

A Business Ecosystem Perspective of Supply Chain Justice Practices: A Study of a Marina Resort Supply Chain Ecosystem in Indonesia

Abstract

Purpose:

We investigate the influence of supply chain (SC) justice practices in a shared value-supplier delivery performance relationship and the contingent role of trust within SC ecosystem operation.

Design/methodology/approach:

We collect and analyze dyadic survey data from a marina resort SC ecosystem in Indonesia.

Findings:

The results suggest the differential moderating effects of two types of perceived SC justice – perceived procedural justice and perceived interactional justice – on the relation between shared value and supplier delivery performance. More specifically, we find that perceived procedural justice strengthens the shared value-supplier delivery performance relationship, but that perceived interactional justice weakens such relationship. Furthermore, our findings demonstrate a positive three-way interaction effect between shared value, perceived SC justice, and trust on supplier delivery performance.

Originality/value:

Our study is the first to introduce the role of SC justice practices in SC ecosystem operation. We examine how shared value interacts with perceived SC justice and trust in order to determine supplier delivery performance.

Keywords: Business ecosystem, Shared value; Trust; Justice; Supply chain management; Tourism resort.

Introduction

A supply chain (SC) ecosystem is a network of interconnected SC firms that share common values and depend on each another for their survival (Kramer and Pfitzer, 2016; Viswanadham and Samvedi, 2013). Unlike typical interfirm SC networks, an SC ecosystem involves a “hub-firm” and a community of SC firms (actor-firms or suppliers) that work together to build a sustainable competitive advantage (Azzam et al., 2017; Viswanadham and Samvedi, 2013). According to the business ecosystem literature, a hub-firm plays an important role in orchestrating the SC activities within the SC ecosystem (Dhanaraj and Parkhe, 2006; Iansiti and Levien, 2004). Despite the emphasis on the role of the hub-firm as the SC ecosystem orchestrator, few researchers have studied empirically the orchestration mechanisms that a hub-firm adopts to coordinate its SC ecosystem activities (Dhanaraj and Parkhe, 2006; Jacobides et al., 2018). The current research is an attempt to improve our understanding of how a hub-firm can adopt SC justice practices to orchestrate SC activities in a way that affects the shared value-supplier delivery performance relationship and the contingent role of trust in this situation.

Shared value reflects the development of a common understanding among the SC firms within an SC ecosystem (Pera et al., 2016; Porter and Kramer, 2011). A major premise of the business ecosystem research holds that the cooperation within the SC ecosystem reflects the extent to which the actor-firms share each other’s thought processes and ways of doing things to optimize and speed up the production and delivery of the components of the ecosystem-based products (Adner and Kapoor, 2010; Liu and Rong, 2015). Hence, the presence of high levels of shared value within an SC ecosystem can increase the actor-firms’ (suppliers’) delivery performance.

Concurrently, the manner of orchestrating the SC activities within an SC ecosystem can influence the levels of shared value (Kramer and Pfitzer, 2016; Porter and Kramer, 2011). When the actor-firms dislike the style of orchestration of the SC activities, they become less

willing to work in partnership with both the hub-firm and each other (Iansiti and Levien, 2004; Liu and Rong, 2015). As a result, the number and frequency of the interactions between the actor-firms and the hub-firm will decrease, which in turn will destroy the shared value. When the actor-firms approve of the style of orchestration of the SC activities, they become more willing to team up with both the hub-firm and each other. Consequently, the number and frequency of the interactions between the actor-firms and the hub-firm will increase, which in turn will generate shared value (Kramer and Pfitzer, 2016; Porter and Kramer, 2011). Thus, the orchestration mechanisms that a hub-firm adopts in order to coordinate the SC activities can affect the strength of the relationship between the shared value and supplier delivery performance.

We propose that a hub-firm's adoption of SC justice practices (Narasimhan et al., 2013) to orchestrate the SC activities can influence the creation of shared value, which in turn enhances the supplier delivery performance within the SC ecosystem. More specifically, we seek to deepen our understanding of the various types of SC justice practices that moderate the relationship between shared value and supplier delivery performance. The empirical research to date, however, has failed to examine the role of SC justice practices within SC ecosystem operation. Yet, as anecdotal evidence suggests, suppliers' (actor-firms') fairness perceptions toward a hub-firm may affect their willingness to continue collaborating with both the hub-firm and each other with regards to SC activities (Katok and Pavlov, 2013; Narasimhan et al., 2013). Furthermore, previous studies of the justice practices in individuals (e.g., Colquitt et al., 2012) and firms' (e.g., Jambulingam et al., 2011; Wagner et al., 2011) relationships typically conceptualize the role of "trust" in order to help to capitalize the value of the justice practices. The issue of how trust within an SC ecosystem affects a hub-firm's SC justice practices remains under-examined. Together, these insights are critical for the managers who are in charge of leveraging multiple tactics to orchestrate the SC activities within the SC ecosystem.

Drawing on the insights of business ecosystem research (Liu and Rong, 2015; Rong et al., 2015), we develop a framework (see Figure 1). We test this framework by collecting and analyzing dyadic survey data from a marina resort SC ecosystem in Indonesia. We aim to make two important contributions to the relevant literature. First, ours is the first study to examine how perceived SC justice affects shared value-supplier delivery performance within an SC ecosystem. In doing so, we contribute to the business ecosystem research that investigates how a hub-firm adopts different mechanisms to orchestrate the SC activities within an SC ecosystem (e.g., Azzam et al., 2017; Rong et al., 2013). Second, by investigating how trust within an SC ecosystem affects the moderating effect of perceived SC justice on the shared value-supplier delivery performance relationship, we provide a more nuanced understanding about the contingent role of trust in the business ecosystem research (e.g., Dhanaraj and Parkhe, 2006; Liu and Rong, 2015).

Theoretical Background

A Hub-Firm and an SC Ecosystem

Jacobides et al. (2018) divide the business ecosystem research into three different streams. The first stream views the business ecosystem as a group of interacting firms that revolve around a hub-firm and work together to build a sustainable competitive advantage (e.g., Ansari et al., 2016; Iansiti and Levien, 2004). The second stream views a business ecosystem as an innovative network in which firms interact with one another to engage in product innovation-related activities (e.g., Adner, 2006; Adner and Kapoor, 2010). The third stream views a business ecosystem as a group of interdependent firms that gather around “platform” technologies that connect the firms and allow them to share or gain access to open-source technologies and technical standards (e.g., Ceccagnoli et al., 2012; Gawer and Cusumano, 2014). Our research on the SC ecosystem is more in line with the first stream of research, which

emphasizes the formation of interconnected business networks in order to engage in SC operations.

Under this business ecosystem perspective, previous research suggests that a hub-firm plays an important role in coordinating the SC activities within an SC ecosystem (e.g., Ansari et al., 2016; Iansiti and Levien, 2004). With few exceptions (e.g., Pellinen et al., 2012; Pera et al., 2016), little research attention has focused on the orchestration mechanisms that enable a hub-firm to coordinate the SC activities within an SC ecosystem. For example, Rong et al. (2013) conduct case studies of several hub-firms (such as Tectent, TSMC, Wistron, etc.) in the mobile computing industry and identify the three-step process (adjustment, adoption, and convergence) that they have used to nurture the operation of an SC ecosystem and deal with industry-related uncertainties. Dhanaraj and Parkhe (2006) propose that a hub-firm should adopt an orchestration mechanism to ensure the presence of knowledge mobility, innovation appropriability, and network stability within an SC ecosystem. Azzam et al. (2017) suggest the use of patents to orchestrate the ecosystem and ensure its stability. Against this background, our study marks an attempt to extend this line of research by proposing that a hub-firm can adopt SC justice practices as orchestration mechanisms. No prior studies have attempted to explore the influence of SC justice practices among the firms within an SC ecosystem. We also take a step further to investigate the role of trust as a contingent factor that moderates the impacts of SC justice practices. Together, this study aims to improve our understanding of the role of SC justice practices to coordinate the SC activities within an SC ecosystem.

Theoretical Framework and Constructs

We anchor our study in the business ecosystem research, which highlights that the formation of an SC ecosystem requires the actor-firms (suppliers) to develop a shared value that allows them to revolve around a hub-firm and collaborate with each other in combating

uncertainty and exploiting business opportunities (Iansiti and Levien, 2004; Jacobides et al., 2018; Porter and Kramer, 2011). In accordance with this premise, the business ecosystem research expects a hub-firm to play a critical role in orchestrating the SC operations within the ecosystem and the actor-firms to focus on delivering the components of ecosystem-based products (Adner and Kapoor, 2010; Rong et al., 2015). In this situation, a hub-firm's SC justice practices in dealing with its actor-firms during their interactions are important in affecting the dynamics of the actor-firms' behaviors within SC operation. This perspective builds on prior studies that suggest that unfair dealings in SC operation by the hub-firm can trigger the actor-firms' (suppliers') retaliation, thus undermining the collaborative behaviors (e.g., Caliskan-Demirag et al., 2010). Prior work on the business ecosystem research also emphasizes the critical role of trust in facilitating collaboration within an SC ecosystem (Azzam et al., 2017; Dhanaraj and Parkhe, 2006; Liu and Rong, 2015). Drawing on the insights of business ecosystem research, we develop a framework (see Figure 1). We elaborate on the central constructs of our framework and the underpinning theoretical rationales below.

“Insert Figure 1”

We conceptualize supplier delivery performance as the dependent variable of this study. This conceptualization builds on the business ecosystem research, which has found that the actor-firms' (suppliers') ability to deliver their promise made to the hub-firm represents the ultimate consequences of the hub-firm's efforts to orchestrate the ecosystem-based activities (Adner and Kapoor, 2010; Rong et al., 2015). The literature has generally characterized a firm's delivery performance in terms of its delivery speed and reliability (Malhotra and Mackelprang, 2012; Milgate, 2001). Delivery speed reflects the timeliness of a firm's responsiveness to perform an activity or fill an order, while delivery reliability relates to the capacity of the firm to fulfill the delivery as promised (Milgate, 2001). We define supplier delivery performance as

the extent to which the actor-firms are able to provide the dependable, timely delivery of the product components to the hub-firm.

In addition, we conceptualize shared value as the independent variable in our framework, again building on the business ecosystem research. From the business ecosystem perspective, shared value reflects the development of a common understanding and interpretation of the world among SC firms, which motivates the suppliers to work together within the SC ecosystem (Pera et al., 2016; Porter and Kramer, 2011). When the actor-firms share each other's thinking processes, they can embed generally acceptable approaches in order to optimize the delivery of the components of the ecosystem-based products (Adner and Kapoor, 2010; Liu and Rong, 2015; Saporito and Coombs, 2013). We define shared value as a common understanding among a hub-firm and the actor-firms (suppliers) within an SC ecosystem relationship.

Drawing on the business ecosystem research, we conceptualize perceived SC justice as the moderating variable in the relationship between shared value and supplier delivery performance. Previous research on the business ecosystem indicates that a hub-firm's behaviors and its dealings with the actor-firms can affect the nature of the collaborative behaviors within the SC ecosystem (Dhanaraj and Parkhe, 2006; Iansiti and Levien, 2004). We focus on a hub-firm's SC justice practices (i.e., fairness behaviors). In practice, the presence of perceived SC justice by an actor-firm may affect how it interacts with a hub-firm to develop a common understanding (shared value) between them and how they deliver their promised performance because the norm of reciprocity influences an actor-firm. We focus on an actor-firm's (supplier's) perception of two specific dimensions of SC justice practices¹ engaged in by the hub-firm. We define perceived procedural justice as the perceived fairness of the

¹ Distributive justice is another main form of SC justice practice, which is defined as the perceived fairness of rewards commensurate with the effort expended (Griffith et al., 2006; Narasimhan et al., 2013). It exists when the more powerful partner realizes that it has the reward power to determine how to share any benefits. In the context of our study, whether or not a hub-firm holds such reward power is unknown, so we decide not to investigate the influence of distributive justice.

decisions that the hub-firm takes with regards to its SC activities, and perceived interactional justice as the perceived fairness of the hub-firm in communicating information related to its SC activities (Luo, 2007; Narasimhan et al., 2013).

Finally, we conceptualize trust as a moderating variable that influences the moderating effects of perceived SC justice on the shared value-supplier delivery performance association. Prior research on interpersonal relationships has emphasized the important role of trust in shaping the perceptions of a party's intention to engage in fair/unfair treatment (Bal et al., 2011; De Cremer and Tyler, 2007). The current study applies this logic to explain the moderating effects of trust and perceived justice within the SC ecosystem relationship. This consideration builds on the prior research that applied concepts – explicitly trust and perceived justice – that researchers originally used to describe the content of the interpersonal relationship in order to explain the dynamics of the behaviors in firms' relationships (Narasimhan et al., 2013; Saporito and Coombs, 2013). Previous studies of the business ecosystem have emphasized the role of trust in facilitating the dynamics of firms' behaviors within an SC ecosystem (Azzam et al., 2017; Dhanaraj and Parkhe, 2006; Liu and Rong, 2015). We define trust as a confident, positive expectation regarding the SC exchange partners' conduct, motives, and intentions in situations entailing risk.

Hypothesis Development

The Perception of a Hub-Firm's Justice Practices

According to the business ecosystem research, shared value guides how the actor-firms respond to the demands of a hub-firm and deliver the components of ecosystem-based products that meet the hub-firm's requirements (Kramer and Pfitzer, 2016; Viswanadham and Samvedi, 2013). We apply these insights to analyze the association between shared value and supplier delivery performance. First, shared value enhances the relationship commitment between a

hub-firm and the actor-firms within an SC ecosystem. Having high levels of shared value within an SC ecosystem means that a hub-firm and its actor-firms (suppliers) “have beliefs in common about what behaviors, goals, and policies are important or unimportant, appropriate or inappropriate and right or wrong” (Morgan and Hunt, 1994, p. 25). This allows a hub-firm and its actor-firms to develop strong mutual attachments and feel confident that their relationships are important (Porter and Kramer, 2011). When the actor-firms believe that their relationships with the hub-firms are sufficiently important to warrant the exertion of the maximum efforts to maintain it, they will be more likely to provide the dependable and timely delivery of various product components to the hub-firms.

Second, shared value mitigates the competitive tensions among the actor-firms within an SC ecosystem (Dhanaraj and Parkhe, 2006; Kramer and Pfitzer, 2016). As high levels of shared value facilitate learning and knowledge transfer activities within the SC ecosystem (Saparito and Coombs, 2013), the actor-firms are more likely to share each other’s thinking processes and develop a cohesive view about the external challenges faced by the SC ecosystem as a whole. This helps them to recognize that collaborative behaviors can enhance their joint competitive position in the marketplace (Kramer and Pfitzer, 2016; Porter and Kramer, 2011). As a result, the actor-firms (suppliers) are more likely to ensure that they fulfil the delivery of the product components to the hub-firm as promised and on time. Combining the above two reasons, having high levels of shared value with the SC ecosystem can have beneficial effects on supplier delivery performance.

Unlike a formal contract, where both parties agree on their obligations and responsibilities during the length of the exchange relationship, shared value represents an informal arrangement that governs the parties’ behaviors throughout the exchange relationship (Saparito and Coombs, 2013). As a result, the levels of shared value may vary during the period of the exchange relationship, and various factors may influence it. According to the business

ecosystem research, the mechanisms that a hub-firm adopts to orchestrate the SC activities can affect how the actor-firms interact with both the hub-firms and each other (Dhanaraj and Parkhe, 2006; Rong et al., 2013), which in turn can affect the level of shared value within the SC ecosystem by amplifying/suppressing the activities that generate shared value (Kramer and Pfitzer, 2016; Porter and Kramer, 2011). We apply these insights to argue that the hub-firm adopts various SC justice practices as orchestration mechanisms to coordinate the SC activities within an SC ecosystem, which can influence the impacts of the shared value on supplier delivery performance. Because the perception that a hub-firm behaves in a just manner in orchestrating the SC operations by an actor-firm (supplier) can influence its decision regarding whether to continue/stop participating in interaction activities with the hub-firm and other actor-firms, which in turn may amplify/suppress the activities that create shared value (Griffith et al., 2006; Narasimhan et al., 2013).

Specifically, the presence of perceived procedural justice leads the actor-firms (suppliers) to develop a desire to collaborate with the hub-firm in the long-run. When the actor-firms perceive that the procedures that a hub-firm has adopted to make decisions related to SC activities are fair, they are more likely to consider the hub-firm as a credible and consistent exchange partner in the SC ecosystem (Griffith et al., 2006). This will increase the actor-firms' willingness to interact with the hub-firm, as they believe that this SC relationship is worth making efforts to maintain. Furthermore, an actor-firm's perception of a hub-firm's procedural justice practices also enhances the interaction between the actor-firm and the other actor-firms within the hub-firm ecosystem. Within the SC ecosystem, actor-firms not only cooperate but also compete with each other (Iansiti and Levien, 2004). The presence of procedural justice represents the existence of fair procedures for orchestrating SC activities by the hub-firm. This will enhance the actor-firms' willingness to interact with one another because such fairness procedures guarantee the protection of the interests of each actor-firm (Scott and Laws, 2006).

Likewise, the presence of perceived interactional justice creates an environment in which information can flow freely among firms (both the hub-firm and the actor-firms) within an SC ecosystem (Luo, 2007; Scott and Laps, 2006). When the actor-firms perceive the process of communicating SC activities-related information within the SC ecosystem to be fair, they become more open about sharing their information with both the hub-firm and each other. This openness about sharing information within the SC ecosystem enables all of the firms to extract more value from their relationship. Because they are now able to access important information about the SC operation, and take appropriate actions to respond to it accordingly (Luo, 2007). In such a situation, all firms within the SC ecosystem become more willing to interact with one another and ensure the sharing of information among them.

In summary, the presence of either perceived procedural justice or perceived interactional justice can stimulate a greater number of and more frequent interactions 1) between the actor-firms and the hub-firm and 2) among the actor-firms within an SC ecosystem. More and frequent interactions among SC firms increase the likelihood of them developing a common understanding that will help them to interpret the world around them (Saparito and Coombs, 2013). That is, the existence of either type of SC justice practices perceived by the SC firms can help to facilitate ecosystem-wide interaction activities, which in turn generate shared value within the SC ecosystem. As we argued previously, the presence of high levels of shared value within the SC ecosystem can have beneficial effects on the supplier delivery performance. Under the condition where either perceived procedural justice or perceived interactional justice is present, the strength of the relationship between shared value and supplier delivery performance is likely to be stronger. Because the levels of shared value among SC firms are high when they perceive that either type of justice practices exists within the SC ecosystem.

Hypothesis 1: In the context of an SC ecosystem, perceived procedural justice strengthens the positive relationship between shared value and supplier delivery performance.

Hypothesis 2: In the context of an SC ecosystem, perceived interactional justice strengthens the positive relationship between shared value and supplier delivery performance.

The Moderating Role of Trust

Prior research on business ecosystems has highlighted the critical role of trust in facilitating collaborative behaviors and dealing with conflict situations among firms in their business relationship (Azzam et al., 2017; Liu and Rong, 2015). Sitkin and Pablo (1992) suggest that trust can pertain to one party's beliefs and expectations about another party's intention regarding their interaction. When considering the actor-firm's perception of trust within an SC ecosystem and a hub-firm's justice practices together, scholars suggest that, if one party has a high-level of trust, it will tend to attribute unfair treatment to unfortunate circumstances rather than to the deliberate intention of another party (Bal et al., 2011; De Cremer and Tyler, 2007). We apply these insights to argue for a three-way interaction effect, consisting of shared value, perceived justice, and trust, on supplier delivery performance.

Although perceived procedural justice reflects the actor-firms' (suppliers') belief that the hub-firm has adopted a fair process for making decisions associated with the SC activities, this does not mean that the actor-firms always welcome the decisions made by the hub-firm. Because there is no perfect decision-making mechanism that can address everyone's needs and make them feel that the results are completely fair, especially when these decisions involve a huge number of interested parties (Katok and Pavlov, 2013). When the level of trust within the relationship is low, some actor-firms, who find the hub-firm's decisions unfavorable toward them, may consider that the hub-firm has intentionally taken advantage of them (Czernek and Czakon, 2016). Thus, this weakens the actor-firms' perception of a hub-firm's procedural justice practices, and they become less willing to continue interacting with the hub-firm.

Furthermore, these actor-firms may also consider other actor-firms who have received favorable treatment, due to the hub-firm's adoption of an unfair decision-making process, as potential competitors within the SC ecosystem (Czernek and Czakon, 2016). Under both circumstances, the overall number and frequency of the interactions between the hub-firm and the actor-firms, as well as among the actor-firms themselves, diminish which, in turn, rescinds the shared value and suppresses its effects.

On the other hand, when the level of trust is high within an SC ecosystem, the actor-firms will attribute these unwelcome decisions to unfortunate circumstances (Beritelli, 2011; Czakon and Czernek, 2016). Because the actor-firms believe that the hub-firm intends to make fair decisions regarding the SC activities. As a result, the actor-firms will remain willing to interact with both the hub-firm and each other and continue to generate shared value. Briefly, increases in the level of trust within the SC ecosystem enhance the beneficial effect of perceived procedural justice on the link between shared value (between the hub-firm and the actor-firms, as well as among the actor-firms themselves) and supplier delivery performance.

Hypothesis 3: In the context of an SC ecosystem, the positive moderating effect of perceived procedural justice on the shared value-supplier delivery performance relationship is stronger (weaker) when the level of trust in the supply chain relationship is high (low).

Similarly, we expect that the positive moderating role of perceived interactional justice on the shared value-supplier delivery performance may be enhanced when the trust level is high. As argued previously, the presence of interactional justice promotes openness and allows information to flow freely within an SC ecosystem. While transferring information among SC firms within the SC ecosystem may result in better communication, it is also possible that a greater information flow may increase the chance of opportunity inequality that could jeopardize the future of the SC relationship, because information is only useful for the SC firms when they have the capability to make sense out of the raw data and also the resources to act

on it (Möller, 2010). Firms within the SC ecosystem have varying abilities and resources. In the situation where information flows freely among the firms within an SC ecosystem, SC firms that have superior abilities and more resources are in a better position to translate information into actions to exploit business opportunities, and vice versa. SC firms that are less able to benefit from this situation may become less willing to collaborate with the hub-firm and each other or, even worse, start collaborating with other firms in the competing SC ecosystem.

We expect that this challenge will be eased when the level of trust within the SC relationship is high. When the trust level is high, the actor-firms (suppliers) tend to interpret such opportunity inequality as an unfortunate event rather than as being due to the deliberate intention of the other firms to take advantage of the openness of the SC ecosystem. They believe that selected firms that are able to translate the accessed information into business opportunities (e.g., the development of new products) will ultimately share their benefits (e.g., ask other firms to manufacture the new products) with all of the firms within that SC ecosystem (Dhanaraj and Parkhe, 2006; Liu and Rong, 2015). As a result, the actor-firms will continue to interact with both the hub-firm and each other, which in turn leads to the development of shared value within an SC ecosystem. Thus, the positive effect of perceived interaction justice on the shared value-supplier delivery performance relationship will be amplified when the level of trust is high.

On the other hand, when the level of trust is low, the actor-firms are more likely to interpret opportunity inequality as other firms' deliberate action and so take retaliatory action in response to this. Consequently, the actor-firms will become less likely to engage in interaction activities with both the hub-firm and each other. Such actions will destroy the shared value within the SC ecosystem and reduce the effect of perceived interactional justice in strengthening the shared value-supplier delivery performance relationship. Combining the above arguments, we propose the following hypothesis:

Hypothesis 4: In the context of an SC ecosystem, the positive moderating effect of perceived interactional justice on the shared value-supplier delivery performance relationship is stronger (weaker) when the level of trust in the supply chain relationship is high (low).

Research Method

Empirical Context – Tourism Resort SC Ecosystem in Indonesia

A tourism resort is a commercial establishment that provides an array of amenities to customers in a single, contained place. It does not operate in isolation but rather within an SC ecosystem that forms around a community of different SC suppliers (Rusko et al., 2009). The final products that a tourism resort offers consist of two unique features: 1) they are complex in nature, consisting of various tangible and intangible components (such as food, transportation, entertainment, etc.), and 2) they are perishable and cannot be stored for future use (Zhang and Murphy, 2009). In order to assemble a final product offer at the point of consumption, a tourism resort often relies on inputs from its SC ecosystem rather than in-house production (Rusko et al., 2009; Zhang and Murphy, 2009). The focal firm does not own or control these suppliers. A tourism resort operates as a hub-firm in the SC ecosystem by orchestrating the assembly of the final product offers. Thus, a tourism resort SC ecosystem is a particularly appropriate setting in which to explore our research question.

Tourism industry in Indonesia provides a rich context for this empirical study. Tourism is a highly prioritized industry sector in Indonesia, with the highest sector growth rate. The total contribution of travel and tourism to Indonesia's GDP in 2016 was IDR 770,310bn (USD 57.9bn), constituting 6.2% of the total GDP. By the end of 2019, the Indonesian government ambitiously aims to achieve a contribution of 8% to GDP, with around 20 million visitors (Indonesia Investments, 2016). We selected an Indonesia-based tourism resort SC ecosystem (due to confidentiality issues, we will call it Resort XYZ) as our sample frame for the following reasons. First, Resort XYZ is one of the largest integrated beach recreation and marina resort

complexes in Indonesia, so, it provides some degree of generalizability (Hair et al., 2010). Second, Resort XYZ offers various attractions, including beaches, a theme-park, water-park, ocean-park, ecological park, golf court, and art market. Resort XYZ also offers food, beverages, and merchandise, as well as sea trips to nearby islands for its guests. In order to provide visitors with a satisfactory experience, Resort XYZ orchestrates SC activities among 1200 suppliers and ensures that they provide dependable and timely delivered product components for it to bundle together as a final package for visitors. This setting of Resort XYZ and its community of suppliers is in line with the description of an SC ecosystem - a network of interconnected SCs that revolve around a “hub-firm” and work together to deliver ecosystem-based products (Liu and Rong, 2015; Viswanadham and Samvedi, 2013).

Measurement and Data Collection

We collected dyadic responses from Resort XYZ and its suppliers. The “supplier survey” (a questionnaire that different suppliers of Resort XYZ completed) includes variables such as shared value, perceived procedural justice, perceived interactional justice, and trust, as well as control variables. For shared value, we adopted and modified the measurement items from Saporito and Coombs (2013) to assess the suppliers’ perceptions of the level of common understanding between themselves and Resort XYZ. We adopted and modified perceived procedural justice (the perceived fairness with which Resort XYZ takes SC activities-related decisions) and perceived interactional justice (the perceived fairness with which Resort XYZ communicates SC activities-related information) from Narasimhan et al. (2013). For trust, we adopted and modified the scale of Saporito and Coombs (2013) to measure the suppliers’ perception of the level of confidence in and positive expectations regarding Resort XYZ’s conduct, motives, and intentions in situations entailing risk. We measure the four variables above using a 5-point Likert scale (see Appendix 1).

The five control variables that can potentially affect the supplier delivery performance are firm size, length of partnership, transaction frequency, competitive intensity, and market turbulence (Malhotra and Mackelprang, 2012; Milgate, 2001). For firm size, we asked the suppliers to indicate the number of employees in their firm (Narasimhan et al., 2013). For the length of partnership, we asked the suppliers to indicate the number of years for which they have partnered with Resort XYZ (Narasimhan et al., 2013). Log transformation regarding firm size and the length of the partnership made it possible to avoid extreme values and account for the diminishing marginal effects at the tail end of the distribution. For transaction frequency, we asked the supplier to choose one of the following options (9 = more than twice a day, 8 = once a day, 7 = 1-5 times a week, 6 = 2-3 times a month, 5 = once a month, 4 = 5-10 times a year, 3 = 2-4 times a year, 2 = once a year, and 1 = less than once a year) (Wang et al., 2013). From Wang et al. (2013), we adopted and modified the measurement of competitive intensity to assess the suppliers' perceptions regarding the degree of competition in the industry. From Stock et al. (2013), we adopted and modified the measurement of market turbulence to assess the suppliers' perceptions regarding the level of instability within the customer preferences. We measure competitive intensity and market turbulence using a 5-point Likert scale.

The "tourism resort" survey (the SC managers of Resort XYZ's completed questionnaires) assesses the dependent variable – supplier delivery performance. We capture the supplier delivery performance (a particular supplier's delivery time and delivery dependability relative to other suppliers' average performance) using a 5-point Likert scale that adopted and modified the measurements of Malhotra and Mackelprang (2012).

One author and two senior managers of Resort XYZ (constituting the core team leader of the field research), who are fluent in both English and the domestic languages, translated the questionnaire that contained all of the measurements into the domestic language where the data collection took place. To avoid misunderstandings, we then pilot tested the translated

questionnaire on staff members and an academic from a local higher education institution. The pilot test enabled further revision that led to the final version that the researcher used for the primary data collection.

We adopted a two-step process to collect the data. In step 1, we distributed the supplier survey via Resort XYZ to the 504 suppliers (out of the 1,200 in Resort XYZ's records) who had been active in the last five years and possessed a job order at the time of the data collection. All 504 suppliers received an introduction letter about our research and a questionnaire, followed by a reminder phone call. In the end, 104 suppliers return their responses to us via Resort XYZ. After receiving the responses from the suppliers, in step 2, we distributed the "tourism resort" survey to Resort XYZ's SC managers who are responsible for dealing with the 104 suppliers who responded to our survey in step 1. We asked Resort XYZ's SC managers to assess the delivery performance of each of the 104 suppliers. In the end, we collected a total of 104 responses. After deleting five incomplete questionnaires, we obtained 99 dyadic responses, giving an effective response rate of 19.65%. The 99 suppliers in our final sample for analysis have an average of 85 employees and a collaborative relationship of 5.99 years with Resort XYZ's SC operations.

To ensure that non-response bias was not an issue, we adopted two techniques for nonresponse bias impact assessment, as suggested by Rogelberg and Stanton (2007). First, we performed wave analysis to compare the answers between the early and late respondents and found no significant differences between them. Second, we adopted benchmarking analysis to compare the means and standard deviations of our key variables (see Figure 1) with other similar studies on the supplier-buyer relationship (e.g., Malhotra and Mackelprang, 2012; Narasimhan et al., 2013). We found similar distributional characteristics among the scales. Both results suggest that non-response bias was not a concern here.

Validity and Reliability

We assessed the validity and reliability of the measurements using the following approaches. First, we used a principal component analysis for the factor extraction method with a varimax rotation to assess the factor loading (Hair et al., 2010). The results from both the Kaiser-Meyer-Olkin test ($KMO = 0.765$) and Bartlett's Test of Sphericity (approx. $X^2 = 845.478$; $df = 105$; $p < .001$) show the sampling adequacy and variance-homogeneity acceptability of this study's factor model. The factor loadings for all of the items are above .700 (see Appendix 1), which demonstrates adequate convergent validity. Furthermore, the correlations among the five main variables in the model (see Figure 1) are all below .700 (see Table 1), which demonstrates adequate discriminant validity. To assess the reliability of the constructs, we calculated the Cronbach's Alpha. The findings show that the value of Cronbach's Alpha is greater than .700, which confirms the construct's validity and reliability (Hair et al., 2010).

“Insert Table 1”

Second, the confirmatory factor analysis (CFA) model with five factors in the hypothesized model (see Figure 1) exhibits an adequate fit ($X^2 = 118.471$; $df = 67$; $X^2/df = 1.768$; $p\text{-value} = .001$; Comparative Fit Index [CFI] = .926; Root Mean Square Error of Approximation [RMSEA] = .089). Table 1 shows that the value of the composite reliability (CR) is greater than 0.70 for all constructs, while the average value extracted (AVE) for all constructs exceeded the 0.50 benchmark. The square root value of the AVE for each construct shows that the result for each one was greater than all of its correlations with the other constructs (see Table 1). All of the results confirm the construct's reliability (Hair et al., 2010).

Finally, although the collection of dyadic responses from Resort XYZ and its suppliers might reduce the common method bias, the respondents to the questionnaires all worked for a single SC ecosystem. Therefore, common method bias might potentially threaten the validity

of the results, so we also followed the suggestions of Podsakoff et al. (2003) to guarantee the anonymity and confidentiality of the responses, and emphasize to the respondents that there were no right or wrong answers. Furthermore, we followed their suggestion to use multiple statistical remedies to rule out potential common method bias (Podsakoff et al., 2003). First, we performed Harman's single-factor test by subjecting all of the items in our study to exploratory factor analysis, and found that this did not explain the majority of the variance. Second, we used confirmatory factor analysis (CFA) to load all of the items onto a single factor in a CFA. We found that the fit statistic does not show a good fit, which indicated that a single factor does not account for all of the variances in the data. Both results suggest that common method variance is not a concern for this study.

Findings

Analysis and Results

Table 2 presents the results of our regression analysis. Hypothesis 1 posits that perceived procedural justice has a positive moderating effect and hypothesis 2 posits that perceived interactional justice has a positive moderating effect on the relationship between shared value and supplier delivery performance, respectively. Following the approach suggested by Aiken and West (1991), we estimated a regression model including the main effects and both interaction effects. Model 2 shows that the interaction effect of shared value and perceived procedural justice on supplier delivery performance is positive and significant (Model 2: $\beta = .307$, $p < .050$), whereas the interaction between shared value and perceived interactional justice has negative and significant effects on supplier delivery performance (Model 2: $\beta = -.292$, $p < .050$). These findings support Hypothesis 1 and do not support Hypothesis 2. We present the interaction plots for each moderating effect in Figure 2 (a) and (b).

“Insert Table 2”

“Insert Figure 2”

To investigate the three-way interaction effect proposed in Hypotheses 3 and 4, we again following Aiken and West (1991). We present the three-way interaction plots in Figure 3. Hypothesis 3 posits that the moderating effect of perceived procedural justice on the shared value-supplier delivery performance relationship is stronger when the level of trust within the supply chain relationship is high. Model 3 shows that the three-way interaction effect among shared value, perceived procedural justice, and trust on supplier delivery performance is positive and significant (Model 3: $\beta = .444$, $p < .010$). Thus, this confirms Hypothesis 3. Hypothesis 4 posits that the positive moderating effect of perceived interactional justice on the shared value-supplier delivery performance relationship is stronger when the level of trust within the supply chain relationship is high. Model 4 shows that the three-way interaction effect among shared value, perceived interactional justice, and trust on supplier delivery performance is positive and significant (Model 4: $\beta = .588$, $p < .001$). Given our earlier findings regarding the negative moderating effects of perceived interactional justice on the shared value-supplier delivery performance relationship (Model 2), this result indicates that the negative moderating effect of perceived interactional justice on the shared value-supplier delivery performance relationship is *weaker* when higher levels of trust exist within the SC relationship. This is inconsistent with Hypothesis 4. Thus, Hypothesis 4 is not supported. Finally, we included both three-way interaction effects in a single regression model (Model 5). The results are consistent with our original approach to examining the three-way interaction effects independently.

Endogeneity

Endogeneity is a common concern in nonexperimental research. We adopt two approaches to ensure that endogeneity is not a concern here. First, we rely on a comprehensive

set of control variables (Hamilton and Nickerson, 2003), including firm size, length of partnership, transaction frequency, competitive intensity, and market turbulence, to reduce the likelihood of bias.

Second, we perform additional analyses to address the potential endogeneity concern following the procedures of Poppo et al. (2016). We identify shared value, perceived procedural justice, perceived interactional justice, trust, length of partnership and transaction frequency as likely to be endogenous (Narasimhan et al., 2013; Saporito and Coombs, 2013). We then employ a two-stage regression model to correct for potential endogeneity (Hamilton and Nickerson, 2003). In stage one, we regress the perceived procedural justice and perceived interactional justice, respectively, against shared value, length of partnership and transaction frequency to obtain residuals that are free of the influence of these variables. In stage two, we used perceived procedural justice_{residual} and perceived interactional justice_{residual} as the indicators of perceived procedural justice and perceived interactional justice to perform the regression model to re-test our hypotheses 1 and 2. Our findings show (see Appendix 2) that perceived procedural justice_{residual} strengthens the shared value-supplier delivery performance relationship (Model 6: $\beta = .315$, $p < .050$), while perceived interactional justice_{residual} weakens it (Model 6: $\beta = -.262$, $p < .050$). These findings are consistent with our earlier results.

To re-test the three-way interaction hypotheses 3 and 4, we also employ a two-stage regression model of Hamilton and Nickerson (2003). In stage one, we regress trust against shared value, perceived procedural justice, perceived interactional justice, length of partnership and transaction frequency to obtain trust_{residual}, free of the influence of these variables (Poppo et al., 2016). In stage two, we use trust_{residual} as the indicator of trust to perform three-way interaction regression models (see Appendix 2). The findings displayed in Models 7 and 8 are also consistent with our earlier results. In general, all of our results suggest that potential endogeneity is unlikely to inflate the bias coefficient estimates in our study.

Discussion and Conclusion

Theoretical Contributions

We make two important contributions to the relevant literature. First, prior studies have explored different types of mechanisms that a hub-firm adopts to orchestrate its activities within the business ecosystem (e.g., Azzam et al., 2017; Pellinen et al., 2012; Rong et al., 2013). Although scholars have suggested that SC justice practices are important in facilitating the dynamics of the behaviors within firms' relationships (Griffith et al., 2006; Luo, 2007; Narasimhan et al., 2013), no study has attempted to explore the influence of SC justice practices among the firms within an SC ecosystem. We address this knowledge gap by investigating how suppliers' perceptions of a hub-firm's SC justice practices influence the impacts of shared value (the critical element for the establishment of a business ecosystem) on supplier delivery performance. We show that perceived procedural justice positively affects the relationship between shared value and supplier delivery performance, as we have argued.

Contrary to our prediction, perceived interactional justice negatively affects the relationship between shared value and supplier delivery performance. One possible explanation for this is that the presence of perceived interactional justice improves the openness of the relevant communication among the firms within an SC ecosystem. Although such openness enhances the amount of information shared across firms within the SC ecosystem firms, it also increases the potential risk of miscommunication (Tuten and Urban, 2001). When a large amount of information flows freely within the inter-organizational networks (i.e., an SC ecosystem), there exists a high possibility that some parties may misinterpret that information, which will lead to miscommunication (Liu et al., 2013; Tuten and Urban, 2001). The occurrence of miscommunication may lead an actor-firm (supplier) to question whether others intended deliberately to mislead them out of self-interest, which in turn reduces the actor-firms'

desire to engage in interaction activities with both the hub-firm and each other. Fewer and less frequent interactions among the firms within the SC ecosystem provide them with fewer opportunities to create and maintain shared value. As a result, the beneficial effects of shared value on supplier delivery performance will diminish when the actor-firms perceive the presence of interactional justice within an SC ecosystem.

Despite the rejection of Hypothesis 2, our findings still provide important academic insights. We show how perceived procedural justice and perceived interactional justice differentially affect the relationship between shared value and supplier delivery performance. This distinction is important because these two types of SC justice capture two distinct facets of the perception of fairness within the SC relationship (Luo, 2007; Narasimhan et al., 2013). In doing so, this study provides new insights into the business ecosystem research by highlighting the role of different SC justice practices as orchestration mechanisms that a hub-firm adopts in order to coordinate their SC activities within an SC ecosystem.

Second, scholars who explore the influence of justice practices on interpersonal (e.g., Colquitt et al., 2012) and inter-organizational (e.g., Jambulingam et al., 2011; Wagner et al., 2011) relationships have acknowledged the complementary role of “trust” in this setting. However, it remains unclear whether trust can help to capitalize the value of SC justice practices, while previous studies have acknowledged the important role of trust in facilitating the dynamic of firms’ behaviors within a business ecosystem (e.g., Dhanaraj and Parkhe, 2006; Liu et al., 2013). Adopting the view that trust plays a contingency role in affecting the value of perceived justice practices in interpersonal relationships (Bal et al., 2011; De Cremer and Tyler, 2007) and applying this insight to this study context, we find that trust acts as a moderator in facilitating the impacts of perceived SC justice on the relationship between shared value and supplier delivery performance within an SC ecosystem.

Yet, we need to revise our arguments about how trust affects the moderating role of perceived interactional justice on the shared value-supplier delivery performance relationship. Our earlier findings show that perceived interaction justice negatively moderates the relationship between shared value and supplier delivery performance. A possible revised argument is that the presence of interactional justice promotes openness and allows information to flow freely within an SC ecosystem, which in turn increases the potential risk of miscommunication. The occurrence of miscommunication then can reduce the actor-firms' desire to engage in interaction activities with both the hub-firm and each other. We expect that this challenge will be eased when the level of trust within the SC relationship is high. When the trust level is high, the actor-firms (suppliers) tend to interpret such miscommunications as unfortunate events rather than as deliberate intentions by other firms to mislead them due to self-interest (Beritelli, 2011; Czakon and Czernek, 2016). As a result, the actor-firms will continue to interact with both the hub-firm and each other, which in turn leads to the development of shared value within an SC ecosystem. Thus, the harmful effect of perceived interaction justice on the shared value-supplier delivery performance relationship will be suppressed when the level of trust is high. On the other hand, when the level of trust is low, actor-firms are more likely to interpret miscommunication as other firms' deliberate action and take retaliatory action in response to this. Consequently, the actor-firms become less likely to engage in interaction activities with both the hub-firm and each other. Such actions will destroy the shared value within the SC ecosystem, enhance the harmful effect of perceived interactional justice, and so weaken the shared value-supplier delivery performance relationship.

Nonetheless, both of our original arguments lead to the development of Hypotheses 3 and 4 and the revised arguments above are built on the theoretical logic that trust affects suppliers' perceptions of the intentions of other firms' actions (Bal et al., 2011; De Cremer and Tyler, 2007). When a high level of trust exists within an SC ecosystem, suppliers tend to

attribute unfair treatment to unfortunate circumstances rather than to the deliberate intention of others. Our theoretical logic and empirical findings confirm our arguments. This study represents an initial attempt to assess how the role of perceived SC justice in inter-organizational relationships within the SC ecosystem depends on trust. In doing so, we shed new light on the role of trust in governing the dynamics of firms' behaviors within a business ecosystem.

Managerial Implications

Our findings and context provide important implications for practitioners. First, the managers of hub-firms must distinguish between procedural justice practices and interactional justice practices. Conventional wisdom states that the engagement of both types of SC justice practice should yield positive benefits within the SC relationship (Luo, 2007; Narasimhan et al., 2013). However, our findings suggest that, in the context of an SC ecosystem, shared value that is in line with perceived procedural justice will have a positive impact on supplier delivery performance. However, when the shared value is in line with the perceived interactional justice, this may have a negative impact on the supplier delivery performance. Therefore, the managers of the hub-firms should pay attention to the type of SC justice practices that they adopt in order to orchestrate their SC activities. According to the results of our study, we recommend that the hub-firm managers should always adopt procedural justice practices as their orchestration mechanism for coordinating the SC activities within the hub-firm SC ecosystem. Moreover, the actor firm (supplier) managers within an SC ecosystem also need to be aware of the negative influence of interactional justice practice on the operation of the SC ecosystem. When they suspect that a hub-firm is adopting this type of SC justice practice, the actor-firm managers should inform the hub-firm managers of their opposition to this as well as engage in more

network activities with the hub-firm and other actor-firms to enhance the shared value within the SC ecosystem in order to prevent any potential harmful effects of such SC justice practices.

Second, both the hub-firm and actor-firm (supplier) managers should recognize the important role of trust in facilitating collaborative behaviors within the SC ecosystem. Our findings suggest that, when interacting with shared value and different types of perceived SC justice, the presence of trust can enhance the positive aspect of perceived SC justice, which may amplify the strength of the shared value-supplier delivery performance relationship, as well as neutralize any negative aspects of perceived SC justice that may suppress such a relationship. Thus, we recommend that both the hub-firm and actor-firm managers should continuously make a substantial investment in developing and maintaining the trust within an SC ecosystem.

Limitations and Future Research Directions

First, our research design may restrict us from drawing any definite conclusions about the causation effect among the variables over time. Researchers in the future might employ a longitudinal research design in order to confirm this causality empirically. Second, a tourism resort SC ecosystem in Indonesia was the ideal context in which to explore our research topic, but we must acknowledge that the generalizability of our findings remains limited to firms within a single industry and country context. Future studies on different industries and countries would help to generalize our findings and expand the boundary conditions.

Third, we use two-item measurement to assess two of our main variables (shared value and supplier delivery performance), which is fewer than the “just-identified” three-item measurement that various researchers suggest (Hair et al., 2010). Because 1) the original research by Saporito and Coombs (2013) and Malhotra and Mackelprang (2012), used these two items measurements, and 2) our pilot study shows that managers favor completing short

surveys over long ones. Nevertheless, future research should develop three-item measurement for these two variables to provide adequate identification for the construct. Fourth, although we addressed and attempted to control the potential endogeneity concern in the post-hoc analysis, we cannot remove this issue completely. Future researchers might adopt a randomized experimental method to counteract this limitation (Hamilton and Nickerson, 2003).

Fifth, our current research setting only allows us to perform two (out of the nine) recommended techniques for nonresponse bias impact assessment (Rogelberg and Stanton, 2007). Because some techniques involve conducting pre-survey focus groups/interviews or additional questions in the survey design. Future research might consider employing these techniques to ensure that non-response bias is not a concern for this type of supplier-buyer relationship study. Sixth, this study suffers from having a relatively small sample size because of using pair-matched datasets (99 pair-matched cases) compared to other single response research that investigates inter-organizational relationships (e.g., Griffith et al., 2006; Narasimhan et al., 2013). The use of a pair-matched dataset allowed us to reduce the risk of common method bias, as well as provide a more accurate assessment of the variables (Kenny et al., 2006). Furthermore, unlike the typical dyadic datasets in operations management studies that collect pair-matched responses from both the buyer and seller without considering the relationship among different buyers and sellers in the sample (e.g., Liu et al., 2012), we survey firms within a single business ecosystem. This approach allow us to capture a more realistic view on the dynamics of suppliers' behaviors and interactions of a hub-firm and the actor-firms within an SC ecosystem. Nevertheless, future research should attempt to collect a larger number of match-paired surveys (e.g., multiple SC ecosystems) to overcome this limitation.

Finally, our findings also reveal other future research opportunities. For example, researchers in the future might explore both the actor-firms and hub-firm's perspectives regarding justice practices. This suggestion also applies to other variables, such as shared value,

trust, and delivery performance. A comparison of both the actor-firm and hub-firm's answers to these questions may increase the value and contribution of the study. Furthermore, building on our research results, future research can exam other SC relationship influential factors (e.g., network governance (Song et al., 2013), etc.) that may also influence the shared value-supplier delivery performance relationship.

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Figure 1. Conceptual Framework

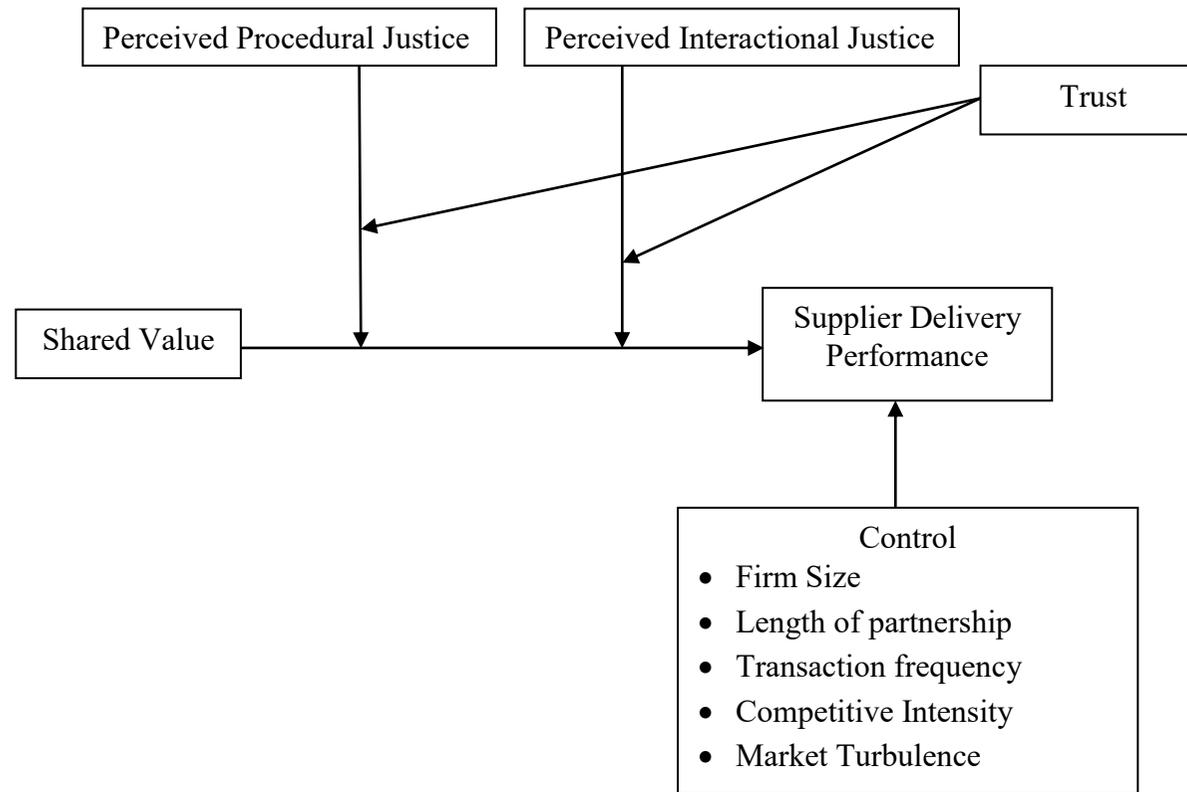


Table 1. Descriptive Statistics

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|----------|----------|----------|----------|----------|-------------|-------------|-------------|-------------|-------------|
| 1. Firm Size | --- | | | | | | | | | |
| 2. Length of partnership | .383** | --- | | | | | | | | |
| 3. Transaction frequency | -.103 | .117 | --- | | | | | | | |
| 4. Competitive Intensity | -.094 | -.118 | .190 | --- | | | | | | |
| 5. Market Turbulence | -.127 | -.122 | .206* | .452** | --- | | | | | |
| 6. Trust | -.053 | -.053 | -.034 | .051 | .070 | .763 | | | | |
| 7. Shared Value | -.148 | -.022 | -.010 | .008 | .084 | .391** | .871 | | | |
| 8. Perceived Procedural Justice | -.079 | -.063 | -.006 | .109 | .027 | .439** | .225* | .812 | | |
| 9. Perceived Interactional Justice | -.167 | -.119 | -.009 | -.035 | .017 | .355** | .315** | .495** | .820 | |
| 10. Supplier Delivery Performance | .022 | -.064 | .042 | -.092 | -.043 | .222* | .274** | .111 | .111 | .854 |
| Mean | 2.498 | 1.265 | 3.495 | 3.579 | 3.242 | 4.115 | 3.510 | 4.263 | 4.058 | 3.902 |
| Standard Deviation | .990 | 1.017 | 1.843 | .678 | .747 | .526 | .805 | .531 | .501 | .591 |

Notes:

N = 99; *p < .05; **p < .01

Average Variance Extracted (AVE) square roots are shown in bold on the correlation matrix diagonal

Firm Size is measured as log (employee numbers in 2017).

Length of partnership is measured as log (years business with company x).

Table 2. Regression Results

| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 |
|--|----------------|----------------|----------------|-----------------|------------------|
| Covariates and Main Effects | | | | | |
| Firm Size | .030(.305) | .027(.276) | -.004(-.046) | -.008(-.083) | -.031(-.343) |
| Length of partnership | -.105(-1.040) | -.093(-.922) | -.105(-1.065) | -.108(-1.123) | -.086(-.928) |
| Transaction frequency | .135(1.320) | .152(1.502) | .068(.674) | .124(1.283) | .093(1.002) |
| Competitive Intensity | -.076(-.682) | -.100(-.891) | -.086(-.787) | -.074(-.695) | -.083(-.835) |
| Market Turbulence | -.105(-.927) | -.065(-.575) | -.104(-.948) | -.021(-.197) | -.012(-.114) |
| Shared Value | .280(2.829)** | .182(1.575) | .192(1.592) | .147(1.278) | .022(.187) |
| Perceived Procedural Justice | | .032(.281) | -.060(-.492) | -.023(-.204) | -.090(-.763) |
| Perceived Interactional Justice | | .011(.094) | -.101(-.848) | -.264(-2.051)* | -.194(-1.541) |
| Trust | | | .032(.278) | .096(.867) | .049(.462) |
| Two-way Interaction Terms | | | | | |
| Shared Value x Perceived Procedural Justice | | .307(2.269)* | .090(.714) | | .300(2.194)* |
| Shared Value x Perceived Interactional Justice | | -.292(-2.346)* | | -.459(-2.925)** | -.601(-3.750)*** |
| Shared Value x Trust | | | -.256(-2.071)* | .065(.571) | -.092(-.759) |
| Perceived Procedural Justice x Trust | | | .055(.465) | | .127(.952) |
| Perceived Interactional Justice x Trust | | | | -.064(-.559) | -.079(-.564) |
| Three-way Interaction Terms | | | | | |
| Shared Value x Perceived Procedural Justice x Trust | | | .444(3.337)** | | .294(2.007)* |
| Shared Value x Perceived Interactional Justice x Trust | | | | .588(3.879)*** | .489(2.944)** |
| Model Statistics | | | | | |
| F-Value | 1.884† | 1.886† | 2.152* | 2.627** | 3.292*** |
| P-Value | .084 | .058 | .019 | .004 | .000 |
| R-Square | .109 | .117 | .248 | .287 | .391 |

Notes:

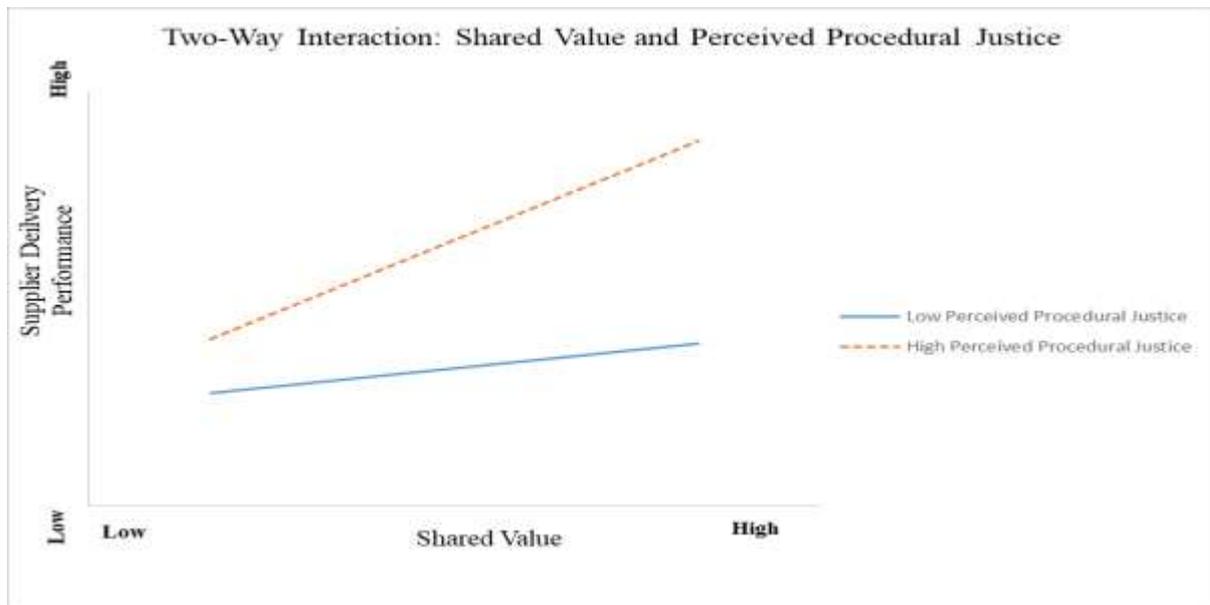
*** p < .001; ** p < .010; * p < .050; † p < .100

Standardized Coefficients are reported with t-value in parentheses.

Outcome Variable = Supplier Delivery Performance.

Figure 2. Graphical Representation: Two-way Interaction Plot

(a)



(b)

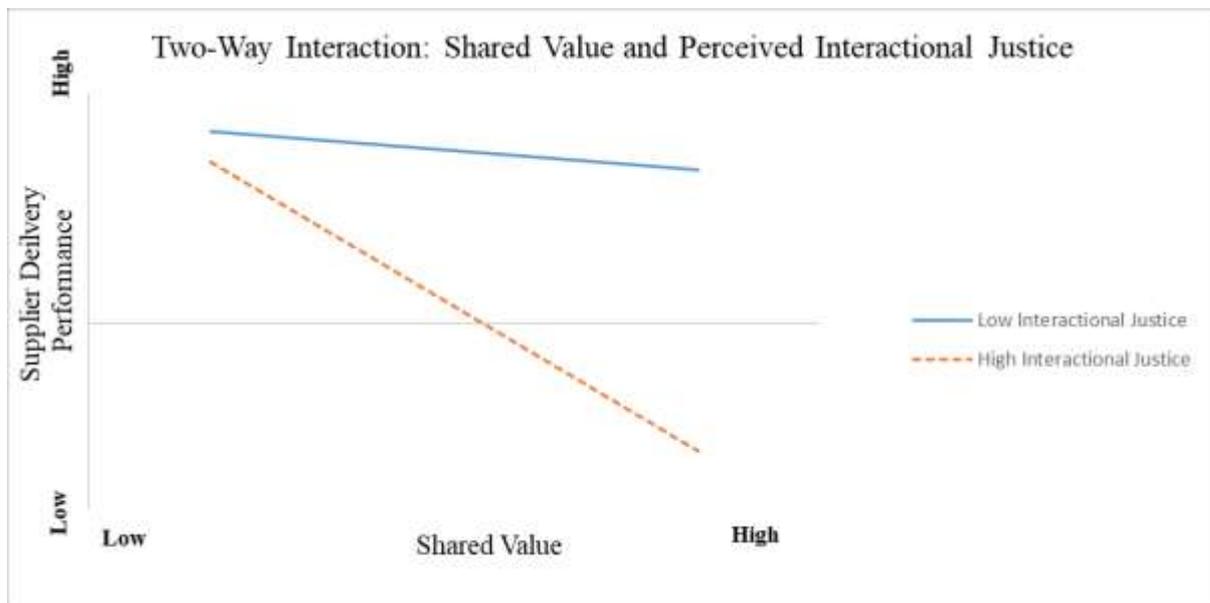
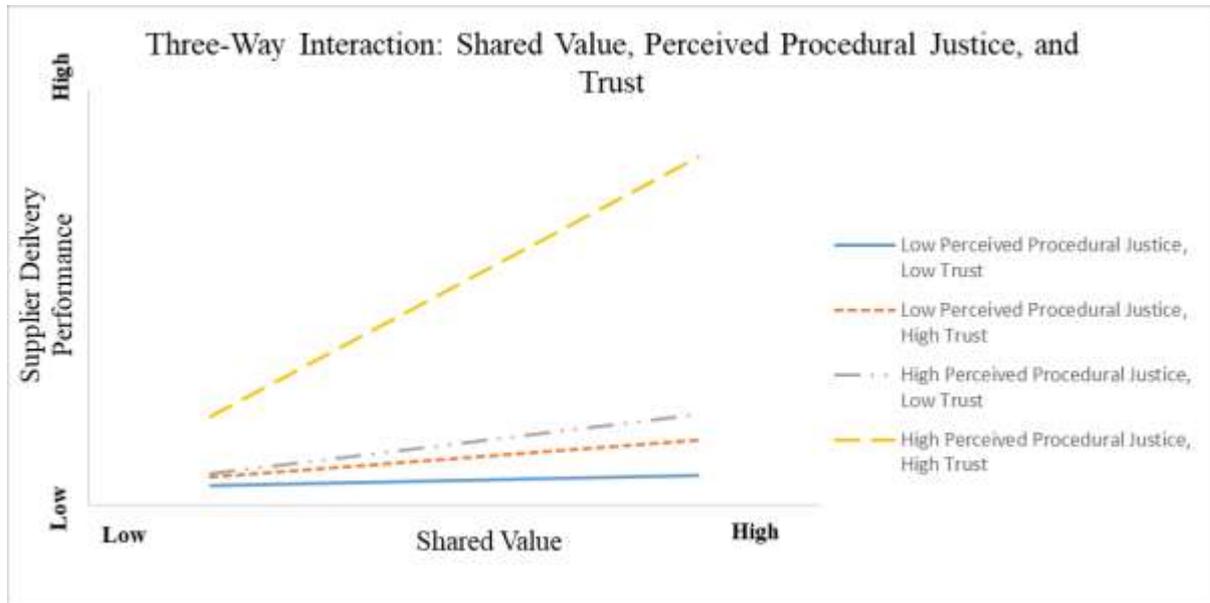
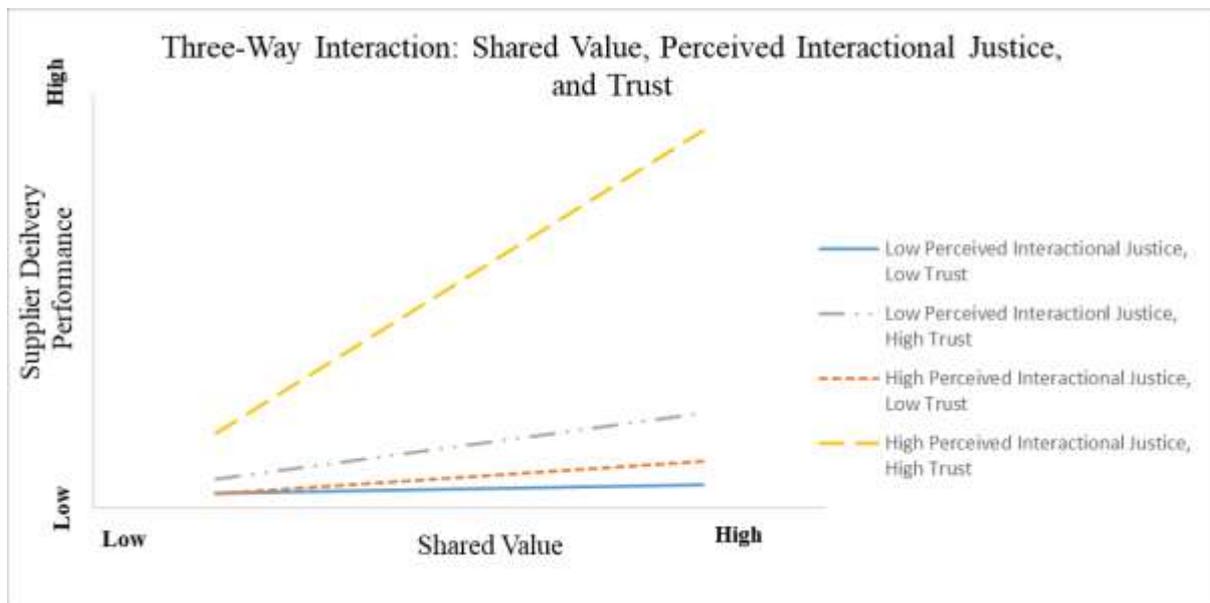


Figure 3. Graphical Representation: Three-Way Interaction Plot

(a)



(b)



Appendix 1: Measurement Loading, Validity, and Reliability

| Measurements | Loading |
|--|---------|
| Questionnaires completed by Company XYZ's suppliers | |
| Shared Value ($\alpha = .707$; CR = .848; AVE = .761) | |
| We share common business values with firms in our supply chain. | .736 |
| We feel that firms in our supply chain would act in a fashion consistent with what we would recommend without prior discussion with us. | .900 |
| Perceived Procedural Justice ($\alpha = .847$; CR = .851; AVE = .660) | |
| “Resort XYZ” is fair in their dealings with us. | .837 |
| “Resort XYZ” fully explained the decision-making criteria to us. | .833 |
| “Resort XYZ” applied consistent decision-making criteria when dealing with us. | .803 |
| Perceived Interactional Justice ($\alpha = .872$; CR = .890; AVE = .673) | |
| We agree on what is important in this engagement. | .852 |
| We quickly resolve any disagreement. | .881 |
| We exchange information in a timely manner. | .863 |
| We keep each other informed of any changes that may affect the other party. | .704 |
| Trust ($\alpha = .782$; CR = .803; AVE = .583) | |
| Firms in our supply chain are honest in their dealings with us. | .775 |
| We can trust firms in our supply chain. | .819 |
| If the firms in our supply chain made a decision that was different from what we would make, we would believe that they had good reasons for making this decision. | .737 |
| Questionnaires completed by Company XYZ | |
| Supplier Delivery Performance ($\alpha = .793$; CR = .794, AVE = .659) | |
| Delivery time | .903 |
| Delivery dependability | .890 |

Notes:

--- Items deleted due to low factor loading

α = Cronbach's Alpha; CR = Composite Reliability, AVE = Average Variance Extracted

Appendix 2. Post-Hoc Analysis

| | Model 6 | Model 7 | Model 8 |
|--|----------------|---------------|-----------------|
| Covariates and Main Effects | | | |
| Firm Size | .026(.259) | -.011(-.112) | .012(.123) |
| Length of partnership | -.095(-.953) | -.127(-1.253) | -.122(-1.224) |
| Transaction frequency | .151(1.497) | .106(1.031) | .125(1.250) |
| Competitive Intensity | -.102(-.915) | -.098(-.877) | -.065(-.599) |
| Market Turbulence | -.067(-.595) | -.135(-1.216) | -.062(-.560) |
| Shared Value | .186(1.735)† | .185(1.513) | .302(2.686)** |
| Perceived Procedural Justice _{residual} | .031(.271) | | |
| Perceived Interactional Justice _{residual} | .013(.113) | | |
| Perceived Procedural Justice | | .004(.035) | -.002(-.015) |
| Perceived Interactional Justice | | -.012(-.096) | -.031(-.258) |
| Trust _{residuals} | | .060(.561) | .089(.854) |
| Two-way Interaction Terms | | | |
| Shared Value x Perceived Procedural Justice _{residual} | .315(2.399)* | | |
| Shared Value x Perceived Interactional Justice _{residual} | -.262(-2.163)* | | |
| Shared Value x Perceived Procedural Justice | | .086(.778) | |
| Shared Value x Perceived Interactional Justice | | | -.313(-2.683)** |
| Shared Value x Trust _{residual} | | -.011(-.097) | .114(.986) |
| Perceived Procedural Justice x Trust _{residual} | | .065(.593) | |
| Perceived Interactional Justice x Trust _{residual} | | | -.024(-.223) |
| Three-way Interaction Terms | | | |
| Shared Value x Perceived Procedural Justice x Trust _{residual} | | .319(2.838)** | |
| Shared Value x Perceived Interactional Justice x Trust _{residual} | | | .386(3.218)** |
| Model Statistics | | | |
| F-Value | 1.890† | 1.773† | 2.144* |
| P-Value | .057 | .061 | .019 |
| R-Square | .177 | .213 | .247 |

Notes:

*** p < .001; ** p < .010; * p < .050; † p < .100

Standardized Coefficients are reported with t-value in parentheses.

Outcome Variable = Perceived Delivery Performance.