HOW ALLIANCE MANAGERS ARE LIKE BLIND MEN DESCRIBING AN ELEPHANT:
INVESTIGATING RESOURCE POOLING AND VALUE ASYMMETRIES

Matthew W. McCarter¹,²*, Stanley E. Fawcett³
and Collin D. Wooldridge¹

¹College of Business, University of Texas, San Antonio, TX, US
²Economic Science Institute, Chapman University, Orange, CA, US
³John B. Goddard School of Business & Economics,
  Weber State University, Ogden, UT, US

ABSTRACT

The social dilemma paradigm provides a useful lens for studying resource-pooling problems in strategic alliances. An assumption underlying the paradigm is that alliance partners view the costs and benefits of resource pooling symmetrically, resulting in partners playing metaphorically a social fence game—a type of social dilemma. We begin to problematize

* Corresponding author: Email: matthew.mccarter@utsa.edu.
the social dilemma paradigm by challenging the assumption that partners view the costs and benefits of resource pooling uniformly. A survey of 54 senior and 54 novice alliance managers about pooling 10 kinds of resources in alliances finds evidence of value asymmetry: senior and novice managers perceive the costs and benefits of resource pooling in alliances differently. Novice managers view the pooling of all resource types as a social fence, while senior managers are more reserved in their views. In practical terms, there is a 50.1% reduction in occurrences where senior managers view resource pooling as a social fence compared to novice managers. The asymmetrical view of the costs and benefits of resource pooling suggests that alliances may fail because partners perceive they are in different relationships playing under different rules. Partners may not always intentionally take purposeful actions that enable or harm the value co-creation initiative, but rather unintentionally defect on the relationship. We elaborate on how the presence of value asymmetry may cause some commonly proposed solutions in strategic alliance social dilemmas to increase defection.

1. INTRODUCTION

By now strategic management and supply-chain scholars have figured out that competitive advantage is achievable for strategic alliances that pool resources to co-create value (Nielsen, 1988; Swink & Schoenherr, 2015). Alliances are “voluntary arrangements [between two or more firms] involving the exchange, sharing, or co-development of products, technologies, or services.” (Gulati, 1998, p. 293). What puzzles many supply-chain and strategic management scholars is why so many alliances struggle to effectively pool resources (Park & Ungson, 2001; Fawcett et al., 2015).

A key factor in alliance collaboration is effectively managing the relationships among its partners (Dyer & Singh, 1998; Schoenherr & Swink, 2012). After decades of studies about how alliance structure impacts cooperation (Melo, Nickel, & Saldanha-Da-Gama, 2009), the role of perceptions of alliance members has come to the fore (Kwon & Suh, 2004; Day, 2013; Jones et al., 2014).

The current paper adds to discussions in supply chain collaboration and value co-creation by addressing the question, “Do alliance managers
perceive the cost and benefits of resource pooling symmetrically?“ Should supply chain managers view the value of resource pooling asymmetrically, then it would not only be in the partners’ interest to assure each other as trustworthy (Kwon & Suh, 2005; Laan et al., 2011), but to assure each partner views the alliance relationship symmetrically.

Using survey data from senior and novice managers about pooling 10 kinds of resources in a buyer/supplier relationship, we find evidence that the two groups view resource pooling asymmetrically. The presence of value asymmetry suggests that alliances may struggle to create value because the partners are metaphorically “playing different games” and prematurely defecting on the alliance. Whereas current supply chain and strategic management literatures assume the motivations for defecting on the alliance are intentional, our evidence suggests an alternative explanation: unintentional defection. If alliance partners do not uniformly see themselves playing the same game, then solutions often proposed in the social dilemma literature may lead to counterproductive outcomes. Empirical research examining the motivations and mechanisms behind partner defection in supply chain alliances is limited. Thus, to our knowledge, our paper is the first to empirically examine why resource pooling is so challenging for supply chain alliances.

The remainder of the current research is organized as follows. First, we review the social dilemma paradigm that has become increasingly used by supply chain and strategic management scholars to study the role of perceptions in alliances (e.g., Agarwal, Croson, & Mahoney, 2010; Fawcett, Magnan, & McCarter, 2008; Fonti et al., 2017; McCarter, Mahoney, & Northcraft, 2011b; McCarter & Northcraft, 2007; Zeng & Chen, 2003). We then provide a review of current literature and, drawing on recent developments germane to resource pooling and alliance failure therein, propose two hypotheses. The hypotheses are meant to challenge some key assumptions of the paradigm (Alvesson & Sandberg, 2011) and how it is used to understand alliance management and buyer/supplier relationships. We test these hypotheses through a survey methodology and report our results. We conclude by discussing several insights gleaned from our findings coupled with limitations and future research directions.
2. SOCIAL DILEMMAS: A BRIEF REVIEW

Social dilemmas are interdependent decisions where individual and collective interests diverge such that there is a strategy that is rational for an individual to do that provides a benefit to themselves while passing a burden onto others, but if everyone uses the strategy, then everyone is worse off (Dawes, 1980). Because the social dilemma paradigm’s role in the conversation of alliance management is discussed and compared to other theoretical approaches to alliance management elsewhere (Zeng & Chen, 2003), we briefly review the core ideas here.

Dawes (1975) originated the social dilemma paradigm from non-cooperative game theory’s 2-player prisoners’ dilemma to include three or more players—be they persons, groups, firms, communities, or nations. Because of its strong roots in game theory, a social dilemma is often portrayed as a game being played among three or more players. While a host of social dilemma games exist (Messick & Brewer, 1983; Kollock, 1998), we focus here on the social fence game.

A social fence is a metaphor describing a circumstance where an individual is tempted to withhold contributing toward a collective good while hoping that others will contribute and make the benefits of the collective good still available (Messick & Brewer, 1983). In a buyer/supplier relationship, it is in each partner’s interest to offensively defect or hold back some resources (e.g., money, human capital, information) from the alliance in hope that other partners will contribute, but if enough of the partners hold back, then the supply chain’s performance suffers (Rokkan & Buvik, 2003). To make matters worse, alliance partners may fear being taken advantage of by opportunistic partners, thereby being motivated to defensively defect and avoid being made the sucker (Rockmann & Northcraft, 2008).

---

1 While the term social fence was used in the original, seminal papers on social dilemmas (e.g., Messick & Brewer, 1983), the term lost popularity over time. The more popular terms used now are give-some dilemma and public goods dilemma (e.g., Balliet, Parks, & Joireman, 2009). To remain consistent with the social dilemma literature in general we use the term social fence.
In social fence games, offensive defection occurs where at least one player attempts to free ride on the contributions of others. Defensive defection involves at least one player withholding resources out of fear of free-riding partners. Predominantly, social dilemma research assumes decisions to cooperate or defect are conscience. Whether a player free rides on the cooperative behavior of others or holds back resources in fear of being played the sucker (Yamagishi & Sato, 1986), players either cooperate or defect knowing that doing so may either help or hinder collective action. Scholars, however, have recently posited that if parties do not value the costs and benefits of contributing or withholding resources symmetrically, defection can occur unintentionally (Al-Mutairi, Hipel, & Kamel, 2008; Tenbrunsel & Northcraft, 2010).

3. ALLIANCE SOCIAL DILEMMAS: A SYNTHESIS AND EXTENSION

There is a growing body of research across organizational theory (Heide & Miner, 1992; Ingram & Inman, 1996; Kumar & van Dissel, 1996; Larsson et al., 1998; Zeng & Chen, 2003), strategic management (Agarwal et al., 2010; Arend, 2009; Arend & Seale, 2005; Celly et al., 1999; Gulati et al., 1994; McCarter et al. 2011b; Parkhe, 1993a, 1993b; Seale et al., 2006), and supply chain management (Fawcett et al., 2008; McCarter & Fudge Kamal, 2013; McCarter & Northcraft, 2007) that uses the social dilemma paradigm to understand why some alliances succeed and others fail.

Our review of the top journals in management found that the majority of alliance papers that use the social dilemma paradigm are in the strategic management and organizational theory domains (13 papers total), with one paper in information systems and two in supply chain management journals. Both papers in the supply chain management domain are conceptual contributions. We identified the following salient themes across the 16 papers.2

---

2 The complete journal list we searched through included the *Academy of Management Journal*, *Academy of Management Review*, *Administrative Science Quarterly*, *Harvard Business*
• **Resource pooling creates value.** Although an alliance can be formed for a host of reasons—for example, for a competitive advantage or to conform to institutional pressures (Westphal et al., 1997)—the literature using the social dilemma paradigm assumes that the alliance is formed to create added value for all partners through the “cooperative strategy” of resource pooling (e.g., McCarter & Northcraft, 2007; Zeng & Chen, 2003).

• **Willingness to contribute is focal point.** The outcome variable of interest in the alliance social dilemma literature is typically either whether or how much of a private resource a partner contributes toward alliance initiatives (e.g., Agarwal et al., 2010).

• **Social dilemmas are viewed as a social fence.** With two exceptions (i.e., Ingram & Inman, 1996; Kumar & van Dissel, 1996) extant articles assume an alliance is a social fence.³

• **Reputational effects receive little attention.** Although there is recent focus on reputation effects and cooperation (e.g., Arend, 2009; McCarter et al., 2011b), the social dilemma paradigm is primarily used to understand one-shot supply chain alliances.

---

³ The Ingram and Inman (1996) and Kumar and van Dissel (1996) papers focus on a social dilemma termed a social trap. In social traps, decision makers take too much of a resource from a shared pool to further self-interests. The benefit of taking the resource (e.g., water, air, credit on a project, data storage space) is enjoyed by that individual but the costs are distributed across everyone using the shared resource. Should enough individuals defect and take as much of the shared resource as possible then the resource pool is depleted below the level needed for value creation and the shared benefits disappear. The classic take-some dilemma is illustrated in the *Tragedy of the commons* (Hardin, 1968); e.g., conservation of fisheries (Gordon, 1954), forests, and water (Ostrom, 1990). There is also a third form of social dilemma recently introduced to the literature termed the give-or-take-some dilemma (McCarter et al., 2011a). In the give-or-take-some dilemma, individuals may give or take resources from a shared resource pool, with efficient outcomes being when the amount taken matches the amount given (Budescu & McCarter, 2012). Examples include shared energy grids and shared sales/clientele databases used by partnering firms in the same industry. However the study of this dilemma is still in its infancy and has yet to be applied to understanding strategic alliances.
4. Hypotheses

Connecting the idea of the social fence with the motivations for defection and cooperation, the extant literature using the social dilemma paradigm assumes that partners view the social dilemma as a social fence and therefore are intentionally cooperating or defecting by contributing or withholding resources from alliance initiatives. However, unintentional defection is not precluded. Tenbrunsel and Northcraft (2010) suggest that value asymmetry—i.e., where partners view the costs and benefits of cooperation and defection differently—may lead to unintentional defection.

The idea of unintentional defection is rooted in March’s (1994, p. 178-179) idea that decision making can be shrouded in ambiguity, implying “that the ‘real’ world [is] a product of social construction.” Building on March’s (1994) idea of ambiguity, Tenbrunsel and Northcraft (2010) suggest that players, when studying the costs and benefits of a social dilemma and based on their own construction of reality, transform the objective payoffs into subjective payoffs.

Messick (1999) observes that perceptions of payoffs are influenced by an individual’s past experience. People catalogue experiences such that when various situational cues are accentuated in new situations, the individual matches those new situational cues with similar situational cues from previous experiences (Forgas, 1982). Personal experience creates a context for the decision (Powell et al., 2011), making individuals “interpreters” first and then decision makers (Daft & Weick, 1984). To the extent that decision makers transform objective payoffs into subjective ones, supply chain alliance partners could perceive the payoffs of cooperation and defection differently—in effect, “playing” different games. In other words, some alliance partners may view their resource pooling decision as a social fence game while others do not. Work experience is one factor that may influence how players perceive a game.

How managers perceive the costs and benefits of alliance collaboration should be influenced by their previous work experience. Powell and colleagues (2011, p. 1373) maintain that “the difference between a seasoned executive in the boardroom and a subject playing a … game [such as a social
dilemma] in a lab experiment is ontologically large.” We therefore predict that work experience alters how individuals value resource pooling in alliance social dilemmas.

**Hypothesis 1:** Value asymmetry will exist between novice and senior managers such that resource pooling in strategic alliances will not always be viewed as a social fence.

Who is more likely to view resource pooling in alliances as a social fence? The individual learning literatures in economics, management, and education suggest an answer. Frank and colleagues (1993) show that economic students are less cooperative in social dilemmas compared to non-economic students. The authors reason that economic teachings place greater weight on self-interest and individual value maximization compared to many other fields in higher education. Economic students are trained to see self-interest behavior as appropriate in resource allocation decisions. Frank and colleagues (1996) later observed that economics students are more likely to believe others are driven by self-interest and consequently behave opportunistically. Because of the anticipation of others’ non-cooperative behavior, those with economics training may be more likely to create a self-fulfilling prophecy (Ferraro, Pfeffer, & Sutton, 2005). Of note, management scholars Wang and colleagues (2011) found that simply having economics training makes a person more self-interested.

Correspondingly, longitudinal research of college students and professionals in cognitive psychology (Conway et al., 1991) and medicine (Kaczorowski et al., 1998) finds that a student’s memory and use of theories and methods learned while achieving their degrees deteriorates over time. The longer the time period from the learning event, the less those learning events affect a former student’s thinking and behavior (Semb & Ellis, 1994). With the senior and novice managers we studied in the current research, the senior managers had been out of school for many years compared to the novice managers who were full-time MBA students in programs with a strong economics lens (as evidenced by the programs’ curriculums). Given those receiving economics training more recently (even currently) may be more likely to see the world as non-cooperative
How Alliance Managers are Like Blind Men Describing an Elephant

compared to those who are further removed from economics training, we predict the following.

**Hypothesis 2:** Novice managers are more likely than senior managers to view resource pooling in strategic alliances as a social fence.

5. METHODS

To test our hypotheses, we surveyed two samples of people who came from populations that had different levels of work experience in alliance management: full-time MBA students and senior purchasing managers representing a host of industries.

5.1. Sample and Design

The sample included 108 participants who completed a survey instrument as a part of a strategic alliance exercise. Fifty-four participants were MBAs at two private universities in the western United States. As part of their core curriculum, both universities require students take courses with strong economic foundations. The other 54 participants were senior purchasing managers attending executive education sessions sponsored by the Institute of Supply Management. Following previous work comparing student and non-student (professional) samples (Gordon, Slade, & Schmitt, 1986), the MBA student sample represented our novice, inexperienced managers while the senior executives sample represented our experienced managers. The novice managers came from classes averaging 76% male and 2.7 years of work experience, and the sample of senior managers were 72% male with an average of 9 years of work experience, roughly three times more experience than the novice managers.

5.2. Survey Instrument

---

4 We are indebted to Debra Gonda for providing these summary statistics.
To test whether cooperative behavior in strategic alliances meets the core tenants of a social fence, a survey instrument was created following the format of Joireman and colleagues’ (2006) design. The instrument, which was identical for both samples, asked participants to rate the costs and benefits of pooling various resources for the focal firm and for the alliance in the short and long terms.\(^5\)

Various resources are often pooled in supply chain alliances. Therefore, we evaluated 10 resource types aligned with Schendel and Hofer’s (1979) typology: technological resources, financial resources, physical resources, asset-specific organizational resources, and human resources. Participants rated the costs and benefits of a particular resource-pooling behavior on a 7-point Likert scale: 1 = extremely costly, 4 = neutral, and 7 = extremely beneficial. Following Joireman and colleagues (2006), an index was generated for each pooled resource.

6. RESULTS AND HYPOTHESIS TESTING

For resource-sharing behavior in a strategic alliance to be a social fence, three criteria must be met:

1. *Cooperative behavior should result in short-term costs to the firm* (the mean rating should be significantly less than the median value of 4).
2. *Cooperative behavior should involve long-term benefits to the alliance* (the mean rating should be significantly greater than the median value of 4).
3. *The long-term benefits obtained by the alliance should exceed the long-term benefits obtained by the firm* (Joireman et al., 2006).

---

\(^5\) The instrument is available from the authors upon request. We thank Jeff Joireman for providing us the original survey materials we used as a template.
Table 1. Summary of alliance social dilemma literature

<table>
<thead>
<tr>
<th>References</th>
<th>Social Dilemma Form</th>
<th>Concepts</th>
<th>Variables</th>
<th>Findings</th>
<th>Contribution</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Celly et al. 1999</td>
<td>Social fence</td>
<td>Transaction cost analysis (TCA), mutual assurance game, environmental uncertainty, supply chain, relationship-specific investments.</td>
<td>Supplier relationship-specific investment, technological uncertainty, competition, importance of supplier responsiveness, importance to the buyer of traditional supplier characteristics, supplier relational attitude, buyer information sharing, length of relationship with supplier.</td>
<td>Technological uncertainty is positively associated with relationship specific investments and relationship-specific investments stabilize the buyer-supplier relationship.</td>
<td>Relationship-specific investments or unilateral commitment to a relationship can increase mutual dependence. The mutual assurance game provides an alternate framework to TCA for studying certain collaborative relationships.</td>
<td>Ordinary least squares regression analysis of 163 questionnaire responses from members of U.S. business students.</td>
</tr>
<tr>
<td>Gulati et al. 1994</td>
<td>Social fence</td>
<td>Unilateral commitments, prisoner’s dilemma, strategic alliances.</td>
<td>Various forms of resource commitments and strategic alliance agreements in joint ventures.</td>
<td>Unilateral commitments in the form of commitments to sacrifice and sequential irreversible commitments resulted in higher payoffs for certain strategic alliances than would have resulted from following the prisoner’s dilemma model.</td>
<td>Firms utilizing frameworks such as unilateral commitments rather than a prisoner’s dilemma, can achieve greater payoffs through increased cooperation.</td>
<td>Qualitative, interviewed 143 managers and observed firms that made unilateral commitments with the intent to influence alliances.</td>
</tr>
<tr>
<td>Kumar &amp; van Dissel 1996</td>
<td>Social fence</td>
<td>Inter-organizational systems, pooled information resource IOS,</td>
<td>Various IOS-type examples and potential economical, technical, socio-political, and transaction cost risks, value/supply chain IOS, networked IOS, cooperation, conflict, transaction cost theory.</td>
<td>Technical and economic risks can be mitigated technical and procedural methods, protocols and standards. For IOS alliance partners to succeed, organizations need to implement “statesman,” who continuously work to maintain cooperation.</td>
<td>Developed inter-organizational systems typology, examined three potential sources of conflict (economic, technical, and socio-political) in three IOS types (pooled, sequential and reciprocal) and considers potential remedies.</td>
<td>Industry examples of IOS and risk types given.</td>
</tr>
<tr>
<td>Seale et al. 2006</td>
<td>Social fence</td>
<td>Alliance, Prisoner’s dilemma, exit</td>
<td>Opportunity costs, payoff structure and level, entry fees,</td>
<td>When the opportunity cost beliefs are below the actual belief level of a partner’s</td>
<td>Real subjects used instead of game theoretic agents to test an iterated prisoner’s game.</td>
<td>80 undergraduate business students.</td>
</tr>
</tbody>
</table>
and the knowledge of when the alliance will end.

<table>
<thead>
<tr>
<th>References</th>
<th>Social Dilemma Form</th>
<th>Concepts</th>
<th>Variables</th>
<th>Findings</th>
<th>Contribution</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>McCarter &amp; Northcraft 2007</td>
<td>Social fence</td>
<td>Supply chain, strategic alliance, assurance game, prisoner’s dilemma game, social fence.</td>
<td>Communication type, social network, form of supply chain interdependence (asymmetrical, extended, and constellation), geographic distance, redundancy in supply chain partners, sanctions, time horizon,</td>
<td>Firms can defect from a defensive position in order to primarily prevent themselves from being exploited rather than exploiting others. Perception is key to successfully managing supply chain alliances in terms of the critical roles that communication, face-to-face contact, and geographic proximity play.</td>
<td>Viewing supply chain alliances through the lens of a social fence identifies numerous significant potential missteps and provides solutions to avoid those missteps.</td>
<td>Theoretical analysis</td>
</tr>
<tr>
<td>Zeng &amp; Chen 2003</td>
<td>Social fence</td>
<td>Multiparty alliances, cooperation, social fence, public goods dilemma.</td>
<td>Payoff matrix, communication, long term goals.</td>
<td>Sustained partner cooperation after an alliance is established can be improved through changing the payoff structure to enlarge the difference between cooperation and non-cooperation payoffs</td>
<td>Used social dilemma framework to propose solutions to sustaining cooperation between alliance partners.</td>
<td>Literature review and previous firm study examples.</td>
</tr>
<tr>
<td>Parkhe 1993a</td>
<td>Social fence</td>
<td>Global strategic alliances, game theory, alliance</td>
<td>Game theoretic structure (pattern of payoffs, relationship durability, and number of</td>
<td>Statistically significant link between game theoretic structure and performance.</td>
<td>Insights gained from game theory can potentially enhance the stability,</td>
<td>111 senior executives. Correlation analysis, multiple</td>
</tr>
<tr>
<td>References</td>
<td>Social Dilemma Form</td>
<td>Concepts</td>
<td>Variables</td>
<td>Findings</td>
<td>Contribution</td>
<td>Method</td>
</tr>
<tr>
<td>------------</td>
<td>---------------------</td>
<td>----------</td>
<td>-----------</td>
<td>----------</td>
<td>--------------</td>
<td>--------</td>
</tr>
<tr>
<td>Heide &amp; Miner 1992</td>
<td>Social fence</td>
<td>Interorganizational cooperation, interactive models of cooperation, iterated game, prisoners’ dilemma.</td>
<td>Extendedness in a relationship, level of cooperation, frequency of contact, Ambiguity in performance, product customization, time to replace trading partner, Length of prior relationship.</td>
<td>Higher levels of buyers and seller cooperation were associated with extendedness, anticipation of an open-end relationship, and frequency of interaction.</td>
<td>The time framework of a relationship may affect cooperation and interactive frameworks offer an important perspective to studying inter-organizational relationships.</td>
<td>136 Buyers and suppliers. Ordinary least squares regression.</td>
</tr>
<tr>
<td>Arend &amp; Seale 2005</td>
<td>Social fence</td>
<td>Alliance,iterated prisoner’s dilemma.</td>
<td>Cooperation level, opportunity cost ratio.</td>
<td>Firms receive their opportunity costs as is expected average pay-off per alliance.</td>
<td>Novel approach taken in examining alliance activity as an iterated prisoner’s dilemma.</td>
<td>Simulation and previous literature review.</td>
</tr>
<tr>
<td>McCarter et al. 2011</td>
<td>Social fence</td>
<td>Strategic alliances, real option, collective real option.</td>
<td>Small wins in mutual cooperation between alliance partners, trust, reputation, exposure in acquiring collective good, vulnerability, trust.</td>
<td>Alliances that experience small wins of mutual cooperation will experience higher trust than alliances that do not, and as trust increases, perceived vulnerability will decrease. The likelihood of alliance partners realizing small wins increases as exposure in acquiring collective real options decreases. A positive reputation will increase the probability of small wins.</td>
<td>Introduction of real options into the strategic alliance, social dilemma literature. Using collective real options enables alliance partners to hedge their risk by partners first revealing their cooperative intentions through small initial investments before ‘going the distance’ together.</td>
<td>Literature review and previous study examples.</td>
</tr>
<tr>
<td>McCarter &amp; Fudge Kamal 2013</td>
<td>Social fence and social trap</td>
<td>Public-private partnership (PPP), social dilemmas, give-some dilemma.</td>
<td>Trust, efficacy, social responsibility, cooperation, structural solutions, motivational solutions,</td>
<td>An integrative taxonomy combining social psychology and management solutions to PPPs contains 4 quadrants</td>
<td>Social dilemma framework and taxonomy provide a method for improving PPPs. Introduction of take-</td>
<td>Theoretical analysis</td>
</tr>
</tbody>
</table>
take-some dilemma, give-or-take-some

Table 1. (Continued)

<table>
<thead>
<tr>
<th>References</th>
<th>Social Dilemma Form</th>
<th>Concepts</th>
<th>Variables</th>
<th>Findings</th>
<th>Contribution</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Larsson et al. 1998</td>
<td>Social fence</td>
<td>Interorganizational learning, strategic alliances.</td>
<td>Collaboration, competition, compromise, receptivity, transparency, partner specificity.</td>
<td>Typology of five learning strategies based on transparency as well as how receptive a firm is to its partners is developed. The five strategies are collaboration, competition, compromise, accommodation, and avoidance. Learning is likely to decrease when motivation or knowledge absorption and communication is low and the dynamics of asymmetrical learning can create barriers to knowledge development. Framework integrating strategic alliance, organizational learning, collective action, and game theories contributing to greater understanding of alliance development and performance.</td>
<td>Comparison of previous case studies and surveys of interorganizational learning.</td>
<td></td>
</tr>
<tr>
<td>Agarwal et al. 2010</td>
<td>Social fence</td>
<td>Strategic alliances, economic incentives, social fence, game theory.</td>
<td>Alliance Success, incentive alignment, communication, Heterogeneity in strategic alliance partners’ ratio of common to private benefits, decision maker’s ratio of common significantly increased the to private benefits in an alliance</td>
<td>Aligning economic incentives is necessary for success but not wholly sufficient as various other factors like coordination costs, bounded rationality, and trust can create uncertainty in alliances. Ability to communicate</td>
<td>Extended William’s (1975) seminal TCE theory by finding strong support for the role of economic incentives, bounded rationality, heterogeneity, and communication in</td>
<td>Lab experiment, 405 participants as decision makers. ANOVA.</td>
</tr>
<tr>
<td>References</td>
<td>Social Dilemma Form</td>
<td>Concepts</td>
<td>Variables</td>
<td>Findings</td>
<td>Contribution</td>
<td>Method</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Ingram &amp; Inman 1996</td>
<td>Social trap</td>
<td>Tragedy of the commons, Institutional intervention, the structure of commensalism, intergroup rivalry and collective action.</td>
<td>Hotel failure, subpopulation, population density, organizational size and age, geography, localized competition.</td>
<td>Subpopulations did exist while satisfying the preconditions for commensalism with some organizations have advantage over others. Institutional park solutions decreased hotel failure; advantage derived from geographic location was not supported.</td>
<td>Institutional solutions can overcome self-interested activity in order to protect the commons.</td>
<td>Case study of the history of tourism institutions at Niagara Falls.</td>
</tr>
<tr>
<td>Parkhe 1993</td>
<td>Social fence</td>
<td>Strategic alliance, transaction cost economics,</td>
<td>Perception of opportunistic behavior, payoff of unilateral cooperation, shadow of future, nonrecoverable assets.</td>
<td>Expected relationship durability is associated with favorable spillover effects, profitability, and alliance performance.</td>
<td>Model linking game theoretic structure and TCE to create a fuller account of alliance structuring. Additional variables such as ex ante and ex post attempts to deter opportunism, trust, and behavioral transparency as methods to increase cooperation.</td>
<td>111 alliances. Canonical correlation analysis, MANOVA, regression analysis.</td>
</tr>
<tr>
<td>Arend 2009</td>
<td>Social fence</td>
<td>Iterated prisoner’s dilemma, social fence, alliance, reputation, cooperation</td>
<td>Reputation information availability, alliance length, alliance cooperation, payoffs, beliefs about partner’s future cooperation</td>
<td>Opposite than hypothesized effects, cooperation levels, alliance length, overall welfare, belief in partner cooperation, all decreased</td>
<td>Without reputation information, players assume a level of cooperation that lies above the critical level. When</td>
<td>Experimental, 72 undergraduates, two-tailed T-test.</td>
</tr>
<tr>
<td>with additional reputation information</td>
<td>reputation information is available, players will discriminate.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2. While in the aggregate managers generally view resource pooling as a social fence (Panel A), senior managers only view the pooling of four resources as a social dilemma compared to the novice managers’ ten (Panel B).

<table>
<thead>
<tr>
<th>Panel A: Combined Sample (N = 108)</th>
<th>Panel B: Senior Executives and MBAs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Resource Type</strong></td>
<td><strong>M</strong></td>
</tr>
<tr>
<td>Technology</td>
<td>3.44*</td>
</tr>
<tr>
<td>Financial</td>
<td>2.30*</td>
</tr>
<tr>
<td>Intellectual 1</td>
<td>3.62</td>
</tr>
<tr>
<td>Physical</td>
<td>2.72</td>
</tr>
<tr>
<td>Organizational</td>
<td>3.70</td>
</tr>
<tr>
<td>Human 1</td>
<td>2.20</td>
</tr>
<tr>
<td>Intellectual 2</td>
<td>3.86*</td>
</tr>
<tr>
<td>Asset Specific</td>
<td>2.87*</td>
</tr>
<tr>
<td>Proprietary</td>
<td>4.67*</td>
</tr>
<tr>
<td>Human 2</td>
<td>2.81*</td>
</tr>
</tbody>
</table>

For both panels:

**Assumption 1:** Mean rating < median value of 4

**Assumption 2:** Mean rating > median value of 4

**Assumption 3:** Long-term benefits for the alliance > long-term benefits for the firm

M = Mean Difference

*p < 0.05 (one-tailed test)

t = t-value

d = Cohen’s d (effect size)
Table 2 provides the means, standard deviations, and test statistics pertinent to our hypotheses. For testing these criteria, a series of pre-planned contrasts of the aggregated samples was employed. An ANOVA showed that resource pooling of nine of the ten resources meet the three underlying assumptions of the social dilemma paradigm (see Table 2, Panel A). In particular, pooling nine of the ten resources is viewed as producing 1) short-term costs to the partner, 2) long-term benefits to the alliance, and 3) greater long-term benefits to the alliance compared to the partner. The one resource that did not meet these criteria is the provision of technical training and education to an alliance partner. Thus nine of the ten resources, in the aggregate, meet the criteria of a social fence. However, contrasting the respondent groups reveals the presence of value asymmetry.

Hypothesis 1 posits that viewing resource pooling in alliances as a social fence will change as a function of work experience. Panel B in Table 2 provides the parsed statistics for the two samples. Evidence of value asymmetry is found. Whereas MBAs view all ten resources as a social fence, senior executives only view four of the ten resources as a social fence. How decision makers view the cost of sharing resources to their firm drives the asymmetrical perceptions. Novice managers (M = 3.24, s.d. = 2.74) view resource pooling as costlier to their firm in the short run compared to professionals (M = 3.57, s.d. = 2.97): t = -3.18, p < 0.001. Value asymmetry is present between these samples, providing support to Hypothesis 1.

Hypothesis 2 maintains that novice managers are more likely than senior managers to view resource pooling in strategic alliances as a social fence. To test Hypothesis 2, we compare the proportions of MBAs and senior managers who met the three criteria for each resource, and subject the total proportions and counts to a two-sample proportions test. The proportion and total responses for MBAs who viewed our set of 10 resources as a social fence was 36.1% (N = 560), and the proportion and total responses for senior managers was 18% (N = 550). The test yielded a Z = 6.77, p < 0.001, finding a statistical difference between the two samples. In terms of practical significance, the difference in proportions between MBAs and senior managers is large. There is a 50.1% reduction in occurrences where senior
managers view our list of resources as a social fence compared to MBAs. Hypothesis 2 is supported.

7. DISCUSSION AND CONCLUSION

Resource sharing is a critical element of supply chain management – and alliances in general – for achieving a competitive advantage. Most companies, however, struggle to effectively comingle complementary competencies (Fawcett et al., 2012). In many respects, supply chain alliances exhibit the characteristics of a social dilemma. Our review highlights the need to investigate social fence dynamics in SC networks. We need to better define the 1) boundary conditions that promote strategic cooperation or defection, 2) the role psychological contracts and trust play in mitigating both offensive and defensive defection, and 3) how can negotiation strategy diminish unintentional defection.

Further, we provide, to our knowledge, the first empirical social dilemma study in the supply chain literature. In doing so, we challenge the assumption that alliance partners view resource pooling as a social fence, finding value asymmetry between novice and senior managers. Novice managers are not starry eyed and susceptible to enter resource-sharing relationships blindly. They view the pooling of all resource categories as social fences. By contrast, seasoned managers take a more deliberate approach to assigning costs and benefits to resource sharing. Experience has helped them learn that absent exploitation, resource exchange can be an investment in distinctive advantage and shared benefits.

A third contribution stems from the presence of value asymmetry: We derive insight into the nature of the supply chain social dilemma and identify future research directions for scholars studying relationships among organizations. To begin, our research suggests that when alliance partners value resource contributions inconsistently, partners perceive they are playing different games with distinct rules, leading to unintentional defection. This motivation for defection complements past work that views
defection as a conscious choice—either out of opportunism or defensiveness.

The existence of value asymmetry, which motivates unintentional defection, pushes our thinking when it comes to the solutions alliance managers may use to encourage collaboration. We focus on two popular solutions proposed in both the social dilemma and strategic alliance domains: sanctions and the tit-for-tat strategy. These advocated solutions rest on the assumption of value symmetry among SC partners.

7.1. Sanctions

Sanctioning is the act of rewarding or punishing an alliance partner for cooperating or defecting. Sanctions have long been seen as a joint solution to encourage cooperation in social dilemmas (e.g., McCusker & Carnevale, 1995; Yamagishi, 1986). The position for their use is that private rewards—e.g., awards and social events—and punishments—e.g., fines and public shaming—incentivize alliance partners to resist opportunistic defection while calming the fears of partners tempted to defensively defect (McCarter & Northcraft, 2007; Zeng & Chen, 2003). When value asymmetry exists, however, sanctions may actually increase defection. Research on trust and contracting reminds us that as the number of control provisions in a contract increases, trust and desire to continue a relationship between businesses declines (Malhotra, 2009; Malhotra & Lumineau, 2011). Should Partner X perceive an alliance as a social fence, while Partner Y does not, adding control provisions to sanction defection may actually lead Partner Y to be less trusting, resulting in the very defection Partner X wants to avoid.

7.2. Tit-for-Tat

The tit-for-tat strategy, coined by Axelrod (1984) as a strategy for navigating conflict among nations, is when an individual in a social dilemma cooperates in the first round of a game and then matches the partner’s choice in each successive round. Specifically, if my partner defects (or cooperates) in round 1 then I will defect (or cooperate) thereafter until my partner
changes behavior. In alliance research, the tit-for-tat strategy is proposed as a way a manager can unilaterally encourage cooperation from others (e.g., Arend & Seale, 2005; Parkhe, 1993b). However, when value asymmetry leads to unintentional defection, the tit-for-tat strategy may lead to the demise of a collaborative initiative. To illustrate, say Partner X unintentionally defects, and then Partner Y reciprocates by defecting. In response to Partner Y defecting, Partner X may actually then question Partner Y’s intentions and take further steps to protect themselves from further defection. As each partner withdraws resources, the collaboration is starved, potentially locking the relationship into a doom cycle. Managers should use a more nuanced, negotiation-base response to unintentional defection.

7.3. Limitations and Future Research Directions

Thorngate’s (1976) “impostulate of theoretical simplicity” maintains that any social behavior research makes trade-offs among generalizability, accuracy, and simplicity of theory development. The current research is no exception. Our surveys of MBA and senior managers provide our findings with generalizability regarding the idea of value asymmetry and considerable accuracy in understanding which resources are more likely to be seen as social dilemmas. However, there is a simplicity gap between our findings and why value asymmetry exists.

The dearth of simplicity in our findings leaves several promising future research directions. For one, our study did not examine why senior managers viewed some resources less threatening than novice managers. Perhaps experience helps the manager realize that some resources are less susceptible to opportunistic expropriation. Alternatively, some resources may be easier to reuse or recycle than others. For instance, machinery can be reused on different projects while time (once spent) cannot. Future research studying why different meanings are attached to the same collective actions may benefit from drawing on the sense making literature, which examines how individuals give meaning to things they experience (Weick, 1995).
A second limitation and opportunity for further work is to tease apart education from work experience. It is not clear whether it is the time away from higher education or just experience that separates the senior from the novice’s perceptions of resource pooling. A quasi-experiment that compares novice managers who did (not) have strong economic training to senior managers who are (not) currently in education programs with similar economic emphasis may help find where the root cause lies.

A follow-up question from the potential confound is how can value asymmetry be made symmetric and, if it can, what does it achieve? Perhaps partners would prefer a shared understanding that the resource being pooled is a social fence because then traditional solutions like tit-for-tat and sanctions may avoid further defection. However, perhaps specific communication, education, or negotiation strategies can help reticent partners re-evaluate their cost/benefit valuations. If so, partners may take steps to create revised mental models about the resource being pooled (Cannon-Bowers, Salas, & Converse, 1993). Further, reputation prior and post alliances with value asymmetry may affect trust and subsequent cooperation in partners. The use of reputation is tied to the importance of information sharing among network agents (Das & Teng, 2001; Dyer & Nobeoka, 2000). Future research may benefit from examining how reputation spreads among network agents and can be influenced by agents filling structural holes, thereby brokering potential partners (Burt, 2009).

Close to 150 years ago, John Godfrey Saxe (1873) quilled a poem about six blind men trying to understand an elephant. One felt the elephant’s side and said it was like a wall, another felt the trunk and said it was like a snake, another felt its tusk and said it was like a spear, and so forth. The prose of Saxe reminds us that we must not only learn to perceive the world accurately but also understand how others perceive the “it”. Alliance managers in our study viewed the costs and benefits of resource pooling differently depending on whether they were novice or senior, with novice managers seeing resource pooling always as a social fence and senior managers not as much. The difference in perceptions about the nature of resource pooling may help explain why some supply chain value co-creation relationships succeed while others don’t.
REFERENCES


How Alliance Managers are Like Blind Men Describing an Elephant  


Page layout by Anvi Composers.