to take somewhere between 48 to 96 hours to complete the survey. Students were asked to complete the survey at least 6 hours prior to processing of the last quarter. This requirement was necessary to allow for distribution of the in-game simulation money reward. Each student who completed the survey was rewarded a certain amount of simulation money that would show up on the team's income statement as "other income." The amount awarded would depend on the size of the team, because the maximum amount per team was set to $200,000. For example, if the team consisted of four students, then each student would be rewarded $50,000. If

everyone within a company (a team) completed the survey, then an additional bonus of $50,000 was awarded to the company. Thus, the maximum potential reward equaled $250,000.

As an additional incentive to participate, professors and students were promised to receive relationship dashboards. Relationship dashboards were developed specifically for this dissertation to serve as an incentive, but also to potentially become a feature of the simulation that can be used in the future. A relationship dashboard is a one-page presentation of a company's corporate image. The corporate image is an evaluation of a company by all of that company's business partners. Professors welcomed this feature, and it helped to boost participation rate. An example of a relationship dashboard is presented in Appendix B.

Out of the total of 228 students who participated in the simulation and who were asked to take the survey, 147 responded to the survey. This translates into a 64.47% response rate. The 147 respondents represented 73 companies. Each of the respondents was asked to evaluate two of their supply chain business partner firms with which their firm interacted most during the simulation. Some firms developed only one supply chain relationship throughout the simulation. In these cases, only one supply chain relationship was evaluated by the respondents. If more than one person per company evaluated the same supply chain relationship, then the individual responses were aggregated. This resulted in 134 relationship evaluations. The 134 evaluated relationships serve as a final sample size for this study.

Measurement Model

Confirmatory factor analysis in AMOS version 20 was performed first to assess the measurement model fit statistics and the validity and reliability of the measures. A measurement model with all items was run initially. The initial CFA run did not offer satisfactory goodness-of-fit indices. Therefore, some measure purification was required. The initial CFA run indicated that the item Trust2R was loading poorly on its construct. Its loading was .408, which is below the desired standard of .7 (Garver and Mentzer 1999). Examining wording of the item revealed weaknesses that, in addition to very poor loadings, justified elimination of the item from the measurement model. The item included the word “always” and is reverse coded. The word “always” is an example of an absolute statement, which should be avoided in survey research. Absolute statements are detrimental to Likert scales, because they force respondents to interpret these statements as a binary choice. Moreover, the reverse coding of this item could confound the problem of absolute statements.

After another CFA run, the item Rogue1 was deleted from the model for the following reasons. First, the item loading was below the generally accepted rule that all items should load on their respective constructs with loadings of .7 or above (Garver and Mentzer 1999). Second, the high regression weights modification indices identify Rogue1 as an item that cross-loads heavily with various constructs of the model. Primarily, this item was cross-loading with deviant-personal opportunism items. Upon examination of Rogue1 wording, the use of the phrase “partner” rather than “partner firm” may be interpreted as an individual rather than the strategically opportunistic move of a firm. For these reasons, the item was deleted.

For very similar reasons, the items Monitoring2 and Trust3 were also deleted. The item loading was below the suggested .7 level for both of these items. In addition, the modification index for these items was greater than 10. Modification index is a measure of whether an item loads on multiple factors. A modification index coefficient value of 3.85 or greater indicates that the chi-square statistic can be statistically significantly reduced with the estimation of the coefficient. A more conservative approach, where the coefficient value of a modification index equal or is greater than 10, would recommend an item for deletion (Fassinger 1987). Therefore, these items were deleted.

At this stage, the CFA model indicated that the regression weight modification index for items Deviant3 and Identity4 was above acceptable level of 10 for more than one regression weight between the items and items from other constructs. Such significant cross-loadings call for a closer examination of the two items. Deviant3 item states “People responded in timely manner to our inquiries.” Just because a person does not respond in timely manner to someone’s inquiries, does not necessarily mean that they did so for opportunistic reasons. This item was likely misinterpreted by the survey respondents. Identity4 item states “If I had to make a choice between doing what was best for my firm or for the supply chain relationship with [partner name], I would do what was best for the relationship.” This relative alliance identity is the only item among the identity items that forces respondents to make a choice between their firm and the supply chain partner. It forces respondents into a survivor state of mind – its either us or them situation. Other items do not require such a survivor choice.

At this point the confirmatory factor analysis produced satisfactory goodness-of-fit indices. Specifically, CMIN/DF = 1.812, CFI = .941, IFI = .943, and RMSEA = .078. The CFA loadings are presented in Table 11.

Table 11. CFA Loadings for Study 1 Data

	Deviant-Personal Opportunism	Rogue-Firm Opportunism	Trust	Monitoring	Relative Alliance Identity	Organizational Proximity	Independence
Deviant1	.927						
Deviant2	.892						
Deviant4	.840						
Deviant5	.896						
Rogue2		.960					
Rogue3		.827					
Rogue4		.862					
Trust1			.921				
Trust4			.892				
Trust5			.939				
Trust6			.934				
41Monitoring1				.909			
Monitoring3				.730			
Monitoring4				.856			
Identity1					.785		
Identity2					.716		
Identity3					.818		
Identity5					.842		
Proximity1						.891	
Proximity2						.876	
Proximity3						.891	
Indep1							.753
Indep2							.964
Indep3							.926

Construct Validity

Construct validity is achieved when a construct corresponds to what its dimensions are supposed to measure (Peter 1981). Construct validity is assessed based on convergent and discriminant validity. A confirmation of the measures' convergent validity is provided by the fact that average variance extracted (AVE) for each construct is above the .50 level (Fornell and Larcker 1981). Indeed, all constructs demonstrate AVE > .50. Table 12 provides specific AVE values. Furthermore, Garver

and Mentzer (1999) point out that researchers can be more certain that convergent validity was achieved when all factor loadings are above .70 level. All 24 items in the final measurement model have factor loadings above the .70 level.

Table 12. Properties of Study 1 Constructs

Construct Name	AVE	1.	2.	3.	4.	5.	6.	7.
1. Deviant-Personal Opportunism	.791	**.93**	.21	.72	.34	.46	.46	.26
2. Rogue-Firm Opportunism	.783	.46**	**.91**	.24	.05	.03	.10	.00
3. Trust	.849	-.85**	-.49**	**.95**	.32	.49	.43	.23
4. Monitoring	.697	-.59**	-.24**	.57**	**.86**	.29	.19	.10
5. Relative Alliance Identity	.627	-.68**	-.17*	.70**	.54**	**.87**	.38	.39
6. Organizational Proximity	.785	-.68**	-.33**	.66**	.44**	.62**	**.91**	.27
7. Partner Independence	.784	-.51**	-.05	.48**	.33**	.63**	.52**	**.90**

AVE: Average variance extracted
Diagonal: Cronbach's coefficient alpha
Below diagonal: Construct correlations
** Correlation is significant at the .01 level
* Correlation is significant at the .05 level
Above diagonal: Construct correlations squared

Discriminant validity is achieved when items from one construct do not correlate highly with items from another construct in the model. Measures' discriminant validity exists when the average variance extracted for each of the constructs is greater than its shared variance with any of the other constructs in the measurement model. In other words, the AVE for each construct in any pair of constructs has to be larger than squared correlations between the two constructs (Fornell and Larcker 1981). This condition was met for all construct pairs. All relevant statistics are presented in Table 12.

Scale Reliability

Once satisfactory measurement model fit with clear convergent and discriminant construct validity was established, scale reliability was assessed for all measures. Cronbach's coefficient alpha (Cronbach 1951) of .60 and above is accepted as an indication that the scale is reliable (Churchill 1979). Cronbach's coefficient alpha across constructs ranged from .86 to .95.

Common Method Bias

Two tests were conducted to ensure common method bias (CMB) was not of concern in the data. First, Herman's single factor test (Podsakoff et al. 2003; Podsakoff and Organ 1986) suggests running an exploratory factor analysis (EFA) while fixing the number of factors to one. If the one factor explains more than 50% of all variance, then CMB is a problem in the data. The test indicated that 49.70% of variance can be explained using one factor. This test does not indicate presence of common method bias; however, 49.70% is relatively close to the 50% mark. Therefore, another test was utilized to assure that CMB is not a problem in the data.

The second test conducted was a common latent factor test. A common method latent variable (CMLV) was incorporated into the measurement model in AMOS. All observable items were then linked to the CMLV while also being linked to their intended constructs. All paths between the observable variables and CMLV were constrained to be equal. Constraining all paths to be equal results in regression paths with the same numerical result, allowing for a single number that accounts for common method bias (Gaskin 2011). This test is to show how much variance for all the items can be accounted to a single factor (Gaskin 2011). The resulting CMLV regression weight

equals to .47, which equals to .2209 when squared. The common variance accounted for by this test is 22.09%. The common variance accounted for is significantly less than 50%, which strongly rejects presents of common method bias (Gaskin 2011). In conclusion, both tests, Herman's single factor test and the common latent factor test, conclude that common method bias is not of concern in the data.

Nonresponse Bias Assessment

Nonresponse bias is not of concern in Study 1 due to the procedure used for survey administration. The supply chain simulation was used within a university classroom setting. Each simulation game consisted of either 4 or 6 quarters. Each sampled class was given anywhere between 3 to 7 days to make decisions prior to when the next quarter was run. The survey online link was introduced to students by their respective professors 48 to 72 hours prior to the last quarter being processed. Students were then given 42 to 66 hours to respond to the survey (up to 6 hours prior to the last quarter being processed). This short time window did not justify the use of the early and late responses technique for testing the nonresponse bias. Thanks to the simulation money incentive for participation, a higher response rate than reported by similar studies was achieved (64.47%). Thus, using the follow up by phone call technique was not justified either. Such a technique is appropriate under circumstances when the response rate is unusually low and a systematic nonresponse problem is suspected.

Study 1 Measurement Model Summary

In summary, the measurement model showed satisfactory results. The CFA process improved the measurement model and resulted in satisfactory overall goodness-of-fit statistics with CFI = .941, IFI = .943, RMSEA = .078, and CMIN/df ratio = 1.983. Convergent and divergent validity along with scale reliability showed acceptable values. Common method bias and nonresponse bias do not pose a threat to Study 1 data.

Study 1 Hypotheses

The testing of hypotheses was split into three sections. The first section tests hypotheses between the opportunistic behaviors and outcomes. The second section examines hypotheses between relational factors and opportunistic behaviors. The final third section tests hypotheses between alliance partner stability and relational factors.

Study 1 Hypotheses: Opportunistic Behaviors and Outcomes

Hierarchical linear regression analysis in SPSS version 22 was chosen as the method to test the hypotheses between opportunistic behaviors and outcomes. Next, analysis of each hypothesis is offered.

Hypothesis 1

Hypothesis 1 stated that a negative relationship exists between rogue-firm opportunistic behaviors and alliance performance. Alliance performance was measured using two measures obtained directly from the objective simulation data: (a) partner's return on assets (ROA) and (b) partner's gross profit resulting from the focal relationship. The simulation money incentive for participation was taken out from the net

income calculation before the ROA was calculated. Unstandardized beta coefficients are reported because the objective data allows for direct interpretation of the beta coefficients. In the case of ROA, the beta coefficient represents a percentage change in the ROA for each additional unit of rogue-firm opportunism. In the case of gross profit, the beta coefficient represents the gross profit dollar change for each additional unit of rogue-firm opportunism. With ROA as the dependent variable, a significant negative beta coefficient for rogue-firm opportunism ($\beta = -10.44$, $p < .01$) was found. With gross profit as the dependent variable, a significant negative beta coefficient for rogue-firm opportunism ($\beta = -1{,}524{,}639$, $p < .10$) was found. Thus, hypotheses 1a and 1b are supported. Table 13 presents the statistical information from the analysis.

Table 13. Study 1: Rogue-Firm Opportunism and Alliance Performance

		Partner's ROA		**Partner's Relationship-specific Gross Profit**	
	$H_{\#}$	**$\beta^{\dagger}$ % change**	**t-value**	**$\beta^{\dagger}$ $-value change**	**t-value**
Controls					
UniverseID		-3.33	-1.11	-946,773	-1.54
Universe Quarters		30.83**	2.21	4,384,806	1.50
Linear Effects					
Rogue-Firm Opp.	H_{1a} H_{1b}	-10.44***	-2.97	-1,524,639**	-1.96
Intercept		82.01***	3.81	17,109,465***	3.49
R^2		.144		.105	
Adjusted R^2		.125		.084	
R^2 change		.055***		.026*	
F statistic			7.45***		5.08***

*p < .10
**p < .05
***p < .01
†Unstandardized Beta coefficients are used here because they are more telling. They represent percentage change in ROA and dollar change in Gross Profit.

Hypothesis 2

Hypothesis 2 stated that a negative relationship exists between deviant-personal opportunistic behaviors and alliance performance. Performance outcome was measured using two measures obtained directly from the objective simulation data: (a) partner's return on assets (ROA) and (b) partner's gross profit resulting from the focal relationship. As with hypothesis 1, unstandardized beta coefficients are reported. With ROA as the dependent variable, a significant negative beta coefficient for deviant-personal opportunism ($\beta = -8.32$, $p < .01$) was found. With gross profit as the dependent variable, also a significant negative beta coefficient for deviant-personal opportunism ($\beta = -4{,}030{,}706$, $p < .01$) was found. Thus, hypotheses 2a and 2b are supported. For each additional unit of deviant-personal opportunism, partner's ROA is lowered by 8.32% and partner's gross profit resulting from the focal relationship is lowered by $4,030,706. Table 14 presents the statistical information from the analysis.

Study 1 Hypotheses: Relational Factors and Opportunistic Behaviors

Hierarchical linear regression analysis in SPSS version 22 was chosen as the method to test the hypotheses between relational factors and opportunistic behaviors. Next, an analysis of each hypothesis is offered.

Hypothesis 3

Hypothesis 3 stated that monitoring alliance partners is negatively associated with deviant-personal opportunistic behaviors. A significant negative beta coefficient (β

= -.24, p < .01) was found. Thus, hypothesis 3 is supported. Table 15 offers the statistical analysis summary.

Table 14. Study 1: Deviant-Personal Opportunism and Alliance Performance

		Partner's ROA		Partner's Relationship-specific Gross Profit	
	$H_{\#}$	β† % change	t-value	β† $-value change	t-value
Controls					
UniverseID		-4.18	-1.37	-1,048,138*	-1.80
Universe Quarters		28.65**	2.01	5,941,481**	2.18
Linear Effects					
Deviant-Personal Opp.	H_{2a} H_{2b}	-8.32**	-1.81	-4,030,706***	-5.02
Intercept		73.78***	3.16	22,481,351***	4.96
R^2		.112		.228	
Adjusted R^2		.092		.210	
R^2 change		.023**		.149***	
F statistic			5.43***		12.81***

*p < .10
**p < .05
***p < .01
†Unstandardized Beta coefficients are used here because they are more telling. They represent percentage change in ROA and dollar change in Gross Profit.

Hypothesis 4

Hypothesis 4 stated that monitoring alliance partners is negatively associated with rogue-firm opportunistic behaviors. A non-significant beta coefficient (β = -.02, p = n.s.) was found. Thus, hypothesis 4 is not supported. Table 16 offers the statistical analysis summary.

Hypothesis 5

Hypothesis 5 stated that trust in alliance partners has a U-shaped relationship with deviant-personal opportunistic behavior. A squared trust term was constructed by mean centering the trust variable and then multiplying it by itself. Mean centering a variable helps with any potential multicollinearity problems (Hair et al. 2010). A significant beta coefficient ($\beta = .20$, $p < .01$) was found. Thus, hypothesis 5 is supported. The U-shaped results suggest that low and high levels of trust are associated with increased levels of deviant-personal opportunistic behaviors, while medium levels of trust are associated with the lowest levels of deviant-personal opportunism. Table 15 offers the statistical analysis summary.

Hypothesis 6

Hypothesis 6 stated that trust in alliance partners has a U-shaped relationship with rogue-firm opportunistic behavior. A non-significant beta coefficient ($\beta = -.04$, $p =$ n.s.) was found. Thus, hypothesis 6 is not supported. Table 16 offers the statistical analysis summary.

Hypothesis 7

Hypothesis 7 stated that relative alliance identity is negatively associated with deviant-personal opportunistic behaviors. A non-significant beta coefficient ($\beta = -.08$, $p <$ n.s.) was found. Thus, hypothesis 7 is not supported. Table 15 offers the statistical analysis summary.

Table 15. Study 1: Relational Factors and Deviant-Personal Opportunism

		Model 1		Model 2		Model 3		Model 4	
	$H_{\#}$	β	t-value	β	t-value	β	t-value	β	t-value
Controls									
UniverseID		.01	.08	-.04	-.79	-.06	-1.03	-.06	-1.18
Universe Quarters		.24*	2.14	.10*	1.84	.08	1.37	.09	1.61
Linear Effects									
(T) Trust				-.67***	-10.66	-.57***	-7.49	-.56***	-7.30
(M) Monitoring	H_3			-.16***	-2.94	-.18***	-3.23	-.24***	-3.92
RAI	H_7			-.10*	-1.65	-.11*	-1.86	-.08	-1.19
Curvilinear Effects									
T^2	H_5					.13**	2.16	.20***	2.98
Interactions									
T x M	H_9							-.12**	-2.16
Intercept		2.30***	5.12	7.56***	20.68	7.20***	18.23	7.28***	18.61
R^2		.053		.774		.782		.789	
Adjusted R^2		.038		.765		.771		.778	
R^2 change				.721***		.008**		.008**	
F statistic			3.64*		87.50***		75.79***		67.51***

*p < .10
**p < .05
***p < .01

Table 16. Study 1: Relational Factors and Rogue-Firm Opportunism

		Model 1		Model 2		Model 3		Model 4	
	$H_{\#}$	**β**	**t-value**	**β**	**t-value**	**β**	**t-value**	**β**	**t-value**
Controls									
UniverseID		.13	1.14	.09	.93	.09	.96	.09	.95
Universe Quarters		.21*	1.95	.14	1.48	.15	1.53	.15	1.52
Linear Effects									
(T) Trust				-.72***	-6.55	-.73***	-5.51	-.75***	-5.45
(M) Monitoring	H_4			-.02	-.18	-.02	-.13	-.02	-.15
RAI	H_8			.35***	3.31	.36***	3.32	.36***	3.19
Curvilinear Effects									
T^2	H_6					-.04	-.39	-.04	-.30
Interactions									
T x M	H_{10}							-.01	-.07
Intercept		2.57***	5.16	4.75***	6.85	4.87***	6.38	4.88***	6.34
R^2		.028		.317		.318		.318	
Adjusted R^2		.013		.291		.286		.280	
R^2 change				.281***		.001		.000	
F statistic			1.90		11.90***		9.88***		8.40***

*p < .10
**p < .05
***p < .01

Hypothesis 8

Hypothesis 8 stated that relative alliance identity is negatively associated with rogue-firm opportunistic behaviors. A significant positive beta coefficient ($\beta = .36$, $p < .01$) was found. Thus, the hypothesized relationship is statistically significant, but in the opposite direction. Hypothesis 8 is not supported in the hypothesized direction. Table 16 offers the statistical analysis summary.

Hypothesis 9

Hypothesis 9 stated that the interaction between trust and monitoring will reduce deviant-personal opportunistic behaviors beyond the direct effects of trust and monitoring. To compute the interaction term, first both variables were mean centered. Mean centering a variable is just a simple algebraic transformation that helps with any possible multicollinearity concerns. After mean centering, the variance inflation factor (VIF) for each regression term was analyzed to assess multicollinearity. All VIFs were below 2, which is significantly below the recommended cutoff of 10 (Hair et al. 2010). Once there was no concern of multicollinearity, hierarchical linear regression was run with four models: (1) control variables only, (2) control variables and direct effects of relational factors, (3) controls, direct effects, and the curvilinear trust effect, and (4) controls, direct effects, curvilinear trust, and the two-way interaction between trust and monitoring. The full model 4 results indicate a statistically significant negative beta coefficient ($\beta = -.12$, $p < .05$) for the interaction between trust and monitoring. Thus, the hypothesis 9 is supported in the hypothesized direction. Table 15 offers the statistical analysis summary, and Figure 3 depicts the curvilinear interaction. To present the interaction graphically, the following procedure was used. First the monitoring variable

was split into low and high monitoring groups using the median split. Then, deviant-personal opportunism was regressed on trust for the low monitoring cases only and then separately for the high monitoring cases. These two curves are overlapped on the graph in Figure 3.

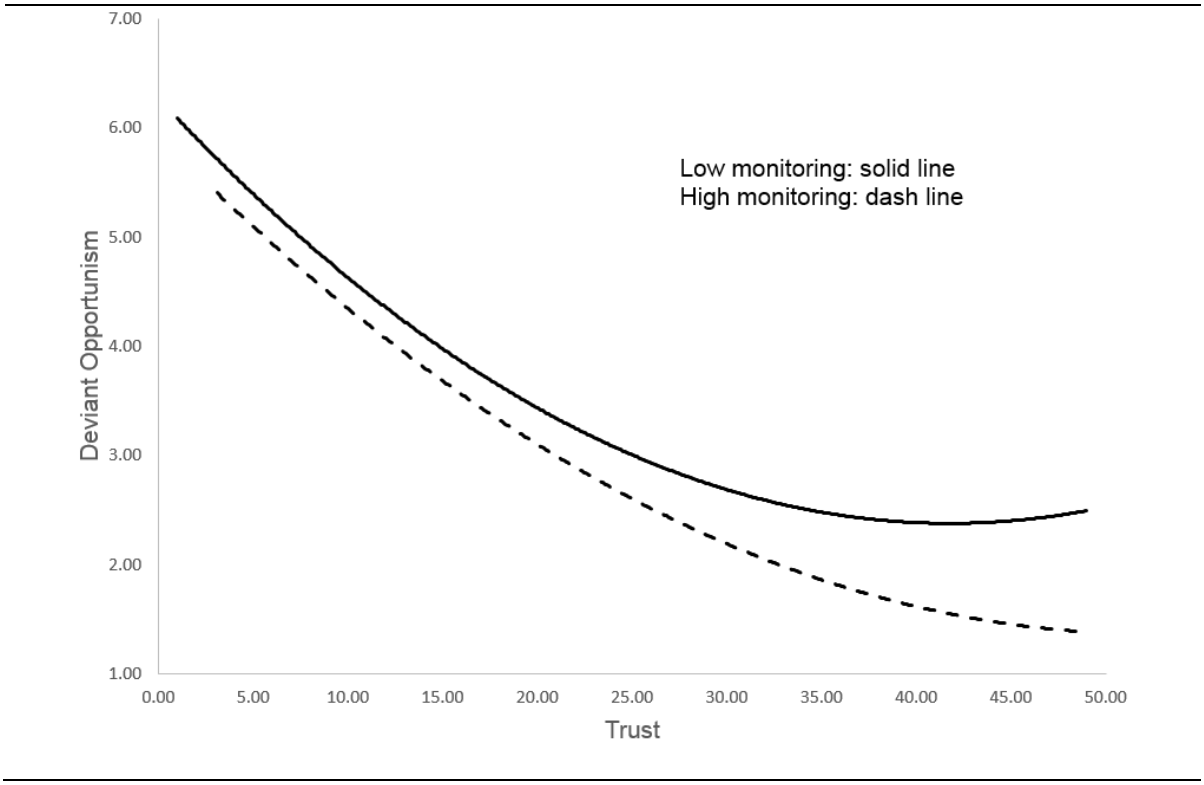

Figure 3. Interaction: Trust and Monitoring on Deviant-Personal Opportunism

Hypothesis 10

Hypothesis 10 stated that the interaction between trust and monitoring will reduce rogue-firm opportunistic behaviors beyond the direct effects of trust and monitoring. A similar approach to analyze the interaction and multicollinearity as for hypothesis 9 was applied here. VIFs always remained below the value of 2; thus, multicollinearity is not present in the data. A non-significant beta coefficient (β = -.01, p

= n.s.) was found. Thus, hypothesis 10 is not supported. Table 16 offers the statistical analysis summary.

Study 1 Hypotheses: Alliance Partner Stability and Relational Factors

Hierarchical linear regression analysis in SPSS version 22 was chosen as the method to test the hypotheses between alliance partner stability and relational factors. Next, an analysis of each hypothesis is offered.

Hypothesis 11

Hypothesis 11 stated that alliance partner stability is negatively associated with monitoring. A significant positive beta coefficient ($\beta = .49$, $p < .01$) was found. Thus, the hypothesized relationship is statistically significant, but in the opposite direction. Hypothesis 11 is not supported in the hypothesized direction. Table 17 offers the statistical analysis summary.

Hypothesis 12

Hypothesis 12 stated that alliance partner stability is positively associated with trust. A significant positive beta coefficient ($\beta = .68$, $p < .01$) was found. Thus, hypothesis 12 is supported. Table 17 offers the statistical analysis summary.

Hypothesis 13

Hypothesis 13 stated that alliance partner stability is positively associated with relative alliance identity. A significant positive beta coefficient ($\beta = .62$, $p < .01$) was found. Thus, hypothesis 13 is supported. Table 17 offers the statistical analysis summary.

The hypotheses, analysis results for Study 1, and corresponding analysis tables are all summarized in Table 18.

Table 17. Study 1: Alliance Partner Stability and Relational Factors

Dependent Variable:		**Monitoring**		**Trust**		**Relative Alliance Identity**	
	$H_{\#}$	**β**	**t-value**	**β**	**t-value**	**β**	**t-value**
Controls							
UniverseID		-.21**	-2.16	-.08	-.97	-.02	-.21
Universe Quarters		.05	.53	-.04	-.41	-.01	-.10
Main Effects							
Alliance Partner Stability	H_{11}	.49***	6.35				
	H_{12}			.68***	10.10		
	H_{13}					.62***	8.80
Intercept		7.03***	17.37	7.69***	18.76	6.74***	18.03
R^2		.255		.452		.387	
Adjusted R^2		.238		.439		.373	
R^2 change		.231***		.430***		.365***	
F statistic			14.84***		35.74***		27.33***

*p < .10
**p < .05
***p < .01

Table 18. Study 1: Hypotheses Results

H#	Hypothesis	Result	Table
H1	Rogue-firm opportunistic behaviors are negatively associated with alliance performance.	Supported	13
H2	Deviant-personal opportunistic behaviors are negatively associated with alliance performance.	Supported	14
H3	Monitoring alliance partners is negatively associated with deviant-personal opportunistic behaviors.	Supported	15
H4	Monitoring alliance partners is negatively associated with rogue-firm opportunistic behaviors.	Not Supported	16
H5	Trust in alliance partners has a U-shaped relationship with deviant-personal opportunistic behaviors.	Supported	15
H6	Trust in alliance partners has a U-shaped relationship with rogue-firm opportunistic behaviors.	Not Supported	16
H7	Relative alliance identity is negatively associated with deviant-personal opportunistic behaviors.	Not Supported	15
H8	Relative alliance identity is negatively associated with rogue-firm opportunistic behaviors.	Significant in opposite dir.	16
H9	The interaction between trust and monitoring will reduce deviant-personal opportunistic behaviors beyond the direct effects of trust or monitoring.	Supported	15
H10	The interaction between trust and monitoring will reduce rogue-firm opportunistic behaviors beyond the direct effects of trust or monitoring.	Not Supported	16
H11	Alliance partner stability is negatively associated with monitoring.	Significant in opposite dir.	17
H12	Alliance partner stability is positively associated with trust.	Supported	17
H13	Alliance partner stability is positively associated with relative alliance identity.	Supported	17

Study 2 Analysis

Sample Characteristics

SDC Platinum database served as the source for identifying US-based strategic alliances that also consisted of US-based partners only. Only alliances that started during the years 2010-2014 were considered for the sample with the additional requirement that they still be in existence on December 31st, 2014. For the criteria justification, refer to Chapter 3. This resulted in a total sample of 1,944 alliances, which meant 3,888 partner firms. From the 3,888 partner firms, it was possible to obtain contact information for 1,925 partner firms, which became the original sample size. The 1,925 partner firms formed 1,055 unique alliances.

Potential informants from this mailing list were contacted by an introductory email. Sending out the email revealed 306 contacts for which email addresses were invalid. The remainder of 1,619 contacts were contacted up to three times over the course of 6 weeks. Alliance partner contacts who opted-in by replying to the introductory or follow-up emails received an email with their unique Qualtrics survey link. The opted-in participants were reminded to complete the survey. The introductory email, the follow-up emails, and the reminder to complete the survey emails can be seen in Appendix C.

From the 1,619 sample, 41 partner firms participated in more than one alliance in the sample. A decision was made to send only one survey to each contact due to the concern of overburdening respondents by sending them the same survey for two or more alliances in which they participated. Therefore, these 41 repetitive contacts were eliminated from the sample, which resulted in 1,578 usable contacts. To eliminate these

41 repetitive contacts, a randomization rule was established such that only the contact's alliance that appeared first on the mailing list was used for surveying purposes. The mailing list was sorted by the alliance announcement date, such that the most recently announced alliance was at the very top of the list.

From this usable sample of 1578 contacts, 162 contacts declined to participate in the survey primarily due to not having enough time on their schedule. From the same usable sample, 288 contacts agreed to participate and to complete the survey. From these 288 opted-in contacts, 183 completed responses were obtained. Therefore the usable contacts response rate is 11.60% (11.60% = (183 / 1,578) x 100), while the opted-in contacts response rate is 63.54% (63.54% = (183 / 288) x 100). Table 19 presents the breakdown of original and completed samples per year when the alliance was started.

Table 19. Breakdown of Original and Completed Samples Per Year

Year Established	Original Sample	Completed Survey Sample
2010	83	9
2011	277	21
2012	659	64
2013	569	54
2014	337	35
Total	1925	183

Out of the 183 completed responses, only 12 were from the same 6 alliances (i.e., 6 dyads). 52 of the 183 sample are publicly traded companies, and 131 are privately held. The companies vary in size from small to large enterprises. The majority of the contacts hold an executive type of position within their companies. The partner

firms come from a variety of industry sectors. The dominant industry sectors of the sample are business services (primarily management consulting and IT) and pharmaceuticals, followed by a range of other sectors, such as automotive, travel and leisure, education-related, oil, and real estate industries. A breakdown of respondents' job titles, their company size (sales and number of employees), their company's primary industry, and the company's ownership status are presented in Table 20.

Common Method Bias

Herman's single factor test (Podsakoff et al. 2003; Podsakoff and Organ 1986) was performed to test for common method bias. The test suggests running an exploratory factor analysis (EFA) while fixing the number of factors to one. If the one factor explains more than 50% of all variance, then CMB is a problem in the data. The test indicated that only 32.40% of variance could be explained using one factor. This test does not indicate presence of common method bias.

Nonresponse Bias Assessment

Due to the potential threat of nonresponse bias in a survey research, mean differences across three waves of the survey responses were assessed (Armstrong and Overton 1977) for one randomly selected item from each survey construct – Rogue4, Deviant4, M6, Trust5, Identity3, Independence3, Proximity3, StrategicPerf3, and FinancialPerf4. A similar random selection approach was used by Gligor, Esmark, and Holcomb (2015). The one-way ANOVA analysis did not find any mean differences across the three waves. Therefore, it is fair to assume that no nonresponse bias exists in the final sample. The statistics produced by this test are offered in Table 21.

Table 20. Sample Characteristics for Study 2

Job Title	%	Annual Sales	%	Employees	%	Industry	%	Ownership	%
CEO	29%	< 10 mil.	26%	< 50	47%	Business Serv. – Consult.	16%	Public	29%
President	26%	10 – 100 mil.	23%	50 - 99	6%	Business Serv. – IT related	14%	Private	71%
VP	11%	100 mil. – 1 bil.	12%	100 - 499	11%	Business Serv. – Other	10%		
Chairman	8%	> 1 bil.	6%	500 - 999	3%	Pharmaceuticals	11%		
GM	7%			> 1000	7%	Healthcare Services	8%		
Founder	5%					Fun/Leisure/Entertainment	8%		
COO	5%					Banking/Finance/Insurance	7%		
CFO	2%					IT & Communications	5%		
CIO	2%					Real Estate	5%		
Chief Product Officer	1%					Retail	4%		
Chief Strategy Officer	1%					Manufacturing - General	3%		
Marketing Manager	1%					Medical Equipment	3%		
						Manufacturing - Auto	2%		
						Utilities	1%		
						Other	3%		
Data Unavailable:	2%		33%		26%		0%		0%

Table 21. Nonresponse Bias: One-way ANOVA Test

Question	Wave	N	Mean	p. value
Rogue4	1	61	2.30	.680
	2	61	2.51	
	3	61	2.46	
Deviant4	1	61	1.60	.533
	2	61	1.53	
	3	61	1.75	
Monitoring6	1	61	4.21	.593
	2	61	4.53	
	3	61	4.30	
Trust5	1	61	4.93	.899
	2	61	4.93	
	3	61	5.05	
Identity3	1	61	2.36	.691
	2	61	2.21	
	3	61	2.46	
Independence3	1	61	4.18	.110
	2	61	4.80	
	3	61	4.36	
Proximity3	1	61	4.68	.352
	2	61	4.41	
	3	61	4.30	
StrategicPerf3	1	61	4.36	.466
	2	61	4.56	
	3	61	4.77	
FinancialPerf4	1	61	4.30	.440
	2	61	4.56	
	3	61	4.20	

Table 22. Properties of Study 2 Constructs

Construct Name	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Deviant-Personal Opportunism	**.80**	.49	.53	.01	.00	.13	.05	.17	.22
2. Rogue-Firm Opportunism	.70**	**.81**	.51	.00	.01	.13	.03	.13	.20
3. Trust	-.73**	-.72**	**.93**	.04	.01	.15	.14	.33	.46
4. Monitoring	-.12	-.09	.20**	**.78**	.00	.01	.10	.03	.05
5. Relative Alliance Identity	-.03	-.10	.11	.04	**.82**	.01	.03	.00	.03
6. Organizational Proximity	-.37**	-.36**	.39**	.11	.10	**.86**	.02	.09	.07
7. Partner Independence	-.24**	-.19**	.38**	.32**	.17*	.13	**.79**	.15	.28
8. Financial Performance	-.41**	-.37**	.58**	.19**	.07	.30**	.39**	**.93**	.47
9. Strategic Performance	-.47**	-.45**	.68**	.24**	.18*	.28**	.53**	.69**	**.82**

Diagonal: Cronbach's coefficient alpha
Below diagonal: Construct correlations
** Correlation is significant at the .01 level
* Correlation is significant at the .05 level
Above diagonal: Construct correlations squared

Scale Reliability

Scale reliability was assessed for all measures. Cronbach's coefficient alpha (Cronbach 1951) of .60 and above is accepted as an indication that the scale is reliable (Churchill 1979). Cronbach's coefficient alpha across constructs ranged from .78 to .93. Cronbach's alpha together with the correlation matrix are summarized in Table 22.

Endogeneity Test

Before performing the actual hypothesis tests, the possibility of an endogeneity problem in relational factors variables must be addressed. An independent variable is labeled as endogenous when there is a significant correlation between the independent variable and the error term of the model (Wooldridge 2012). Endogeneity in independent variables can come from one of four sources: (1) errors-in-variables (i.e., measurement error), (2) autoregression, (3) omitted variables in theoretical models, or (4) it can be caused by simultaneous causality also known as reciprocal causality (Kennedy 2008). Points (1) and (2) are not so relevant to this study. More relevant to this study are points (3) and (4). In the social sciences, we do our best to eliminate the third source of endogeneity by introducing control variables into our models. However, no matter how much we try to control for all possible explanations of our dependent variables, there can always be something else, some spurious variable, which we failed to account for. While the third source of endogeneity can be addressed, at least to a certain degree, by control variables, eliminating the fourth source of endogeneity is not as straightforward.

In this dissertation's theoretical model, the fourth source of endogeneity, reciprocal causality, is of most concern. It is argued here that relational factors (trust, monitoring, relative alliance identity) have an effect on opportunistic behaviors. For example, if there is trust among partners in an alliance, then the alliance partner is less likely to misbehave towards the focal partner firm. However, one could also make the argument that due to the presence of opportunistic behaviors in a strategic alliance, partners will not trust each other. This is what is known as simultaneous causation. The backward causal link, if present in the data, can produce biased OLS estimators.

Assume the following simple regression equation:

$$y = \beta_0 + \beta_1 x + u$$

In order to obtain an unbiased and efficient OLS β_1 estimator, it must be true that x is an exogenous variable. In other words, there cannot be another variable that explains both x and y in the equation or that potentially causes the backward causality. If x is not exogeneous, then x is endogenous and we would have to assume that:

$$Cov(x,u) \neq 0$$

This coviariate between x and the error term u is what ultimately causes the endogeneity problem. To test whether such a covariate exists in the model's regression equations, a commonly used test is introduced in the analysis, called the Durbin-Wu-Hausman test (Hui et al. 2013; Semadeni, Withers, and Certo 2014; Wooldridge 2012). Ultimately, this test compares OLS estimators and 2SLS estimators and determines whether there are statistically significant differences between the two. If statistically significant differences exist, then it can be concluded that endogeneity is indeed a problem in the theoretical model, and 2SLS estimators should be used instead of OLS

estimators. However, 2SLS estimators are less efficient than OLS estimators when the explanatory (independent) variable is exogenous, because 2SLS estimators have larger standard errors then OLS estimators (Wooldridge 2012). Therefore, if the Durbin-Wu-Hausman test determines that there are no statistically significant differences between the two estimators, then it can be concluded that the independent variable is not endogenous and, thus, the OLS estimators are more efficient than 2SLS. In this case, OLS estimators are more accurate and should be preferred over 2SLS estimators.

To be able to compute 2SLS estimators, first it is necessary to identify one or more suitable instrumental variables. A satisfactory instrumental variable, called z, is one that meets two conditions:

1) $Cov(z,x) \neq 0$. This simply means that instrumental variable z is related to x; i.e., it "is relevant for explaining variation in x … sometimes referred to as instrument relevance" (Wooldridge 2012). More relevant instrumental variables present stronger correlations with the potentially endogenous variable x (Kennedy 2008).
2) $Cov(z,u) = 0$. This condition means that the instrumental variable z is exogenous in the simple regression equation provided earlier. Therefore, this criterion is often referred to as "instrument exogeneity" (Wooldridge 2012). This criterion refers to "the degree to which an instrument is uncorrelated with the disturbance term [error]" (Kennedy 2008).

In practice it is often difficult to find an instrumental variable that satisfies both criteria above. This is due to the fact that "instrument relevance and exogeneity often work against one another" (Semadeni et al. 2014). For this reason, in practice often the quality of the instrumental variable is compromised on one or the other criterion. The

compromise tends to be made against the second criterion, which proves to be more difficult to satisfy. It is often not satisfied because we do not know the true error terms in the simple regression presented above. Thus, researchers often substitute the second criterion with either (1) theoretical arguments that would suggest the instrumental variable is indeed an exogenous variable, (2) substituting Cov(z,u) = 0 with the second best alternative Cov(z,y) = 0, or (3) using both (1) and (2) to make an argument for instrument exogeneity (Semadeni et al. 2014).

In summary, to test this dissertation's independent variables (trust, monitoring, relative alliance identity) for endogeneity problems, three steps were followed:

1) Satisfactory instrumental variables were identified.
2) The instrumental variables were then used to compute 2SLS estimators.
3) The Durbin-Wu-Hausman test was run to determine whether endogeneity exists in the data.

Candidates for instrumental variables came from the control variables used in this study and two new secondary data variables were collected for the purposes of the endogeneity test. These variables are referred to here as the environmental variables, because these variables represent the external business environment within which the sampled alliances operate. These variables are clearly exogenous to opportunistic behaviors, because these environmental variables were present before the alliance started to operate, hence supporting the second criterion (instrument exogeneity) of a satisfactory instrumental variable. To support the first criterion (instrument relevance), a correlation matrix between all environmental variables and relational factors was examined. Variables with the highest correlations with relational factors would indicate

relevance. Moreover, to further support the theoretical argument made for the second criterion, opportunistic behaviors were included in the correlation matrix as well. The environmental variables with the smallest correlation with opportunistic behaviors would best support the second criterion. Therefore, to satisfy both the first and second criterion, for any of the environmental variables to be considered as a suitable instrumental variable candidate it would have to correlate with at least one of the relational factor variables and not correlate with opportunistic behaviors. Table 23 presents environmental variables that were identified as suitable instrumental variables for each of the potentially endogenous relational factor variables.

Table 23. Instrumental Variables Used for Endogeneity Test

Relationship to be tested for endogeneity	Instrumental Variable	Criterion 1 Cov(z,x) ≠ 0	Criterion 2 Cov(z,y) = 0
Trust - Deviant	Governance Mode	.16; p = .031	-.00; p = .990
Trust - Rogue	Market Uncertainty	.13; p = .070	-.08; p = .297
Monitoring - Deviant	Interpartner Competition	-.14; p = .056	.04; p = .553
Monitoring - Rogue	Market Uncertainty	.18; p = .016	-.08; p = .297
R.A. Identity - Deviant	Alliance Inexperience	.11; p = .148	-.06; p = .458
R.A. Identity - Rogue	Alliance Inexperience	.11; p = .148	.04; p = .635

Criterion 1: Cov(z,x) = Cov(Instrumental Variable, Trust/Monitoring/R.A. Identity)
Criterion 2: Cov(z,y) = Cov(Instrumental Variable, Deviant-personal/Rogue-firm Opportunism)

Now that the instrumental variables were identified, 2SLS regression estimators were obtained and followed by the Durbin-Wu-Hausman test in STATA version 13. The test did not reveal any statistically significant differences between 2SLS and OLS

estimators. Therefore, it can be concluded that endogeneity is not of concern in the data. The relevant statistics for each endogeneity test are provided in Table 24.

Table 24. Endogeneity Test Results

Relationship tested	Instrumental Variable	Durbin-Wu-Hausman test F(1,180)	p value
Trust - Deviant	Governance Mode	2.48349	.1168
Trust - Rogue	Market Uncertainty	.396324	.5298
Monitoring - Deviant	Interpartner Competition	.096657	.7562
Monitoring - Rogue	Market Uncertainty	.110916	.7395
R.A. Identity - Deviant	Alliance Inexperience	.386986	.5347
R.A. Identity - Rogue	Alliance Inexperience	.184617	.6679

H_0: the independent variable is exogenous.

Study 2 Hypotheses

The testing of hypotheses was split into three sections. The first section tests hypotheses between the opportunistic behaviors and outcomes. The second section examines hypotheses between relational factors and opportunistic behaviors. The final (third) section tests hypotheses between alliance partner stability and relational factors.

Study 2 Hypotheses: Opportunistic Behaviors and Outcomes

Hierarchical linear regression analysis in SPSS version 22 was chosen as the method to test the hypotheses between opportunistic behaviors and outcomes. Next, analysis of each hypothesis is offered.

Hypothesis 1

Hypothesis 1 stated that a negative relationship exists between rogue-firm opportunistic behaviors and alliance performance. Alliance performance was measured using two established measures: (a) financial performance and (b) strategic performance. With financial performance as the dependent variable, a significant negative beta coefficient for rogue-firm opportunism ($\beta = -.36$, $p < .01$) was found. With strategic performance as the dependent variable, also a significant negative beta coefficient for rogue-firm opportunism ($\beta = -.45$, $p < .01$) was found. Thus, hypotheses 1a and 1b are supported. Table 25 presents the statistical information from the analysis.

Table 25. Study 2: Rogue-Firm Opportunism and Alliance Performance

		Financial Performance		**Strategic Performance**	
	H#	**β**	**t-value**	**β**	**t-value**
Controls					
Governance Mode		.06	.85	.01	.09
Environmental Dynamism		.04	.58	.12*	1.84
Linear Effects					
Rogue-Firm Opp.	H_{1a}	-.36***	-5.21		
	H_{1b}			-.45***	-6.75
Intercept		5.60***	22.30	6.27***	26.87***
R^2		.144		.219	
Adjusted R^2		.130		.206	
R^2 change		.130***		.199***	
F statistic			10.04***		16.70***

*p < .10
**p < .05
***p < .01

Hypothesis 2

Hypothesis 2 stated that a negative relationship exists between deviant-personal opportunistic behaviors and alliance performance. Alliance performance was measured using two established measures: (a) financial performance and (b) strategic performance. With financial performance as the dependent variable, a significant negative beta coefficient for deviant-personal opportunism ($\beta = -.41$, $p < .01$) was found. With strategic performance as the dependent variable, also a significant negative beta coefficient for deviant-personal opportunism ($\beta = -.47$, $p < .01$) was found. Thus, hypotheses 2a and 2b are supported. Table 26 presents the statistical information from the analysis.

Table 26. Study 2: Deviant-Personal Opportunism and Alliance Performance

		Financial Performance		**Strategic Performance**	
	$H_{\#}$	**β**	**t-value**	**β**	**t-value**
Controls					
Governance Mode		.10	1.45	.06	.84
Environmental Dynamism		.02	.31	.10	1.51
Linear Effects					
Deviant-Personal Opp.	H_{2a}	-.41***	-6.12		
	H_{2b}			-.47***	-7.26
Intercept		5.58***	24.36	6.13***	30.16
R^2		.185		.243	
Adjusted R^2		.175		.230	
R^2 change		.170***		.223***	
F statistic			13.52***		19.15***

*p < .10
**p < .05
***p < .01

Study 2 Hypotheses: Relational Factors and Opportunistic Behaviors

Hierarchical linear regression analysis in SPSS version 22 was chosen as the method to test the hypotheses between relational factors and opportunistic behaviors. Next, analysis of each hypothesis is offered.

Hypothesis 3

Hypothesis 3 stated that monitoring alliance partners is negatively associated with deviant-personal opportunistic behaviors. A non-significant beta coefficient ($\beta = .01$, p = n.s.) was found. Thus, hypothesis 3 is not supported. Table 27 offers the statistical analysis summary.

Hypothesis 4

Hypothesis 4 stated that monitoring alliance partners is negatively associated with rogue-firm opportunistic behaviors. A non-significant beta coefficient ($\beta = .03$, p = n.s.) was found. Thus, hypothesis 4 is not supported. Table 28 offers the statistical analysis summary.

Hypothesis 5

Hypothesis 5 stated that trust in alliance partners has a U-shaped relationship with deviant-personal opportunistic behavior. A squared trust term was constructed by mean centering the trust variable and then multiplying it by itself. Mean centering a variable helps with any potential multicollinearity problems (Hair et al. 2010). A significant beta coefficient ($\beta = .57$, $p < .01$) was found. Thus, hypothesis 5 is supported. Table 27 offers the statistical analysis summary, and Figure 4 depicts the curvilinear relationship. The U-shaped results suggest that low and high levels of trust are

associated with increased levels of deviant-personal opportunistic behaviors, while medium levels of trust are associated with the lowest levels of deviant-personal opportunism.

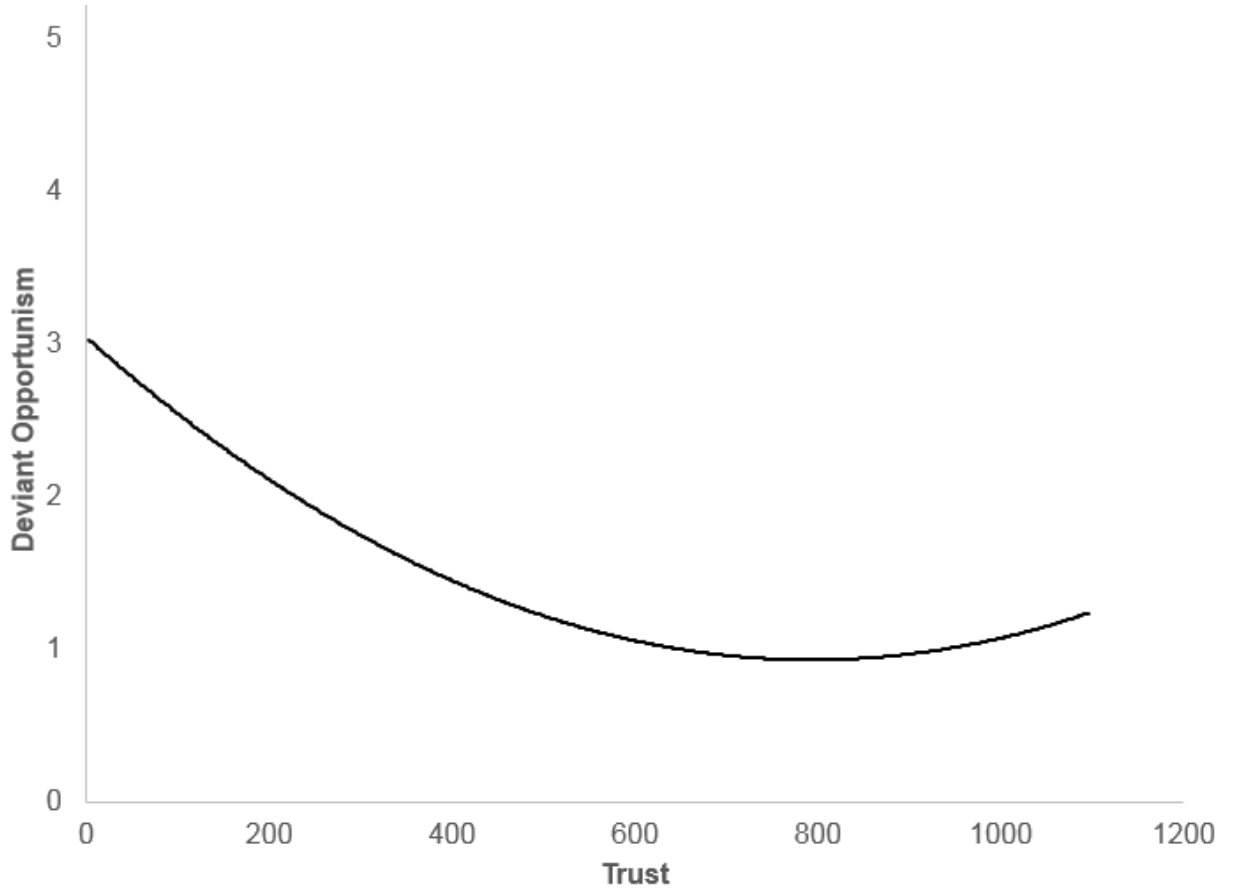

Figure 4. Curvilinear Relationship: Trust and Deviant-Personal Opportunism

Table 27. Study 2: Relational Factors and Deviant-Personal Opportunism

		Model 1		Model 2		Model 3		Model 4	
	$H_{\#}$	β	t-value	β	t-value	β	t-value	β	t-value
Controls									
Governance Mode		-.03	-.37	.06	.89	.06	.98	.05	.97
Environmental Dynamism		-.03	-.46	-.01	-.17	-.00	-.06	-.00	-.07
Linear Effects									
(T) Trust				-.56***	-8.85	-.88***	-12.24	-.87***	12.09
(M) Monitoring	H_3			-.06	-.88	.01	.15	.01	.12
R.A.Identity	H_7			.07	1.05	.07	1.25	.07	1.27
Curvilinear Effects									
T^2	H_5					.57***	7.29	.57***	7.17
Interaction									
T x M	H_9							.02	.26
Intercept		2.03***	22.53	2.77***	12.35	2.74***	13.89	2.74***	13.85
R^2		.002		.319		.477		.477	
Adjusted R^2		-.009		.300		.359		.456	
R^2 change				.317***		.158***		.000	
F statistic			.20		16.57***		26.72***		22.79***

*p < .10
**p < .05
***p < .01

Hypothesis 6

Hypothesis 6 stated that trust in alliance partners has a U-shaped relationship with rogue-firm opportunistic behavior. A significant beta coefficient ($\beta = .35$, $p < .01$) was found. Thus, hypothesis 6 is supported. Table 28 offers the statistical analysis summary and Figure 5 depicts the curvilinear relationship. The U-shaped results suggest that low and high levels of trust are associated with increased levels of rogue-firm opportunistic behaviors, while medium levels of trust are associated with the lowest levels of rogue-firm opportunism.

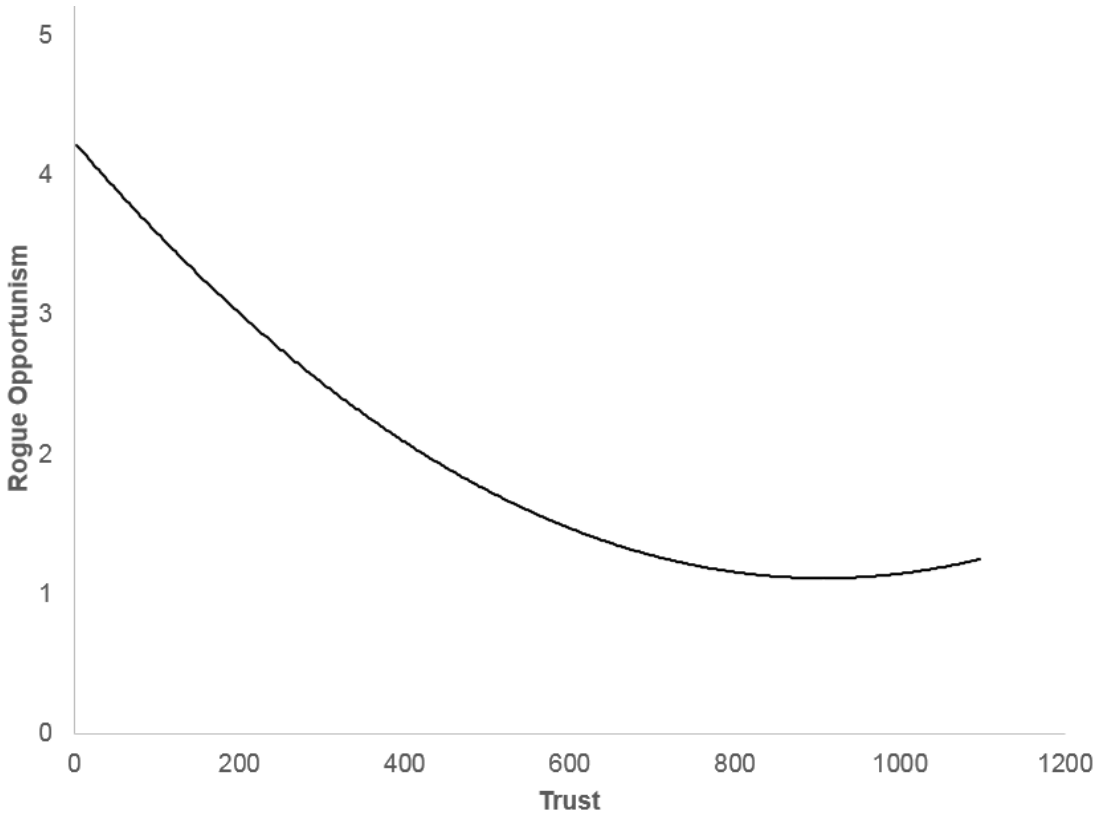

Figure 5. Curvilinear Relationship: Trust and Rogue-Firm Opportunism

Table 28. Study 2: Relational Factors and Rogue-Firm Opportunism

		Model 1		Model 2		Model 3		Model 4	
	$H_{\#}$	β	t-value	β	t-value	β	t-value	β	t-value
Controls									
Governance Mode		-.14*	-1.86	-.03	-.58	-.04	-.64	-.04	-.66
Environmental Dynamism		-.01	-.19	.04	.63	.04	.75	.04	.72
Linear Effects									
(T) Trust				-.65***	-11.28	-.91***	-11.63	-.90***	-11.47
(M) Monitoring	H_4			-.01	-.09	.04	.64	.03	.57
RAI	H_8			-.02	-.43	-.02	-.42	-.02	-.36
Curvilinear Effects									
T^2	H_6					.36***	4.63	.35***	4.53
Interaction									
T x M	H_{10}							.02	.44
Intercept		2.83***	26.40	3.80***	15.54	3.78***	16.31	3.78***	16.27
R^2		.019		.437		.498		.499	
Adjusted R^2		.008		.421		.481		.478	
R^2 change				.418***		.061***		.001	
F statistic			1.73		27.45***		29.09***		24.85***

*p < .10
**p < .05
***p < .01

Hypothesis 7

Hypothesis 7 stated that relative alliance identity is negatively associated with deviant-personal opportunistic behaviors. A non-significant beta coefficient ($\beta = .07$, $p =$ n.s.) was found. Thus, hypothesis 7 is not supported. Table 27 offers the statistical analysis summary.

Hypothesis 8

Hypothesis 8 stated that relative alliance identity is negatively associated with rogue-firm opportunistic behaviors. A non-significant beta coefficient ($\beta = -.02$, $p =$ n.s.) was found. Thus, the hypothesis 8 is not supported. Table 28 offers the statistical analysis summary.

Hypothesis 9

Hypothesis 9 stated that the interaction between trust and monitoring will reduce deviant-personal opportunistic behaviors beyond the direct effects of trust and monitoring. To compute the interaction term, both variables were first mean centered. Mean centering a variable is just a simple algebraic transformation that helps with any possible multicollinearity concerns. After mean centering, the variance inflation factor (VIF) for each regression term was analyzed to assess multicollinearity. All VIFs were below 2, which is significantly below the recommended cutoff of 10 (Hair et al. 2010). Once there was no concern of multicollinearity, hierarchical linear regression was run with four models: (1) control variables only, (2) control variables and direct effects of relational factors, (3) controls, direct effects, and the curvilinear trust effect, and (4) controls, direct effects, curvilinear trust, and the two-way interaction between trust and

monitoring. The full model 4 results indicate a non-significant beta coefficient (β = .02, p = n.s.) for the interaction between trust and monitoring. Thus, hypothesis 9 is not supported. Table 27 offers the statistical analysis summary.

Hypothesis 10

Hypothesis 10 stated that the interaction between trust and monitoring will reduce rogue-firm opportunistic behaviors beyond the direct effects of trust and monitoring. A similar approach to analyze the interaction and multicollinearity to the one used for hypothesis 9 was applied here. VIFs remained below the value of 2; thus, multicollinearity is not present in the data. A non-significant beta coefficient (β = .02, p = n.s.) was found. Thus, hypothesis 10 is not supported. Table 28 offers the statistical analysis summary.

Study 2 Hypotheses: Alliance Partner Stability and Relational Factors

Hierarchical linear regression analysis in SPSS version 22 was chosen as the method to test the hypotheses between alliance partner stability and relational factors. Next, an analysis of each hypothesis is offered.

Hypothesis 11

Hypothesis 11 stated that alliance partner stability is negatively associated with monitoring. A significant positive beta coefficient (β = .26, p < .01) was found. Thus, the hypothesized relationship is statistically significant, but in the opposite direction. Hypothesis 11 is not supported in the hypothesized direction. Table 29 offers the statistical analysis summary.

Hypothesis 12

Hypothesis 12 stated that alliance partner stability is positively associated with trust. A significant positive beta coefficient ($\beta = .47$, $p < .01$) was found. Thus, hypothesis 12 is supported. Table 29 offers the statistical analysis summary.

Hypothesis 13

Hypothesis 13 stated that alliance partner stability is positively associated with relative alliance identity. A significant positive beta coefficient ($\beta = .16$, $p < .05$) was found. Thus, hypothesis 13 is supported. Table 29 offers the statistical analysis summary.

The hypotheses, analysis results, and corresponding analysis tables are all summarized in Table 30.

Post-Hoc Analysis

Some of the results in both Study 1 and 2 were contradictory to game theory. Specifically, the results for the hypotheses 11 in both studies were significant but in the opposite direction than hypothesized. The results suggested that in a stable alliance relationship there is a need to monitor alliance partners more extensively. This finding is contradictory to theory.

The variable alliance partner stability was constructed as a composite variable that consisted of partner proximity and partner independence dimensions. This approach has been used in studies considering external market stability, but not in studies examining internal alliance partner stability. Therefore, to assure that the contradictory findings are not due to this composition, a series of hierarchical linear

regressions were run with the two dimensions (partner independence and partner proximity) as separate variables rather than as dimensions of alliance partner stability variable. The results of these regressions analysis are presented in Table 31 (Study 1) and Table 32 (Study 2).

To perform the analysis each of the hypotheses H11-13 was split into part “a” and part “b”, representing partner independence and partner proximity respectively. The results indicated that the beta coefficients for each variable and hypotheses remain positive; thus, confirming the composite variable results. Moreover, the results indicated that in Study 1 it is predominantly the partner proximity that offers more significant results, while in Study 2 it is predominantly the partner independence that offers more significant results. Perhaps the sample utilized in each study explains the differences. The student sample in Study 1, may see partner’s similarities when it comes to running a business and interacting with business partners as more important. University students often rely on social cues when it comes to establishing relationships. The business professionals sample in Study 2 may view independence from their partner as a more indicative aspect of stable relationship conditions than cultural proximity between the two firms. This difference may also stem from the use of simulation versus real money. It may be more salient that a firm’s bottom line will be affected by a partner who wields more power in an alliance than by a partner who has different organizational culture. This point has been expressed by one of the respondents to the survey in Study 2. He commented in an open text box at the end of the survey as follows.

> *Our alliance is with a huge corporation and we are a small break-even organization. Our immediate need for growth is not shared by the partner who*

will not be affected if the alliance fails. Have a huge partner is good, but getting their attention and focus is very difficult. Lately, things are improving.

In this specific strategic alliance, a large and established partner knowingly dictates the rules of the partnership. The smaller partner is dependent on the larger power wielding partner. Similar imbalance of power was expressed by other respondents. For example,

We are a small high tech company that has had alliances with several major U.S. corporations. In each case the large corps eventually took extreme advantage of the relationship to the detriment of our organization. Promises were made via contracts or through top management assurances that were purposely violated at some point in the relationship after they had the technical knowledge or advantage they desired from the relationship. One organization copied confidential info secretly and then tried to put us out of business after they copied and learned from us. Another blatantly breached a very large contract worth 10's of millions that we had to fight legally, and a third squeezed us out for a fraction of the return they promised in the relationship when they knew we needed money during the downturn.

In accordance with the results, partner independence is often key to establishing a stable environment in which the alliance relationship can thrive.

Table 29. Study 2: Alliance Partner Stability and Relational Factors

Dependent Variable:		Monitoring		Trust		Relative Alliance Identity	
	$H_{\#}$	β	t-value	β	t-value	β	t-value
Controls							
Governance Mode		-.02	-.31	.06	.92	.08	1.02
Environmental Dynamism		.08	1.17	-.01	-.21	.01	.04
Main Effects							
	H_{11}	.26***	3.63				
Alliance Partner Stability	H_{12}			.47***	7.08		
	H_{13}					.16**	2.12
Intercept		3.41***	15.01	4.18***	22.79	1.90***	8.90
R^2		.081		.233		.035	
Adjusted R^2		.065		.220		.019	
R^2 change		.068***		.215***		.024**	
F statistic			5.24***		18.16***		2.15*

*p < .10
**p < .05
***p < .01

Table 30. Study 1 and 2: Hypotheses Results

H#	Hypothesis	Study 1 Results	Study1 Tables	Study 2 Results	Study2 Tables	Overall Results
H1	Rogue-firm opportunistic behaviors are negatively associated with alliance performance.	Supported	13	Supported	25	Supported
H2	Deviant-personal opportunistic behaviors are negatively associated with alliance performance.	Supported	14	Supported	26	Supported
H3	Monitoring alliance partners is negatively associated with deviant-personal opportunistic behaviors.	Supported	15	Not Supported	27	Partial Support
H4	Monitoring alliance partners is negatively associated with rogue-firm opportunistic behaviors.	Not Supported	16	Not Supported	28	Not Supported
H5	Trust in alliance partners has a U-shaped relationship with deviant-personal opportunistic behaviors.	Supported	15	Supported	27	Supported
H6	Trust in alliance partners has a U-shaped relationship with rogue-firm opportunistic behaviors.	Not Supported	16	Supported	28	Partial Support
H7	Relative alliance identity is negatively associated with deviant-personal opportunistic behaviors.	Not Supported	15	Not Supported	27	Not Supported
H8	Relative alliance identity is negatively associated with rogue-firm opportunistic behaviors.	Significant in opposite dir.	16	Not Supported	28	Not Supported
H9	The interaction between trust and monitoring will reduce deviant-personal opportunistic behaviors beyond the direct effects of trust or monitoring.	Supported	15	Not Supported	27	Partial Support
H10	The interaction between trust and monitoring will reduce rogue-firm opportunistic behaviors beyond the direct effects of trust or monitoring.	Not Supported	16	Not Supported	28	Not Supported
H11	Alliance partner stability is negatively associated with monitoring.	Significant in opposite dir.	17	Significant in opposite dir.	29	Significant in opposite dir.
H12	Alliance partner stability is positively associated with trust.	Supported	17	Supported	29	Supported
H13	Alliance partner stability is positively associated with relative alliance identity.	Supported	17	Supported	29	Supported

Table 31. Study 1: Partner Independence, Proximity and Relational Factors

Dependent Variable:		Monitoring		Trust		Relative Alliance Identity	
	$H_{\#}$	β	t-value	β	t-value	β	t-value
Controls							
UniverseID		-.24	-2.46	-.12	-1.40	-.10	-1.19
Universe Quarters		.03	.30	-.06	-.74	-.07	-.84
Main Effects							
Partner Independence	H_{11a}	.17*	1.89				
Partner Proximity	H_{11b}	.41***	4.49				
Partner Independence	H_{12a}			.20**	2.62		
Partner Proximity	H_{12b}			.57***	7.45		
Partner Independence	H_{13a}					.43***	5.87
Partner Proximity	H_{13b}					.39***	5.37
Intercept		6.24***	10.73	6.68***	11.98	4.85***	10.47
R^2		.275		.480		.516	
Adjusted R^2		.253		.463		.501	
R^2 change		.251***		.458***		.494***	
F statistic			12.24***		29.72***		34.36***

*p < .10
**p < .05
***p < .01

Table 32. Study 2: Partner Independence, Proximity and Relational Factors

Dependent Variable:		Monitoring		Trust		Relative Alliance Identity	
	$H_{\#}$	β	t-value	β	t-value	β	t-value
Controls							
Governance Mode		-.02	-.26	.06	.91	.08	1.03
Environm. Dynamism		.05	.62	-.03	-.44	-.01	-.19
Main Effects							
Partner Independence	H_{11a}	.30***	4.13				
Partner Proximity	H_{11b}	.08	1.10				
Partner Independence	H_{12a}			.34***	5.16		
Partner Proximity	H_{12b}			.34***	5.29		
Partner Independence	H_{13a}					.16**	2.09
Partner Proximity	H_{13b}					.07	.93
Intercept		2.43***	5.73	2.72***	8.02	1.37***	3.39
R^2		.112		.275		.042	
Adjusted R^2		.092		.259		.021	
R^2 change		.099***		.256***		.032*	
F statistic			5.61***		16.89***		1.96

*p < .10
**p < .05
***p < .01

CHAPTER V: DISCUSSION, IMPLICATIONS, LIMITATIONS

While Chapter 4 offered detailed statistical analysis and results of the hypothesized relationships, this chapter discusses the results in connection to strategic alliances literature and game theory. Furthermore, the discussion offered in this chapter outlines possible reasons why some of the unexpected but intriguing results occurred. Following the discussion of the results, theoretical and managerial implications are outlined, limitations to the research are pointed out, opportunities for future research are explored, and concluding remarks close this research.

Discussion

The primary purpose of this research was to empirically test how relational factors influence two types of opportunistic behaviors in strategic alliance relationships. Opportunistic behavior is often explored in interfirm relationships research, yet we don't know the different types of behavior that are hidden behind the general opportunism label (Seggie, Griffith, and Jap 2013; Wathne and Heide 2000). Therefore, using game theory as guidance, this dissertation examined relational factors and their influence on two types of opportunistic behaviors in strategic alliances. This research differentiated between deviant-personal (individual-level) and rogue-firm (firm-level) opportunistic behaviors. Relational factors considered in this dissertation were trust, monitoring, and relative alliance identity.

The hypothesized relationships were tested across two studies. Study 1 utilized a behavioral business simulation to collect objective secondary data in addition to primary data collected through a survey. It investigated ongoing vertical alliances between

buyers and sellers within a simulated microcomputers industry. While these alliances were ongoing, the parties were aware of the termination date from the beginning of the relationship. Study 2 sampled business executives who served as key informants for their respective strategic alliances. The sample was obtained from the SDC Platinum database. The study relied on a survey data collection and some secondary data that were also obtained from the SDC Platinum database. The study investigated ongoing strategic alliances without a known termination date.

In general, there is some support for the hypothesized relationships. However, some of the hypothesized relationships were significant, but in the opposite direction, while others were not supported. The overall results warrant differentiation between the two types of opportunistic behaviors. Furthermore, out of the relational factors explored here, trust appears to be the key driver to minimizing opportunism, especially deviant-personal opportunism. Most interestingly, it does so in a non-linear way. Lastly, the stability between alliance partners plays a significant role in explaining the relational factors. To help with understanding the discussion presented below, please refer to Table 30 at the end of Chapter 4 for a presentation of the hypotheses and results across both studies.

Discussion: Opportunism and Alliance Performance

Hypotheses 1 and 2

Without any doubt, hypotheses 1 and 2 clearly indicate that no matter what type of opportunistic behavior is considered, such a misbehavior will always have a negative impact on the performance of both partners. Study 1 revealed that when the alliance

partner is perceived as being opportunistic (deviant-personal and rogue-firm), their objective ROA and gross profit generated from the focal relationship is significantly lower. Study 2 revealed that when the focal firm perceives an alliance partner as being opportunistic (deviant-personal and rogue-firm), then the focal firm's performance declines. Together, these results suggest that when a firm in an alliance is viewed as opportunistic, it does not only hurt their partner's performance, but it hurts their own firm as well. Moreover, it is not only the perception of the firm being opportunistic in a strategic manner, but arguably and more importantly, it is the perception that certain individuals from the partner firm are misbehaving that causes performance problems for both alliance partners.

Discussion: Relational Factors and Opportunism

Hypotheses 3 and 4

Monitoring alliance partners is negatively associated with deviant-personal opportunistic behavior in Study 1 but not in Study 2. Therefore, there is partial support. The game theory literature has a clear explanation for this discrepancy across the two studies. All involved parties in Study 1 know that at the latest the relationship will end when the simulation ends. Study 2 examines relationships that are ongoing, and the end date of the relationship is not known. Experimental game theory suggests that in games with a known end, partners require more monitoring than games with an unknown end to assure continuous cooperation and to minimize misbehaviors. The end-game strategic decisions can be different from an ongoing game's strategic decisions.

Furthermore, it is interesting that in both studies monitoring is not significantly associated with rogue-firm opportunistic behaviors. This finding, or the lack of a significant finding, further strengthens the point made earlier in this chapter's discussion that monitoring behaviors of individuals may be more revealing than simply monitoring the strategic behavior of the partner-firm as a whole. Observing and managing how the counterparts from the partner-firm behave towards the focal firm's employees may be more fruitful to the positive outcomes of the alliance, especially when the end of the relationship is approaching and known.

Hypotheses 5 and 6

The results offered in this dissertation show strong support for the hypothesized curvilinear relationship between trust and deviant-personal opportunistic behavior across both studies. This finding provides evidence that when trust is not present between alliance partners, opportunistic behaviors are more likely to occur. Furthermore, the curvilinear relationship suggests that, initially, trusting an alliance partner helps to lower opportunistic behaviors, but it helps only at a diminishing rate. At a certain point, too much trust actually becomes counterproductive. Too much trust invites alliance partners to misbehave, again.

In the extant interfirm relationship literature, trust is seen as the key ingredient behind a successful business relationship. The negative linear relationship between trust and opportunism over the years has become a law-like proposition. However, more recent literature has started to question this proposition. First of all, the concept of trust is a part of the relationship metaphor that is dangerously too often applied to interfirm research. Recent research argues that such a relationship metaphor can create tension

and obscure experiences of the parties to the interfirm relationship (Blocker, Houston, and Flint 2012). The desire for relational bonds in interfirm dealings can become a catalyst for the "dark side" of trust. Anecdotal evidence of the "dark side" of trust is present in the literature (Anderson and Jap 2005; Atuahene-Gima and Li 2002; Gundlach and Cannon 2010) but has not been empirically proven until this dissertation.

Study 2 results also show strong support for the curvilinear relationship between trust and rogue-firm opportunistic behaviors, but this finding is not supported in Study 1. With this said, the non-hypothesized negative linear effect between trust and both types of opportunistic behaviors is strongly significant across both studies. Perhaps the curvilinear relationship between trust and rogue-firm opportunistic behaviors did not show significant results in Study 1 due to the fact that the relationships in the simulation are shorter lived than the relationships from the real business world in Study 2. One's true motive behind establishing trust with others may need more time to transpire.

Hypotheses 7 and 8

The relationship between relative alliance identity and opportunistic behaviors is mostly not supported across the two studies, except for rogue-firm opportunistic behaviors in Study 1. There, the hypothesized relationship is significant in the opposite direction. The significance in the opposite direction is interesting to explore. It might suggest that firms that identify more with their partners perceive partners' behaviors with a more critical eye. What otherwise, under low relative alliance identity, would be perceived as an acceptable behavior, is perceived as a more serious misbehavior under high relative alliance identity. This finding is somewhat counterintuitive to theory. The finding suggests that identifying with alliance partners can be a tricky proposition. On

one hand, game theory and social identity theory suggest that highly identified parties will enjoy a more cooperative environment. In other words, less opportunistic behavior will be present in such relationships. However, what little misbehavior presents itself may be viewed more harshly by a party that highly identifies with the offender.

Hypotheses 9 and 10

The interaction between trust and monitoring and its impact on deviant-personal opportunistic behaviors is supported in Study 1. It is not supported in Study 2 and it is not supported for rogue-firm opportunistic behaviors across both studies.

These findings suggests two points. First, in Study 1 a significant result was found for the influence of the interaction on deviant-personal opportunism but no significance was found for the rogue-firm opportunism. This again illustrates the point that strategic alliances literature cannot ignore individual level opportunistic behaviors. Focusing on firm-level opportunism has offered valuable insights; however, more can be learned by shifting focus to deviant-personal opportunism.

Second, a more interesting finding, is the way the significant interaction behaves in Study 1 (refer to Figure 3 on p.113 in Chapter 4). The interaction suggests that having monitoring mechanisms in place is always more beneficial to minimizing deviant-personal opportunism than not having monitoring mechanisms. This is especially true under high levels of trust. Looking at the graph's low monitoring solid curve, one can see that eventually trust becomes misused in the simulation setting. Hence, the solid curve uptick at high levels of trust. Only when partners monitor their counterparts they do not fall prey to trusting their partners too much. Hence, the dashed curve does not switch its slope from negative to positive.

Game theory offers an interesting explanation for this finding. In Study 1, a sample of undergraduate students was surveyed. They engaged in a simulation of strategic interfirm relationships with a known end. Game theory suggests that strategic decisions in a partnership change as the likelihood of the end of the partnership increases (Normann and Wallace 2012). These strategic decisions change even further as the partnership termination date becomes known (Warnick and Slonin 2004). The end-game strategies change such that partners often choose to act opportunistically to gain as much economic rent as possible out of the partnership before it ends. Having monitoring mechanisms in place can bring more certainty into a relationship with a known termination date, especially under high trust conditions. Monitoring mechanisms act as a counterbalance to alliance partner employees' exposure due to increased levels of trust that was established with their counterparts from the other alliance partner firm. Game theory suggests that such end-game strategies are usually not as evident in ongoing partnerships where the termination date is not determined, which would point to the not-significant interaction in Study 2. In Study 2, sample of ongoing strategic alliances was surveyed, where the relationship end date is not known.

In summary, when the end to a strategic alliance is known, relying solely on high trust in your partner, may have detrimental result for the focal firm. Establishing monitoring mechanisms in such a situation can at least signal to the focal firm employees that their high trust in their counterparts is being abused and appropriate steps can be taken to minimize the effects of the opportunistic behavior under high trust.

Discussion: Alliance Partner Stability and Relational Factors

Hypotheses 11, 12, and 13

Hypothesis 11 introduced the negative relationship between alliance partner stability and monitoring. The relationship is significant across the two studies but in an opposite direction. Stability between partners may make the partners complacent and unworried, thus making them vulnerable to attacks. Hence, the results show a positive relationship where more stability translates into more monitoring of partners. More monitoring acts as a countermeasure to complacent conditions. It can be viewed as the silence before the storm situation. Silence, or stability, may be suspicious and, thus, more monitoring is needed to reassure oneself that all is well and sound. If no monitoring mechanisms are in place, the storm may come as a surprise and destroy any value that was built as a result of the alliance.

The last two hypotheses, hypotheses 12 and 13, predicted that stable conditions translate into more trust and higher levels of relative alliance identity. These results are in line with game theory and social identity theory. When alliance partners' cultures are similar and the partnership operates on an equal basis, then it is easier to know and trust the other partner of the alliance. Moreover, under such conditions employees from both partner-firms can more easily identify with their counterparts since they share a similar organizational culture and pursue a common goal.

Implications

Theoretical

Several interesting theoretical implications can be drawn from this research. First of all, more hypotheses were found to be significant when deviant-personal rather than

rogue-firm opportunism was considered. Existing strategic alliance literature does not explore deviant-personal opportunism. Future research in strategic alliances can gain new insights by re-conceptualizing opportunism at the individual level. Such conceptualization of opportunism is likely to bring additional explanatory power to studies about strategic alliances. Moreover, the relationship metaphor used in interfirm literature originates from interpersonal relationships. Therefore, if scholars are to use the relationship metaphor to study interfirm phenomena, then it may be more appropriate to operationalize measures used for such research at the individual level.

To this date, the interfirm relationship literature has empirically tested only the linear hypothesis that more trust always improves the relationship and its outcomes. However, more recent literature offers anecdotal and some qualitative research evidence that too much trust can be detrimental to a successful strategic alliance. This research clearly proves empirically that indeed that is the case. The theories applied in interfirm literature should reevaluate hypothesized relationships between trust and other constructs of interest. Linear relationships offer only a limited understanding of trust. Going beyond linear relationships offers a more telling and complete picture.

This research offers an intriguing finding when it comes to parties who highly identify with each other. Alliance partners that identify with each other exhibited a higher perception of opportunistic behaviors of their partners. This finding contrasts with what game theory and social identity suggest. Specifically, the finding suggests that there may be a dual purpose to creating teams where members highly identify with each other. Such identification lowers the likelihood of opportunistic behaviors occurring and perhaps also lowers the significance of the misbehavior. However, at the same time

highly identified alliance teams may perceive even a miniscule act of opportunism as a strong offense. Future research needs to explore this explanation in more detail.

The interactive effect of trust and monitoring on deviant-personal opportunism is not necessarily the same under all conditions. In the case where research focuses on ongoing interfirm relationships with a known termination date, having monitoring mechanisms present is overall always beneficial, but it is more beneficial under high trust than under low trust conditions. Theories and studies incorporating this interactive term into their models should carefully evaluate their population of interest.

In general, stability between alliance partners has a positive effect on the partnership. It promotes trust and the sense of identity between the partners. Unexpectedly, it also increases the need to monitor partners. This is counter to game theory and to transaction cost economics theory.

Managerial

While strategic alignment may be in sync across alliance partner firms' management, not managing alliance personnel at the operational level may translate to perceptions of employees from the partner firm as acting opportunistically, which consequently lowers the performance of both partners. In other words, a strategic alliance management team should not only focus on metrics that manage and monitor the partner-firm, but should also strive to develop metrics of relational factors between the two partner-firms' personnel. Understanding how the boundary spanners from both firms interact and behave towards each other can improve overall perceptions of how the strategic relationship is doing.

Strategic alliance management teams, but more importantly the boundary spanners from each partner-firm, should develop trust-based relationships but at the same time should be wary of their counterparts from the partner-firm. Trust can be misused. Incorporating discussions about personnel's relationships with their counterparts at a partner-firm into periodic performance reviews may be a way to offer balance-checks for the personnel. These balance-checks could help strategic alliance personnel to develop healthy relationships with their counterparts without falling prey to the dark side of trust-based relationships. For example, one respondent expressed that it is the relationships among people that determine how successful an alliance will become.

> *It is probably obvious but the longer a particular relationship is in place the more management changes the relationship experiences. These changes can be positive or negative and so the longer the relationship the more ebb and flow each party experiences. While contracts cover the Ts and Cs, in my experience it is always about the relationship between people that make these work or not.*

Empowering alliance employees with techniques that allow them to monitor and evaluate their relationships might be one way to deal with the potentially damaging trust-based relationships. The results of this dissertation indicate that having monitoring programs in place can not only prevent opportunistic behaviors, but also prevent employees from trusting their counterparts from the alliance partner firm. Various IT systems already exist that allow management to monitor the performance of their business partner. Implementing similar IT systems that allow individuals to monitor their

relationships with their counterparts can be beneficial to maintaining healthy levels of trust and to keep deviant-personal opportunism under control.

A big topic among the strategic alliance leaders is this idea of how much sense of unity (i.e., identity) should be created among alliance employees who come together from often differing organizational cultures. This discussion stems from the fact that alliances lay in between arm's length relationships and mergers and acquisition. In arm's length relationships, partners don't have the need to create a sense of identity. In mergers and acquisitions, it is a major challenge to completely unify two organizational cultures. Often, this process causes organizational restructuring. Alliances fall in the middle. Alliances between two firms are the majority of times formed for certain period of time. Employees assigned to the alliance may feel a loss of identity. Corporate initiatives that help these employees to build a new sense of identity do a great job. However, they are not effective at minimizing the possibility of employees going native so to speak. In other words, they don't focus on pulling the employees back to their original firm once the alliance has ended. This research suggests that building a sense of identity can also introduce a heightened level of sensitivity among employees when it comes to evaluating opportunistic acts of other alliance employees. This dimension should not be undermined as it can create tensions that potentially could be worse than the opportunistic acts themselves.

When entering a strategic alliance with a new business partner, it is important to evaluate whether stable conditions can exist between the two firms. Lack of stability can influence the degree to which the employees will trust each other, how easily they will

build a sense of identity among themselves, and how much monitoring will be required to assure a healthy relationship.

Limitations

As with any study, this research is not without its limitations. Clearly, the cross-sectional research design limits the extent to which causal relationships can be inferred. Longitudinal data would be of great interest here. In phenomena that mimic prisoner's dilemma settings, strategic decisions are made across rounds of decisions. Often strategic alliance partners make strategic decisions based on their partner's strategic move from the last round of decisions. While obtaining longitudinal data continues to be a challenge in strategic alliance literature, the benefits of pursuing it are enormous.

Another limitation of this research, specifically applicable to Study 2, is the collection of perceptual performance data through a survey. Even in the case of publicly traded companies which are required to produce financial statements to their stakeholders, obtaining performance data solely as a result of a specific strategic alliance remains a challenge for researchers. Moreover, employees from both privately-held and publicly-traded companies are often unable to share any information, yet alone the performance data, due to non-circumvention/non-disclosure (NCND) agreements that they sign with their employers. This is where Study 1 and its use of the simulated business setting comes to be very useful. If researchers cannot obtain objective performance data from actual strategic alliances, then obtaining objective performance data from simulated business environments is the second-best alternative.

While this research tests for endogeneity problems in its data, the test of endogeneity has its limitations. The test performs only as well as the instrumental

variables introduced to the test. While the instrumental variables introduced in this research meet the endogeneity test criteria, one could always make an argument that yet better instrumental variables may exist out there. Longitudinal data yet again could be beneficial to solving endogeneity concerns.

The measure of deviant-personal opportunism is a new measure created for the purposes of this dissertation. It has been adapted based on an existing opportunism measure. The adaptation required significant changes. While the measurement model demonstrated that the measure meets validity and reliability criteria, it still may be beneficial for future research to go through more detailed scale development process. The scale development process is likely to further improve the measure and, consequently, the accuracy of future research findings.

Future Research

Future research opportunities exist that can enhance our understanding of the phenomena and theoretical relationships explored in this dissertation. Future studies of strategic alliances should take extra care to collect data that indicate to the researchers whether the alliance surveyed has a termination date in place. End game strategies can make a difference in partners' relational values and behavior.

While this research has not attempted to test a multi-level model, one may also view the use of deviant-personal (individual) and rogue-firm (firm) level analysis of opportunistic behavior in a single conceptual model as problematic. It could be beneficial to our understanding of opportunism if the deviant-personal opportunism was examined in isolation from the rogue-firm opportunism. This has not been done in

strategic alliances, since the introduction of deviant-personal opportunism into this literature stream is offered by this dissertation.

Great research opportunities exist for interfirm relationships scholars in simulated business environments. Business simulations have evolved a great deal over the years. These simulations no longer are linear in their plot and are more interactive in nature. Their environments become more complex and mimic real business world scenarios very closely. The data that can be collected through simulated business environments can be more telling and more objective than survey data or arguably even than secondary data from actual interfirm relationships. Secondary databases are often not kept up to date, and their variable definitions change, which poses a risk to researchers.

The interactive term between trust and monitoring and its impact on deviant-personal opportunism is an interesting topic that a future study could explore further. As mentioned earlier, game theory suggests that monitoring mechanisms are likely to be more valuable in trusting relationships when the end of the relationship is known. On the other hand, game theory suggests that having monitoring mechanisms present when the end of the relationship is not on an immediate horizon can actually harm the trusting relationship and ultimately cause more opportunistic behaviors. While this theoretical argument was not explicitly tested a priori in this dissertation, the hypothesis 9 findings in this dissertation land some support to it. Future study could do two things to better understand this interaction. A single environment could be used to explore the differences between known versus not known strategic alliance horizons. A business simulation may serve as an excellent environment for this purpose. Second, the future study may gain more precise insights be differentiating between behavioral- and

outcome-based monitoring (Gundlach and Cannon 2010) and goodwill and competence trust (Das and Teng 2001) and how the interactions among these types of monitoring and trust affect deviant-personal opportunism under the different horizon rules.

Another study utilizing the business simulation can focus on collecting and analyzing dyadic data. One of the major limitations in the strategic alliance literature stems from the use of cross-sectional data and the lack of the use of dyadic data. This limitation is accepted due to the difficulty obtaining dyadic data in this research stream. The simulation used here is capable of generating a sample of supplier-buyer dyads with objective performance data. Dyadic data has the potential to offer a fuller picture of any studied phenomenon in the interfirm relationships literature. For example, exploring how both parties to a relationship perceive each other when it comes to deviant-personal opportunism could offer additional insights. Moreover, exploring these dyads longitudinally, across the business quarters played out in this simulation, could offer insight into how perception of opportunism builds up over time. Finding a tipping point at which alliance partners will find opportunistic acts by a partner as a direct threat and exploring possible correcting mechanisms that can help partners reverse the course of perceived opportunistic acts would be valuable to theory and practice.

Conclusion

In conclusion, this dissertation offers a fresh look at opportunistic behaviors in strategic alliances. When studying relational factors and how they affect opportunism, more insightful findings can be realized when focus is shifted to deviant-personal opportunistic behaviors. This specific literature stream suffers from somewhat of a myopic view stemming from a heavy focus on transaction cost economics theory, which

conceptualizes opportunism at the firm-level only. Realizing this and exploring new theoretical perspectives can be useful to further unpacking the complexities of opportunistic behaviors.

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APPENDICES

APPENDIX A: Study 1 and Study 2 Measures

~~ABC~~: scratched-through items marks the items that were eliminated during the CFA stage.

Rogue-Firm Opportunism

Study 1	Study 2
Please indicate to what extend would you agree/disagree with the following statements about the two supply chain partners.	Please indicate to what extend would you agree/disagree with the following statements about your alliance partner firm.
~~This partner exaggerated needs to get what it desires.~~	~~Our partner firm exaggerated needs to get what it desires.~~
This partner was not always sincere.	Our partner firm is not always sincere.
This partner altered facts to get what it wanted.	Senior management at the partner firm alters facts to get what it wants.
This partner breached agreements to its benefit.	Our partner firm breaches formal or informal agreements to its benefits.

Deviant-Personal Opportunism

Study 1	Study 2
Please offer your perception of the two supply chain partners across the following dimensions:	To what extend would you agree/disagree that certain individuals from the partner firm …
People offered their best effort to make the relationship work (R)	… withhold effort
~~People responded in timely manner to our inquires (R)~~	~~… responded in timely manner to our inquiries (R)~~
People delivered on their promises (R)	… do not deliver on their promises
People provided truthful information to us (R)	… provide false information
People followed closely their verbal agreements with our firm (R)	… breach agreements to benefit personally

Monitoring

Study 1	Study 2
Please indicate the extent to which your firm monitored how good of partners the two supply chain partners were across the following areas.	Please indicate the extent to which your firm monitors the alliance partner firm across the following aspects.
Overall investment in the relationship	Partner's overall investment in the relationship
~~Level of cooperation~~	~~Partner's level of cooperation~~
Activities outside of our supply chain relationship	Partner's activities outside of the relationship
Response speed when undergoing contract negotiations.	Response timeliness of the partner

Trust

Study 1	Study 2
Please indicate to what level you agree/disagree with the following statements about the two supply chain partners.	Please indicate to what level you agree/disagree with the following statements about your alliance partner firm.
This partner kept promises it made to our firm	The alliance partner firm keeps promises it makes to our firm
~~This partner was not always honest with us (R)~~	~~The alliance partner firm is not always honest with us (R)~~
~~We believe the information this partner provided to us~~	~~We believe the information that the alliance partner firm provided to us~~
This partner was trustworthy	This alliance partner firm is trustworthy
This partner was genuinely concerned that our supply chain relationship succeeds	This alliance partner firm is genuinely concerned that our alliance succeeds
Our firm trusts that this partner kept our best interests in mind	Our firm trusts that the alliance partner firm keeps our best interests in mind

Relative Alliance Identity

Study 1	Study 2
Please indicate to what level you agree/disagree with the following statements.	Please complete the following statements by selecting the degree to which you personally identify with the alliance rather than with your firm, or vice versa.
Seeing both our firm and [partner name] succeed would feel more satisfying than seeing only our firm succeed	[my firm/the alliance]'s successes are my successes
Attacks by other firms on [partner name] would feel like attacks on our own firm	When someone criticizes the colleagues in [my firm/the alliance], it feels like a personal insult
Someone praising our relationship with [partner name] would feel like a personal compliment	When someone praises [my firm/the alliance], it feels like a personal compliment
~~If I had to make a choice between doing what was best for my firm or for the supply chain relationship with [partner name], I would do what was best for the relationship~~	~~If I had to make a choice between doing what was best for my firm or for the alliance, I would do what was best for [my firm/the alliance]~~
When I talked with others about the relationship with [partner name], I usually would say "we" rather than "they"	When I talk about the colleagues in [my firm/the alliance], I usually say "we" rather than "they"

Alliance Partner Stability: Partner Independence

Study 1	Study 2
Please indicate to what level you agree/disagree with the following statements about the two supply chain partners.	Please indicate to what level you agree/disagree with the following statements about your alliance partner.
This partner provided vital resources we would find difficult to obtain from other resellers (R)	Our alliance partner provides vital resources we would find difficult to obtain elsewhere (R)
It would have been difficult to replace this partner (R)	It would be difficult to replace our alliance partner (R)
Our strategic objectives would suffer greatly if we would have lost this partner (R)	Our strategic objectives would suffer greatly if we would lose our alliance partner (R)

Alliance Partner Stability: Organizational Proximity

Study 1	Study 2
Please indicate to what level you agree/disagree with the following statements about your relationship with the two ranked supply chain partners.	Please indicate to what level you agree/disagree with the following statements about your alliance partner firm.
The management style of [partner name] is very similar to the management style of our firm	The management style of our alliance partner is very similar to the management style of our organization
The business culture of [partner name] is very similar to ours	The corporate culture of our alliance partner is very similar to ours
The business practices of [partner name] are very similar to the business practices of our firm	The business practices of our alliance partner are very similar to the business practices of our organization

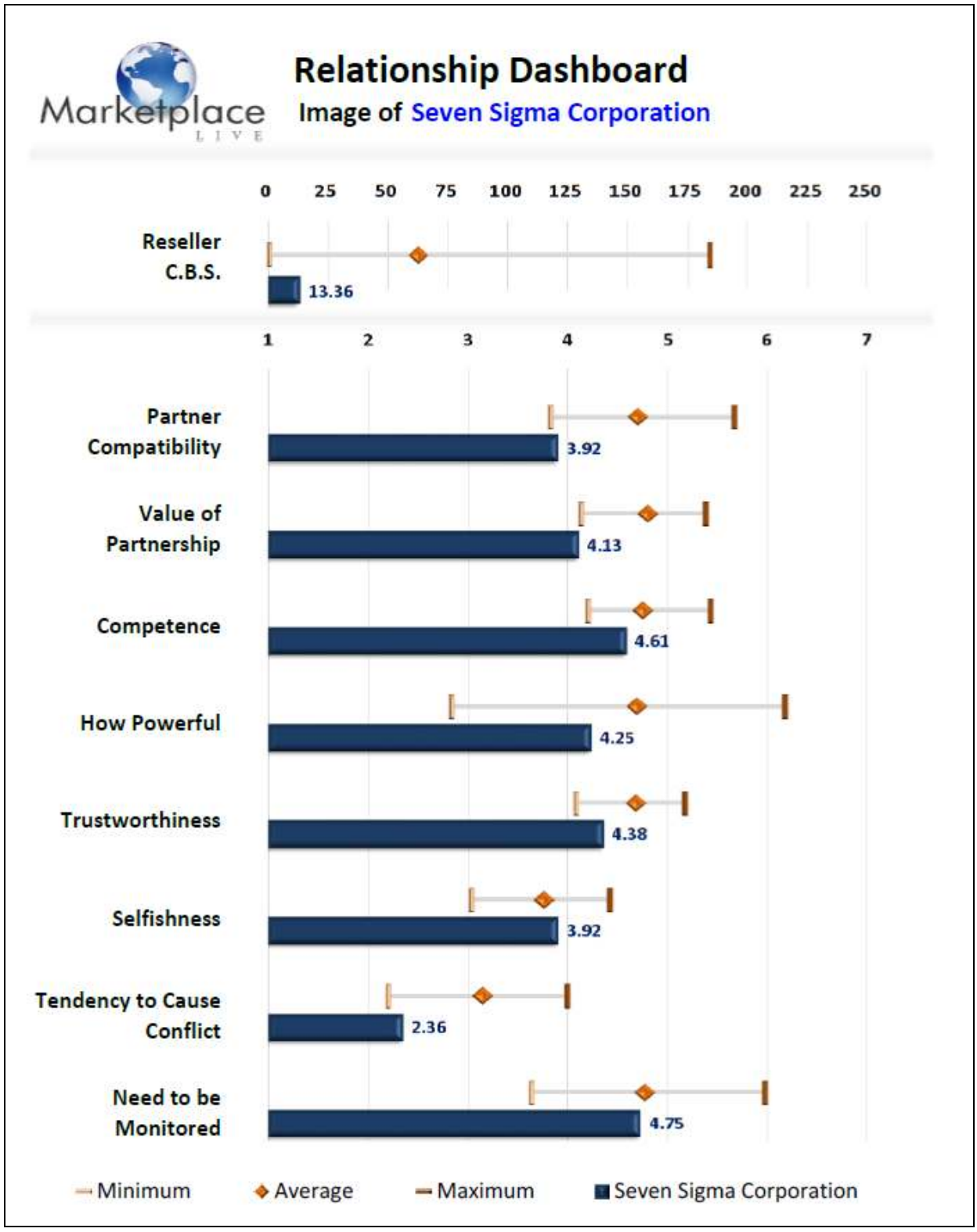
Alliance Performance: Financial Performance

Study 1	Study 2
	For the following questions please consider your relationship with [partner name] during 2014. Rate the degree to which the alliance was effective at achieving the following outcomes relative to its original objectives
Objective performance data were collected from the simulation. 1) ROA 2) Gross Profit	Return on investment
	Return on assets
	Sales
	Profit margin
	Market share

Alliance Performance: Strategic Performance

Study 1	Study 2
	For the following questions please consider your relationship with [partner name] during 2014. Please indicate to what level you agree/disagree with the following statements about the alliance.
Not applicable, objective data were used.	During the last year, the collaboration provided a great opportunity to learn from our partner firm
	Collaborating with this alliance partner firm during the last year was a wise business decision
	Our strategic objectives set for this alliance for the year 2014 were achieved

APPENDIX B: Simulation Incentive – Relationship Dashboard



APPENDIX C.1: Introductory Email to Contacts

Dear [FIRST NAME],
I am a PhD student in marketing at the University of Tennessee. I am currently working on my dissertation. My dissertation would greatly benefit from your professional expertise. It would be very helpful if you could spare 10 to 15 minutes of your time to answer my dissertation survey. Completing the survey will ...

1) … allow me to prepare and share my dissertation findings report with you.
2) … raise $20.00 towards a donation to St. Jude Children's Hospital.
3) … get me closer to finishing my dissertation.

The goal of this survey, and overall my dissertation, is to contribute to existing knowledge regarding B2B relationships.
Your company and your contact information was obtained from SDC Platinum database, which is available to PhD students through the University of Tennessee. This database compiles a list of B2B partnerships and strategic alliances.
Can I send you a link to my survey?
If you have any questions, do not hesitate to contact me.
THANK YOU!
Best regards,
Anton P. Fenik
Marketing Ph.D. Candidate
Marketing and Supply Chain Management
The Haslam College of Business Administration
University of Tennessee
afenik@utk.edu; 803-629-5132

APPENDIX C.2: 1st and 2nd Follow-up Emails to Contacts

Dear [FIRST NAME],
This is my last request for your participation in my dissertation survey. Only 20 more responses are needed! In return you will receive:

1) A report with my dissertation findings, and
2) I will add $20 towards a donation to St. Jude Children's Hospital in your name. I am approaching the $3,500 goal … your response can get me there.

12 minutes of your time can translate into a lot of good!

1) You get the report with potentially insightful findings that may be useful to your business.
2) We will help medical research at St. Jude's Children's Hospital.
3) I will get to finish my dissertation through which I can become a more valuable resource to the business community.

Can I send you a link to my survey, please?
Thank you!
Best regards,
Anton P. Fenik
Marketing Ph.D. Candidate
Marketing and Supply Chain Management
The Haslam College of Business Administration
University of Tennessee
afenik@utk.edu; 803-629-5132

More background about me:
I am a PhD student in marketing at the University of Tennessee. I am currently working on my dissertation. Part of my dissertation requires that I collect data from business practitioners like yourself. Hence, me contacting you regarding participation in my survey. Here is a link to my University of Tennessee profile:
http://mscm.bus.utk.edu/Students/Current-PhD-Students/Fenik.asp
The goal of this survey, and overall my dissertation, is to contribute to existing knowledge regarding B2B relationships.
Your company and your contact information was obtained from SDC Platinum database, which is available to PhD students through the University of Tennessee. This database compiles a list of B2B partnerships and strategic alliances.

APPENDIX C.3: Survey Link & Reminders to Opted-In Participants

Email with the survey link after contacts agreed to participate

Dear [FIRST NAME],

Thank you for your reply and willingness to participate.

A link to my Qualtrics survey is below. The link is auto-generated by Qualtrics, which guarantees anonymity of your response.

[UNIQUE SURVEY LINK HERE]

Best regards,
Anton

Reminder email to contacts who already agreed to participate but failed to complete the survey after the initial email with the survey link above.

Dear [FIRST NAME],

Thank you again for your willingness to help with my dissertation. This is just a friendly reminder to complete my survey. For your convenience, you can find a link to my survey below.

[UNIQUE SURVEY LINK HERE]

I am missing only around 15 responses to meet the sample size necessary for my dissertation analysis. Your response would make all the difference!

THANK YOU!

Best,
Anton

VITA

Anton Pavol Fenik is an assistant professor in the department of Marketing at Grand Valley State University. Anton earned his Bachelor of Science in Mathematics degree and Masters of Business Administration degree from the University of South Carolina. Prior to starting his doctoral studies at the University of Tennessee, he worked in the international trade industry as a marketing manager for an export management company. Bringing together his personal, professional, and academic interests and experiences, his research primarily focuses on marketing strategy within business to business relationships.