

# Understanding supplier sustainability performance: The role of dependence and relational capital

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## Abstract

With increasing stakeholder pressure to improve sustainability performance, firms focus on understanding how buyer-supplier relationship characteristics play a role in encouraging or jeopardizing supplier sustainability efforts. In this study, we examine how buyer-supplier dependence and relational capital affect the environmental and social performance of suppliers. We adopt an embedded, multiple-case study design, and examine five large buying firms in Turkey and their multiple suppliers at the dyadic level. Our findings suggest that there is a complex interplay between dependence and relational capital, illustrating both complementary and conflicting roles on supplier sustainability performance. We develop propositions to be tested in future studies.

*Key words:* Dependence, relational capital, supplier sustainability performance

## 1. Introduction

Business sustainability, the ability to conduct business with a long-term goal of maintaining the well-being of the economy, environment and society (Hassini et al., 2012, p.70), has been attracting growing attention from various stakeholders. This is due to the fact that firms are increasingly held responsible not only for their own actions, but also for the upstream and downstream supply chain members' actions to the triple bottom line (Akhavan and Bekmann, 2017; Golicic and Smith, 2013; Gimenez and Tachizawa, 2012). Examples from the literature and practice illustrate both the negative and positive impact suppliers can have on firm sustainability performance. For instance, the Danish toy manufacturer Mattel's marketing performance had highly deteriorated due to a second-tier supplier accused of destroying rainforests in Indonesia. On the other hand, results from a detailed meta-analysis suggest that collaborating with suppliers on sustainability practices has a large, positive impact on firm profitability (Golicic and Smith, 2013). Therefore, managers are interested in understanding factors that can diminish negative effects and improve the contribution of suppliers to their sustainability efforts.

We define supplier sustainability performance as the extent that the supplier operates in an environmentally and socially sustainable manner and complies with the buying firm's environmental and social sustainability requirements (Sancha et al., 2016; Thomas et al., 2016). A potential factor affecting supplier sustainability performance is buyer-supplier dependence (Hoejmose et al., 2012). Buyer-supplier dependence is often suggested as the basis for determining the type of relationship to adopt with suppliers to maximize performance (Bensaou, 1999; Kraljic, 1983; Terpend and Krause, 2015). Krause et al. (2009) argue that a firm is no more sustainable than its supply chain, and further stress that buying firms need to exploit their full bargaining power in order to increase supplier compliance to sustainable practices. On the other hand, some studies argue that too much pressure in an imbalanced dependence situation increases supplier passivity, reduces cooperative behavior, and increases resistance to sustainability efforts (Meqdadi et al., 2017; Touboulic et al., 2015). Although buyer-supplier dependence is one of the foundational topics in purchasing and supply management (PSM) (Van Weele, 2010; Caniëls and Gelderman, 2007), interestingly, there has been little empirical research in the sustainable supply chain management (SSCM) context focusing on buyer-supplier dependence (Hoejmose et al., 2013; Sarkis et al., 2011).

Another factor that can impact supplier sustainability performance is the relational capital possessed by the parties. Relational capital can be defined as a valuable asset that stems from access to resources made available through social relationships (Granovetter, 1992). Kale et al. (2000) identify five dimensions of

relational capital: close interpersonal interactions, trust, friendship, respect and reciprocity. Trust, which has been found to be highly associated with higher supplier performance, is considered as one of the essential elements of relational capital (Nahapiet and Ghoshal, 1998; Lee, 2015; Villena and Craighead, 2017). Relational capital, especially the trust dimension, has been found to explain several PSM practices such as buyer-supplier relationship management approaches (Squire et al., 2009). Regarding the performance outcomes, although in general relational capital is associated with a positive effect, such as on innovation (e.g. Carey et al., 2011), some negative effects have also been discussed in relation to both very low and very high values (Villena et al., 2017). There have been few studies that have also examined relational capital in the sustainable supply management literature (e.g. Gimenez and Tachizawa, 2012; Gualandris and Kalschmidt, 2016), where relational capital was found to be a distinguishing factor as well.

The literature suggests that dependence and relational capital are highly related to each other, for instance to explain supply chain integration (Zhang et al., 2013). Ireland and Webb (2007) state that dependence (power) and relational capital (trust) can be complementary (for instance, when trust is low, power might have to be used as an alternative mechanism) and conflicting (for instance, when power is excessively used, it can damage trust). Joshi and Arnold (1977) also illustrate that dependence does not cause opportunism when relational capital is high. Interestingly, although there have been some studies focusing on buyer-supplier dependence and relational capital separately in the SSCM context, these concepts have seldom been examined in relation to each other (Hoejmose et al., 2013; Meqdadi et al., 2017). As a response to this gap in the literature, in this study we aim to answer the following research question: *How do buyer-supplier dependence and relational capital impact supplier sustainability performance?*

Obviously, there can be several buyer-supplier relationship characteristics that affect the supplier sustainability performance; however, our aim in this study is not to arrive at an exhaustive list, but by adopting an exploratory approach, rather to focus on discovering the complex interplay between dependence and relational capital in the sustainability context. In the next sections, we first provide the theoretical background, briefly discussing the role of suppliers in general in sustainability performance, and then examining in detail the key studies investigating the link between buyer-supplier dependence, relational capital and sustainability. Then, we present our research method and elaborate on case study descriptives. In the Results section, we discuss our findings based on four types of buyer-supplier dependence situations and formulate propositions. We conclude our paper by discussing theoretical and managerial implications as well as making suggestions for future research.

## 2. Literature review

### *2.1. Role of suppliers in sustainability performance*

Increasingly, more proactive firms are implementing sustainability practices that go beyond mere compliance to environmental and social rules and regulations (Blome et al., 2014; Liu et al., 2015). However, these proactive approaches require firms to extend their corporate boundaries to the supply chain and collaborate with supply chain partners to improve their sustainability performance (Gimenez and Tachizawa, 2012; Vachon and Klassen, 2008; Wong et al., 2015). The role of suppliers in buyer sustainability strategies and practices has attracted considerable attention in the literature. Some studies focus on sustainable supplier selection criteria (Govindan et al., 2015; Humphreys et al., 2013) and other discuss green supplier development (Bai and Sarkis, 2010; Blome et al., 2014). Recent studies discuss the need for managing not only direct suppliers for sustainability, but also developing strategies for sub-supplier management (Grimm et al., 2014; Wilhelm et al., 2016).

Studies report mixed findings regarding the contribution of suppliers' sustainable practices to buying firm performance. Based on the results of a meta-analysis, Golicic et al. (2013) report that in general supplier environmentally sustainable practices have a positive impact on market-based, operational-based and accounting-based forms of buying firm performance. Hollos et al. (2012) also find that supplier's green practices have a positive impact on buying firm economic performance, but they fail to find any significant effect of social practices. The different types of sustainable supplier management practices implemented by the firms could partly explain this. For instance, previous studies distinguish between monitoring versus collaborative sustainable supplier management approaches (Gimenez et al., 2012; Krause et al., 2009; Vachon and Klassen, 2006). Another contingency factor on the supplier sustainability performance is buyer-supplier relationship characteristics (Hajmohammad and Vachon, 2016; Hoejmose et al., 2013; Pagell et al., 2010). In the next section, we discuss two key characteristics: buyer-supplier dependence and relational capital.

### *2.2. Buyer-supplier dependence and sustainability*

Resource dependence theory (RDT) suggests that organizations are not self-sufficient and they depend on each other for critical resources (Dyer and Singh, 1998; Pfeffer and Salancik, 1978). RDT identifies three main factors of dependence: importance of the resource, extent of control over resources, and availability of alternatives. Applying this definition to the supply chain context, Awaysheh and Klassen (2010) state that dependence is high when a firm relies to a

high extent to a supply chain party for critical resources, components, or capabilities. Therefore, buyer dependence increases when there are few, critical suppliers with limited substitutes, and the supply has high financial and strategic importance. (Caniëls and Gelderman, 2007; Knoppen and Christiaanse, 2007; Kraljic, 1983; Olsen and Ellram, 1997). From the supplier's perspective, dependence to buying firm increases when the sale revenue from that particular buyer and/or switching costs are high, or that the supplier is dependent on the buyer's technological expertise (Caniëls and Gelderman, 2007; Knoppen and Christiaanse, 2007).

While some argue that buyer-supplier relationships are seldom at a balance (Petersen et al., 2008), others argue that interdependence (high buyer and supplier dependence) and independence (low buyer and supplier dependence) situations can also be observed (Hajmohammad and Vachon, 2016; Touboulic et al., 2014). Although the common expectation in purchasing and supply management (PSM) is that buying firms should minimize dependence on suppliers to instigate competitive behavior, buying firms also voluntarily engage in high dependence situations to access crucial knowledge and capabilities of their suppliers (Gadde and Wynstra, 2018; Kahkönen et al., 2015).

Buyer-supplier dependence is a key concept in PSM that was found to impact several PSM practices such as purchase category strategy formulation (Caniëls and Gelderman, 2007), value-creating relationship management approaches (Kahkönen et al., 2015; Kim and Choi, 2018), and supplier innovation generation (Carr et al., 2008; Jean et al., 2012). Interestingly, albeit the growing interest in sustainable supply chain management, buyer-supplier dependence has been examined to a much lesser extent (Hoejmose et al., 2013; Sarkis et al., 2011). For instance, we know little about whether buyer-supplier dependence<sup>1</sup> asymmetries and joint dependence have a positive or negative impact on suppliers' sustainability efforts and buying firm's performance outcomes. Table 1 summarizes the key arguments in the literature about the link between dependence, supplier sustainability practices and performance.

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<sup>1</sup> Dependence and power are often discussed as highly inter-related concepts; if a focal firm is dependent on another firm, then the other firm will hold the relative balance of power (Caniëls and Gelderman, 2005; Wolf, 2011). Similar to Hajmohammad et al. (2016), we argue that dependency is the basis for organizational power; therefore, we focus on the former rather than the latter.

**Table 1**  
Summary of Key Arguments about the Link Between Dependence and Supplier Sustainability

<b>Dependence</b>	<b>Impact</b>	<b>Sustainable practice</b>	<b>Motivation</b>	<b>Author(s)</b>
Supplier dependence	POSITIVE	Compliance with ecological and social requirements	Supplier dependence is a traditional requirement, strong bargaining position, power to force	Brockhaus et al. (2013); Dou et al. (2018); Hajmohammad and Vachon (2016); Hoejmose et al. (2013)
		Compliance with code of conduct	More incentive as future of business depends on cooperation with buying firm	Pedersen and Andersen (2006)
		Socially responsible practices	Leverage reputational benefits, attract new customers	Dou et al. (2018)
		Sub-supplier management practices	Greater leverage, dominance, control: multiplier effect over sub-suppliers	Hoejmose et al., (2013); Meinschmidt et al. (2018)
	NEGATIVE	Socially responsible practices	High price pressure, reluctant to invest time and resources	Dabhilkar et al. (2016); Hoejmose et al. (2013)
		Socially responsible practices	Suppliers fear sustainability is associated with cost efficiency, bringing cost reduction demand from buying firm	Brockhaus et al. (2013)
		Socially responsible practices	Too much pressure increases passivity, reduces cooperative behavior, increases resistance among suppliers	Meqdadi et al. (2017); Touboullic et al. (2015)

Buyer dependence	NEGATIVE	Sustainable practices	Sanctions in case of non-compliance will have little effect	Meqdadi et al. (2017); Pedersen and Andersen, (2006)
		Sustainability risk related to lower-tier suppliers	Small share of indirect turnover, no bargaining power	Meinlschmidt et al. (2018)
		Second-tier supplier sustainability practices	Due to large sub-suppliers, direct suppliers do not intervene or share information with buying firm in order to not lose the customer	Wilhelm et al. (2016)
	NO EFFECT	Social sustainable practices	Cost of implementing sustainable practices might outweigh dependence impact	Awaysheh and Klassen (2010)

The majority of the studies argue that a high level of supplier dependence is positively associated with supplier compliance to environmental and social requirements, increasing buying firm sustainability performance (Brockhaus et al., 2013; Dou et al., 2018; Hajmohammad and Vachon, 2016; Pedersen and Andersen, 2006). Proponents of this view usually argue that buying firms can “use their bargaining power and enforce/control their suppliers” much better. In case of supplier dependence, suppliers also sense that their future business with the buying firm depends on effective collaboration and compliance about sustainability (Pedersen and Anderson, 2006). Dou et al. (2018) argue that supplier dependence does not necessarily mean forcing the supplier to a less desirable collaboration about sustainability, but the suppliers might also be motivated due to leveraging reputational benefits and attracting new customers. Hoejmose et al. (2013) and Meinlschmidt et al. (2018) state that the positive impact of buyer dependence will be more pronounced for the lower-tier suppliers.

On the other hand, some argue that supplier dependence can also have detrimental impact on sustainability efforts. Usually, when there is high supplier dependence, buying firms also want to leverage that situation by asking for more cost reductions from the suppliers which might contradict with the additional investments that are necessary for improving supplier sustainability performance (Dabhilkar et al., 2016; Hoejmose et al., 2013). Brockhaus et al. (2013) state that buying firms sometimes promote sustainability efforts as an efficiency mechanism

for suppliers (e.g. reduction of waste), thus the suppliers expect that buying firms would be demanding lower prices due to supplier efficiency gains and be hesitant to invest in sustainable practices. Similar to the arguments about the dark side of relying too much on buyer power in general (Villena et al., 2017), Meqdadi et al. (2017) and Touboulic et al. (2014) warn that extreme use of power might backfire and reduce cooperative behavior and create resistance among suppliers.

The literature does not identify any positive impact of buyer dependence to suppliers on supplier sustainable practices. The common premise is that there is a negative impact due to limited bargaining power and control, and can be reflected as buyer sanctions having no impact in case of non-compliance (Meqdadi et al., 2017; Pedersen and Andersen, 2006). Meinschmidt et al. (2018) and Wilhelm et al. (2016) argue that this effect will be pronounced more at the lower-tier suppliers, and no interventions will take place. This can be either due to small turnover of the buying firm or the direct supplier not sharing information about the powerful second tier supplier with the buying firm with the fear of using the powerful customer (Meinschmidt et al., 2018; Wilhelm et al., 2016). Alwaysheh and Klassen (2010), on the other hand, propose that this effect might be less visible for social sustainability practices compared to environmental sustainability practices, due to costs of implementing social practices outweighing the dependence impact.

In sum, currently there is limited and somewhat contrasting evidence regarding the impact of buyer-supplier dependence on supplier sustainability practices and buying firm performance outcomes. A possible explanation for the contrasting findings might relate to other factors at play with dependence, such as relational capital, which we discuss in detail in the next section.

### *2.3. Relational capital and sustainability*

Based on social capital theory we distinguish between three types of social capital: cognitive, structural, and relational. Relational capital can be defined as a valuable asset that stems from access to resources made available through social relationships (Granovetter, 1992; Nahapiet and Ghoshal, 1998). Kale et al. (2000) identify five dimensions of relational capital: close interpersonal interactions, trust, friendship, respect and reciprocity. Trust, which has been found to be highly associated with higher supplier performance, is considered as one of the essential elements of relational capital (Nahapiet and Ghoshal, 1998; Lee, 2015; Villena and Craighead, 2017).

Similar to buyer-supplier dependence, relational capital (and more specifically, its trust dimension) has been extensively examined in the PSM literature, as a factor affecting information sharing, relationship commitment, and supplier innovation (Geyskens et al., 1996; Henke and Zhang, 2010; Li and Lin, 2006). Relational capital is argued to be an enabler in buyer-supplier relationships



as it reduces opportunistic behavior, increases communication and aids developing long-term relationships while reducing transaction costs (Dyer and Singh, 1998; Lee, 2015; Villena and Craighead, 2017). However, there have also been studies that have warned against the dark side of trust-based buyer-supplier relationships that can be caused by the focus on immediate returns, strong interpersonal relationships, and unique process adaptations and investments (Andersen and Jap, 2005; Villena et al., 2016).

Relational capital is highly relevant in the SSCM context as well. *Table 2* illustrates the key arguments in the literature regarding the link between relational capital and supplier sustainability. Almost all studies suggest a positive impact (Gimenez and Tachizawa, 2012; Gualandris and Kalschmidt, 2016; Lee, 2015). Some argue that it is a necessary condition for supplier compliance to code-of-conduct and environmental information sharing as it deters opportunistic behavior and the buying firms are more confident regarding the reliability and willingness of suppliers to adhere to environmental practices (Chen and Hung, 2014; Geffen and Rothenburg, 2000; Hoejmose et al., 2012; Pedersen and Andersen, 2006). Lee (2015) argues that this effect is even stronger for SME suppliers. Some studies further add that although it is a necessary condition, it is not sufficient by itself (Hoejmose et al., 2012; Pedersen and Andersen, 2006); for instance, it is only effective if combined with buying firm top management support (Hoejmose et al., 2012).

**Table 2**  
Summary of Key Arguments about the Link Between Relational Capital and Supplier Sustainability

<b>Impact</b>	<b>Sustainable practice</b>	<b>Motivation</b>	<b>Author(s)</b>
POSITIVE	Supplier compliance to code-of-conduct	Necessary, but not sufficient condition	Pedersen and Andersen (2006)
	Environmental information sharing	Necessary condition, facilitator due to deterring opportunistic behavior	Chen and Hung (2014); Geffen and Rothenburg (2000)
	Green supply behavior	Reliability and willingness of suppliers to adhere to environmental practices, credibility is not an easily imitable resource	Hoejmose et al. (2012)
	Green supply behavior	Trust has to be combined with top management support, and there is need for "mutual" trust	Hoejmose et al. (2012)
	SSCM practices, innovative solutions	Enabler due to increased supplier commitment and incentives - especially larger effect for SME suppliers	Gimenez and Tachizawa (2012); Gualandris and Kalschmidt (2016); Lee (2015)
NEGATIVE	Buyer sustainable supplier management practices	Reduce the need for monitoring	Vachon and Klassen (2006)

Although the PSM literature highlights that trust can also be detrimental in some cases, in the SSCM literature there is limited evidence regarding this effect. Briefly, Meqdadi et al. (2017) mention that high levels of trust can cause the buying firms to instigate less sustainable supply management practices due to over-confidence in the supplier and feel a reduced need for monitoring supplier sustainability practices and performance. There is a need for more research to investigate the impact of trust on supplier sustainability, especially considering the arguments that it is not a sufficient factor itself and that it is related to other buyer-

supplier relationship characteristics. A possible interaction, the link between relational capital and dependence, is discussed in the next section.

#### *2.4. Dependence and relational capital: Conflicting or complementary?*

Schnittfeld and Busch (2016) argue that there is an inherent trade-off between power and trust; when buyer-supplier relationships are mostly based on power plays, then trust will be damaged. Petersen et al. (2008) find that when the supplier has more power, the buying firm will actively try to strengthen relational capital, by means of socialization processes ensuring cooperative norms. Confirming this view, McCarthy-Byrne and Mentzer (2011) argue that when buyer-supplier relationships are asymmetrically dependent, the less powerful party initiates “bonding behavior”. For suppliers, this could mean investing in specific technology just for the buying firm or sharing information to increase supply visibility, in order to secure the relationship and demand future business. Ireland and Webb (2007) state that power (dependence) and trust (relational capital) can be complementary (for instance, when trust is low, power might have to be used as an alternative mechanism), and conflicting, (for instance, when power is excessively used, it can damage trust). The interplay between dependence and relational capital is also stressed by Joshi and Arnold (1997), who find that dependence results in opportunism in case of low relational capital.

There is little information regarding how the interplay between dependence and relational capital impact supplier sustainability performance. Some argue that the type of power is important: while coercive power damaging trust might be necessary to increase supplier sustainability compliance, non-coercive power can be implemented effectively with trust to support more collaborative sustainability practices (Hoejmose et al., 2013; Meqdadi et al., 2017). Clearly, there is a need for more research to understand the collaborative effect of buyer-supplier dependence and relational capital on supplier sustainability performance.

### 3. Research method

#### *3.1. Case selection criteria*

Considering the rather preliminary state of research regarding the link between buyer-supplier dependence, relational capital, and supplier sustainability performance, we opted for a theory-building rather than theory-testing approach (Barratt et al., 2011; Eisenhardt, 1989; Yin, 2009). We conducted a multiple-case study by examining 14 buyer-supplier relationships in five large companies operating in Turkey. Multiple cases aid theory development by facilitating identification of patterns and enabling the observation of extreme examples of

important patterns and situations (Eisenhardt and Graebner, 2007). Recent studies also suggest the need for conducting more qualitative research about SSCM (Taylor and Vachon, 2018).

Our unit of analysis is the buyer-supplier dyad. We chose the buying firms from different industries in order to increase external validity and generalization (Eisenhardt and Graebner, 2007). Cases were chosen based on detailed discussions with the main contact person in buying firms, aiming for variety across suppliers in terms of buyer-supplier dependence. *Table 3* illustrates the descriptives regarding the cases.

**Table 3**  
Case Descriptives and Interview Details

Buyer company	FTEs	Main products/services	Number of...				Data collection period
			S*	R:	I:	Q:	
B1 - DEFENSE	5300	Communication, electro-optical, avionics, marine, transportation, security, weapon systems	4	5	3	5	Jan'17-May'18
B2 - HOUSEHOLD	15300	TV, mobile, white goods and household appliances, heating/cooling systems, lighting	3	5	3	4	Jan'17-May'18
B3 - STEEL PIPE	1500	Industrial (gas, water, general purpose) pipes and profiles manufacturing	2	3	1	3	Mar'18-May'18
B4 - TIRE	2200	Tire manufacturing	4	4	3	5	Jan'18-May'18
B5 - AUTOMOTIVE	5500	Passenger and commercial vehicles	1	1	2	2	Jan'17-May'17
Total			14	18	12	19	

\*S: Suppliers, R: Respondents, I: Interviews, Q: Questionnaires

### 3.2. Data collection, validity, and reliability

We collected data from both buying firms and supplier firms, between January 2017 and May 2018 (*Table 3*), in order to account for the differences in perspectives regarding the relationship characteristics. Data from buying firms were collected from purchasing managers and buyers via both questionnaires and detailed

interviews. Initially, informants were asked to fill out a short questionnaire in English regarding the key concepts in this study. Afterwards, detailed interviews of 60-90 minutes were held to understand “why” and “how” questions and ask for specific examples to complement their answers to the questionnaire. In total 12 interviews were held with the buying firms. Data from supplier firms were collected via questionnaires, and the buying firm respondents elaborated on their answers as we did not have direct access to the suppliers due to confidentiality. To minimize potential respondent bias, we paid special attention to the wording of the questions and avoided personal questions (Cui et al., 2012). We took various measures to improve the validity and reliability, which are indicated on *Table 4* together with the definitions for validity and reliability types.

**Table 4**  
Validity and Reliability Measures Undertaken in This Study

<b>Validity &amp; reliability types</b>	<b>Measures</b>
<b>Construct validity:</b> “the extent to which correct operational measures are established for the concepts being studied”	<ul style="list-style-type: none"> <li>• Data triangulation: Semi-structured interviews and preliminary questionnaire</li> <li>• Pre-testing interview questions with company contacts</li> <li>• Presenting the initial findings and getting feedback from company contacts</li> </ul>
<b>Internal validity:</b> “the extent to which causal relationships can be established whereby certain conditions are shown to lead to other conditions, as distinguished from spurious relationships”	<ul style="list-style-type: none"> <li>• Use of a conceptual framework</li> </ul>
<b>External validity:</b> “the extent to which the findings of a study can be generalized to a bigger population”	<ul style="list-style-type: none"> <li>• Use of multiple case studies</li> <li>• Investigating different industries</li> <li>• Collecting data from both buying firms and supplier firms</li> </ul>
<b>Reliability:</b> “the extent to which the operations of a study can be repeated with the same results”	<ul style="list-style-type: none"> <li>• Developing a detailed case study protocol</li> <li>• Transcribing the interview data</li> <li>• Developing a case study database</li> </ul>

### 3.3. Measurement

*Appendix A* provides the interview questions and *Appendix B* provides the questionnaire items. We aimed to assess four key concepts: buyer/supplier dependence, relational capital, transaction-specific investments, and supplier sustainability performance. Questionnaire items were borrowed from previous literature (i.e. Caniels and Gelderman, 2005; Eckerd and Hill, 2012; Luzzini et al., 2015; Villenda and Craighead, 2017; Wagner and Bode, 2014) and interview questions were formulated as semi-structured, enabling emerging issues to be investigated.

When evaluating supplier sustainability performance, we asked our interviewees to consider in general whether the supplier operates in an environmentally and socially sustainable manner and has an excellent environmental/social track record (Thomas et al., 2016). We further gave them some examples such as the supplier's environmental policy and certifications, use of recycled material, efficient energy and resource use, good health and safety conditions at work, paying attention to employer rights, etc. to evaluate such behavior (Amindoust et al., 2012; Bai and Sarkis, 2014; Seuring and Miller, 2008). Since our main data collection tool is interviews with purchasing managers, we also focused on the manager's perception of the supplier's "compliance" to environmental and social requirements (Sancha et al., 2016). If the interviewee indicated excellence in all areas, we considered this as "high" performance. In case of "going beyond expectations", we classified this as "very high" performance. In some cases, interviewees reflected an average level of dissatisfaction, or indicated some problematic areas such as "the need for having environmental certificates" or "issues with safety conditions". We classified these as "moderate" performance. There was one case where the interviewee illustrated several issues in the supplier audit and negligence of the supplier towards buyer's sustainability requirements. We labeled this case as "low" supplier performance.

## 4. Results

As our purpose in this research is to find "patterns across cases" rather than examining the links among the individual variables in each case, we do not have detailed within-case analysis, but we proceed with cross-case analysis (e.g. Ateş et al., 2015; Kauremaa et al., 2009; Ellram and Tate, 2015).

First, we prepared detailed within-case descriptions to generate insights and assess the underlying mechanisms behind the observations (Barratt et al., 2011). Then, we categorized each case based on buyer-supplier dependence. Similar to Hajmohammad and Vachon (2016) and Touboullic et al. (2014), we identify four types of buyer-supplier dependence situations as illustrated in *Figure 1*: 1. Supplier

dominance (*high buyer dependence, low supplier dependence*), 2. Independence (*low buyer and supplier dependence*), 3. Interdependence (*high buyer and supplier dependence*), and 4. Buyer dominance (*high supplier dependence, low buyer dependence*).

**Figure 1**

Cases per buyer/supplier dependence (*B: Buying firm, and S: Supplier firm*)

Buyer dependence  L	<b>H</b>	<b>SUPPLIER DOMINANCE</b>	<b>INTERDEPENDENCE</b>
		Case 1: B2_S1 Case 2: B1_S4	Case 7: B2_S2 Case 8: B1_S1 Case 9: B5_S1 Case 10: B3_S1
		<b>INDEPENDENCE</b>	<b>BUYER DOMINANCE</b>
		Case 3: B4_S2 Case 4: B4_S4 Case 5: B2_S3 Case 6: B1_S3	Case 11: B4_S3 Case 12: B4_S1 Case 13: B3_S2 Case 14: B1_S2
	<b>L</b>	Supplier dependence	<b>H</b>

Based on our analyses, we found that although initially not conceptualized in the literature review, the supplier’s transaction-specific investments in the buying firm, also had an important role in understanding the relationship between buyer-supplier dependence, relational capital, and supplier sustainability performance. Transaction-specific investments are tangible and intangible assets that have very little value outside a particular relationship (Williamson, 1985), such as dedicated design and engineering assets, personnel, inventory, and capital equipment and tools (Lohtia and Krapfel, 1994; Wagner and Bode, 2014). Below, we elaborate on our findings based on the four dependence situations.

#### 4.1. Supplier dominance

**Table 5**  
Supplier Dominance Case Results

CASE #	BUYER REL. CAPITAL	SUPPLIER REL. CAPITAL	SUPPLIER SATISFACTION	SUPPLIER INVESTMENT	SUSTAINABILITY PERFORMANCE
CASE 1	HIGH	VERY HIGH	LOW	HIGH	VERY HIGH
CASE 2	MODERATE	MODERATE	MODERATE	HIGH	MODERATE

Two of our dyads (Case 1: B2 (HOUSEHOLD)\_S1, Case 2: B1 (DEFENSE)\_S4) illustrate the supplier dominance situation. In both cases, the buying firm is not one of the largest customers of the suppliers. We found that in Case 1, supplier sustainability performance was very high as evidenced by an excellent track record of implementing sustainable practices such as having recycling and waste reduction programs. Furthermore, both interviewees for Case 1 reported that the supplier not only confirmed to environmental and social requirements of the buying firm, but also took a proactive approach and went beyond the requirements. It was noteworthy to see that in this case, both buyer and supplier had high levels of relational capital. This relationship was indicated to be an exemplary case where there was high levels of trust accompanied by personal interactions based on long-term relationship expectations. One of the interviewees remarked, *“Our relationship with Supplier B2\_S1 is of a different kind. We have a long-standing tradition of doing business with them and never a single day we observed an issue that damages our trust in them. Supplier B2\_S1 has other big customers, but we feel they see us as a special partner”*. On the other hand, in Case 2, supplier sustainability performance was average. The interviewee stated that *“Although as the leader in the defense sector we give some recommendations to Supplier B1\_S4 in terms of sustainability, we have less power since they also supply several other defense firms in Turkey. Of course, Supplier B1\_S4 has the necessary certifications such as ISO9001 and ISO45001, otherwise they cannot be our suppliers in the that a high-level first place. But, they are always resistant to our additional sustainability criteria. They do have some work condition issues in the warehouse*. We noted that compared to Case 1, in this case relational capital was also moderate; although there was a long-term relationship, the interviewee indicated that it was mostly a transactional approach and there was little personal relationship.

The above findings suggest that even if the buying firm is dependent on its supplier, still supplier sustainability performance can be high if both parties have high levels of relational capital. However, if there is lower relational capital, supplier sustainability performance will suffer. Therefore, we propose that:



*Proposition 1: Relational capital offsets the negative impact of supplier dominance on supplier sustainability performance.*

The literature often focuses on the buyer dominance situations when examining buyer-supplier relationships; therefore, we have limited information regarding supplier dominance (Kahkonen et al., 2015). Dabhilkar et al. (2015) argue that when the buyer is dependent on a supplier, it will not be able to pressure its supplier for implementing sustainable practices. Similarly, Touboulie et al. (2014) argue that when supplier is the more powerful party, there is limited engagement of the supplier in sustainability policies that are being pushed by the buying firm. Additionally, they add that the buying firm will also not enter into long-term relationships with suppliers in those situations and instead focus more on cost-related objectives. Related to this view, Hajmohammad and Vachon (2016) propose that in case of supplier dominance, rather than taking any risk mitigating actions (i.e. monitoring-based and collaboration-based), buying firms should accept supplier sustainability risk, which they define as “the adverse impact on a buying organization from a supplier’s social or environmental misconduct (p.48)”. In other words, they propose that the buying firm should be ready to face detrimental effects rather than performance increases, since powerful suppliers will be inclined to resist to buyer’s environmental and social requirements (Hoejmoose et al., 2013). However, our findings illustrate that when relational capital is high, supplier sustainability performance can still be high even in supplier dominance situations. Therefore, to offset the negative effect of supplier dominance on sustainability performance, a remedy is to invest in relational capital, aiming to increase reciprocity and trust.

#### 4.2. Independence

**Table 6**  
Independence case results

CASE #	BUYER REL. CAPITAL	SUPPLIER REL. CAPITAL	SUPPLIER INVESTMENT	SUSTAINABILITY PERFORMANCE
CASE 3	MODERATE	HIGH	MODERATE	VERY HIGH
CASE 4	MODERATE	HIGH	LOW	VERY HIGH
CASE 5	MODERATE	VERY HIGH	VERY HIGH	HIGH
CASE 6	MODERATE	MODERATE	MODERATE	MODERATE

Four of our dyads (Case 3: B4 (TYRE)\_S2, Case 4: B4 (TYRE)\_S4, Case 5: B2 (HOUSEHOLD)\_S3, B1 (DEFENSE)\_S3) illustrate the independence situation. The cases illustrate a variety of transaction-specific investments. It was

interesting to note of transaction specific investment in Case 5, despite the independence. The interviewee stated that there is transaction-specific investment as the supplier recently invested in a new machinery to match the increasing volume from the buyer, but that was common for some other customers as well due to the project-based nature of supplier's business. In all cases, buyer relational capital was moderate, but supplier relational capital was often high. Although the majority of the buying firms stated that there was no trust-related issues, they stated that there is hardly any personal interaction with suppliers. On the other hand, supplier questionnaires illustrate that in general suppliers seem to think that there is reciprocity, mutual trust, and mutual respect, suggesting a gap in terms of perceived relational capital. Regarding supplier sustainability performance, the interviewee in Case 6 reports that: "*B1\_S3 does not strike us as a sustainability champion. They do have the necessary certificates, but they never show an interest in our supplier development (environmental) programs and trainings*", illustrating only a moderate level of performance. On the other hand, the interviewee in Cases 3-4 state that: "*We do not specifically ask for a higher sustainability performance from B4\_S2 and B4\_S4, but they clearly outperform their competitors in sustainability. B4\_S2 even has a formal environmental management system*".

It is interesting to note that when there is relational capital asymmetry favoring the buying firm, supplier sustainability performance was high, and when supplier relational capital was moderate, sustainability performance was lower as well. These results seem to suggest that independence does not result in lower sustainability performance per se; when there is positive supplier relational capital asymmetry, sustainability performance is still high.

Therefore, we propose that:

***Proposition 2:*** *Positive supplier relational capital asymmetry offsets the negative impact of independence on supplier sustainability performance.*

Dabhilkar et al. (2015) state that there is a trade-off between social and environmental sustainability and cost objectives, especially for non-critical components where the buying firm has limited interest in the supplier. Hajmohammad and Vachon (2016) argue that in independence situations, if supply risk is low, buying firms just accept the risk and if supply risk is high, they avoid the risk and possibly terminate the relationship with the supplier. Our findings suggest that there might not be a need to terminate the relationship if the supplier has a higher relational capital than the buying firm, still justifying compliance with the buying firm's sustainability requirements.

### 4.3. Interdependence

**Table 7**  
Interdependence Case Results

CASE #	BUYER REL. CAPITAL	SUPPLIER REL. CAPITAL	SUPPLIER INVESTMENT	SUSTAINABILITY PERFORMANCE
CASE 7	VERY HIGH	VERY HIGH	VERY HIGH	VERY HIGH
CASE 8	MODERATE	MODERATE	HIGH	HIGH
CASE 9	MODERATE	MODERATE	VERY HIGH	HIGH
CASE 10	VERY HIGH	VERY HIGH	MODERATE	MODERATE

Four of our dyads (Case 7: B2 (HOUSEOLD)\_S2, Case 8: B1 (DEFENSE)\_S1, Case 9: B5 (AUTOMOTIVE)\_S1, Case 10: B3 (STEEL PIPE)\_S1) illustrate the characteristics of interdependence. For both parties, it is difficult to find a new buyer/supplier and the majority of their purchasing spend/sales depend on the other party. It is interesting to see that in these cases there is no relational capital asymmetry; both parties share the same level of relational capital. However, relational capital does not seem to have a big impact on supplier sustainability performance; we see both moderate and high supplier sustainability performance in high relational capital situations. In Case 10, the interviewee states that: *“Once the former manager of our strategic supplier started in B3\_S1, we shifted more volume to B3\_S1 to support him, as we have a long history of doing business together. The personal relationships are very important here”*. However, it seems that high level of relational capital is not a differentiator of supplier sustainability performance in interdependence situations, as both buyer and supplier are already committed in the relationship. On the other hand, buyer-specific supplier investments (e.g. dedicated personnel, inventory, capital equipment) becomes more important. When there is high level of transaction-specific investments, supplier sustainability performance becomes higher.

Therefore, we propose that:

**Proposition 3:** *In case of interdependence, supplier sustainability performance will be higher when there are transaction-specific investments.*

Hajmohammad and Vachon (2015) argue that in case of interdependence, buying firms engage in more collaborative activities, regardless of the perceived sustainability risk. These collaborative approaches require going beyond traditional compliance to sustainability objectives, and engaging in more proactive practices, for instance in the form of environmental investments (Klassen and Vachon, 2003; Touboullic and Walker, 2015).

#### 4.4. Buyer dominance

Four of our dyads (Case 11: B4 (TYRE)\_S3, B4 (TYRE)\_S1, B3 (AUTOMOTIVE)\_ S2, and B1 (DEFENSE)\_S2 illustrate characteristics of supplier dependence. Surprisingly, we find that high supplier dependence does not result in high supplier sustainability performance per se; in contrast, often performance is low or moderate. Even if the relational capital is high, at best it is associated with moderate levels of supplier sustainability performance and when relational capital is low, it is associated with the lowest performance. High supplier sustainability performance is achieved when there are higher levels of transaction-specific investments only, but even these investments do not suffice if both buyer and supplier have low relational capital. These results seem to support the view that buyer dominance is more harmful than beneficial for sustainability performance, which seems somewhat counter-intuitive in the first place.

We argue that one explanation could be the focus of buying firms on cost gains benefiting from the dependency situation. The majority of the interviewees in Cases 11-14 reported that in supplier dependency situations they have more power over their suppliers and can easily demand more sustainable practices. For instance, the interviewee in Cases 11-12 state that *“We are using our buying power on these suppliers to make them work in accordance with our sustainability criteria and we can easily implement disciplinary sanctions”*. However, once we asked them to evaluate the sustainability performance of these suppliers, they seemed not satisfied, contrary to their own view about power and supplier sustainability compliance. Supplier dependence is often seen in leverage categories (Kraljic, 1983). We argue that in case of supplier dependence, although the supplier might seem willing to comply with whatever requirement the buying firm has (including sustainability-related), at the end of the day they first want to be more competitive in terms of cost since the buyer is quite flexible in switching suppliers. Indeed the interviewee in B3 (STEEL PIPE) state that *“When we do not have a single source situation and suppliers fight for getting more share from us, of course we are advantageous. We would try to shift as much business as possible to the supplier with high sustainability performance, but we can never convince top management if there is a much cheaper supplier.”* In such cases, when suppliers are dependent, they pay more attention to securing their relationship via offering cheaper prices than competitors do, rather than investing in sustainability efforts (Dabhilkar et al., 2016; Hojmosse et al., 2013).

**Table 8**  
Buyer dominance case results

CASE #	BUYER REL. CAPITAL	SUPPLIER REL. CAPITAL	SUPPLIER INVESTMENT	SUSTAINABILITY PERFORMANCE
CASE 11	MODERATE	HIGH	MODERATE	VERY HIGH
CASE 12	HIGH	VERY HIGH	MODERATE/LOW	MODERATE
CASE 13	VERY HIGH	VERY HIGH	MODERATE/LOW	MODERATE
CASE 14	LOW	MODERATE	HIGH	LOW

Therefore, we propose that:

**Proposition 4:** *The negative effect of buyer dominance on supplier sustainability performance is attenuated by transaction-specific investments on the supplier side; however, if buyer relational capital is low, even high transaction-specific investments on the supplier side will not suffice.*

Several studies suggest that supplier dependence is a necessary condition for supplier's compliance to the buyer's environmental and social sustainability requirements (Hajmohammad and Vachon, 2016). However, there are also views that suggest that too much buyer power creates supplier resistance and negatively impacts the achievement of long-term sustainability goals (Meqdadi et al., 2017; Touboulic et al., 2014). Our findings seem to support the latter view. Furthermore, as Case 14 illustrates, if the negative effect of dependence/ buyer power is coupled with low relational capital of both parties, even high transaction-specific investments made by the supplier do not suffice.

## 5. Conclusion

This study makes three major contributions to the literature. First, we illustrate the complex interplay between buyer-supplier dependence and relational capital in affecting supplier sustainability performance. Although there have been some studies in SSCM investigating buyer-supplier dependence and relational capital separately, these two concepts have seldom been examined in relation to each other (Hoejmose et al., 2013; Meqdadi et al., 2017). Our findings suggest that in case of supplier dominance, sustainability performance is likely to suffer; however, when there is high relational capital these negative effects are suppressed. Similarly, in case of independence (when both parties have little importance for each other), it is the positive supplier relational capital asymmetry (more relational capital possessed by the supplier compared to buying firm) that offsets the negative impact on supplier sustainability performance. The literature often suggests that when buying firms have less bargaining power (e.g. in case of supplier dominance or

independence), suppliers have less incentives to invest in sustainable practices (Touboulic et al., 2015). However, our findings illustrate that this negative affect can be reduced/suppressed by investing in relational capital; trust, personal interactions and reciprocity.

Second, adopting an exploratory approach and conducting multiple case studies, we were able to examine another contingency factor emerging from our data: transaction-specific investments. Our findings illustrate that, in some dependence situations relational capital does not make a difference; instead, supplier transaction-specific investments come into play. In line with previous studies, we found that when there is interdependence (for both parties the relationship is critical), supplier sustainability performance is often very high. However, we saw that when the supplier does not invest in transaction-specific investments, supplier sustainability performance suffers. These results suggest that interdependence does not guarantee high sustainability performance per se, but that it has to be coupled with high levels of investments. Similarly, we also illustrate the role of transaction-specific investments in case of buyer dominance. In contrast to findings suggesting that buyer dominance is advantageous for supplier sustainability conformance (e.g. Brockhaus et al., 2013; Dou et al., 2018; Hajmohammad and Vachon; 2016), we found that the opposite is true: often it has a detrimental effect. Meqdadi et al. (2017) and Touboulic et al. (2015) argue that this can be due to the high price pressure from the buying firm that increases passivity, reduces cooperative behavior, and increases resistance among suppliers. However, we also find that these negative effects in case of buyer dominance can be attenuated by transaction-specific investments that makes suppliers more committed to buying firm sustainability strategies.

Third, this study contributes to the literature by developing propositions to be tested in future studies, in larger samples. Undoubtedly, the external validity of our findings is limited due to the exploratory nature of our study and our propositions need to be examined in different industries and countries. Apart from large-N survey studies, an alternative approach to compare findings from larger number of qualitative cases can be fuzzy qualitative comparative analysis (fQCA) (Greckhamer et al., 2018).

Our study also makes some important managerial contributions. Our findings illustrate that purchasing and supply chain managers should not be overconfident (for instance, in case of buyer dominance), as we find that it can even be detrimental to supplier sustainability performance. Additionally, in order to achieve higher supplier sustainability performance, buying firms need to invest in relational capital, by having frequent meetings with the suppliers aiming to improve trust between the parties. It seems that in case of independence, buying firms do not need to invest as much in relational capital, as our findings suggest that a positive

relational capital asymmetry (where suppliers have more relational capital) is more advantageous. Purchasing managers also need to be aware of the role of transaction-specific investments and encourage their suppliers to undertake such investments, especially in case of buyer dominance and interdependence. It could be costly for the suppliers to start these investments in the first place; therefore, buying firms might also support supplier investments by not forcing them to the last penny and not having solely cost-focused negotiations.

As with any other study, this study is not without limitations. As the current state of knowledge on this topic is rather scarce, we adopted an exploratory approach and conducted multiple case studies. Therefore, the generalizability of our findings is limited. Future studies should focus on examining possibly other sectors and countries, and also by means of theory-testing approaches designing large-N studies. Furthermore, although we collected information from both the buying firm and supplier firm to capture both firms' perspectives, we were not able to conduct interviews directly with the suppliers due to confidentiality issues. Instead, buying firms distributed the questionnaires and later on elaborated on the suppliers' answers, regarding how they perceive the results of the supplier surveys and gave some examples to clarify their answers. Future studies can extend this approach and conduct interviews directly with the suppliers. Finally, regarding buyer-supplier relationship characteristics, we focus on buyer-supplier dependence, relational capital, and transaction-specific investments. Future studies can investigate other characteristics such as supply base structure (Choi and Krause, 2006), also extending the dyadic level of analysis to network level. We nonetheless hope that we have made a first attempt in investigating the complex interplay between buyer-supplier characteristics and supplier sustainability performance and generated some interesting findings and propositions to be investigated further in future studies.

## **APPENDIX A. INTERVIEW QUESTIONS:**

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### **GENERIC QUESTIONS:**

- In general, how would you (Supplier X) describe your relationship with Supplier X (your firm)?
- What are the general supply market characteristics that Supplier X is part of?
- How long have your firm and Supplier X been working together?

### **BUYER DEPENDENCE:**

- To what extent is your firm (Supplier X) dependent on Supplier X (your firm)?
- What kind of advantages/disadvantages are associated with dependence/independence to Supplier X (your firm)?

### **RELATIONAL CAPITAL:**

- To what extent would you (Supplier X) describe your (its) relationship with Supplier X (your firm) as based on close personal interaction, mutual respect/trust, friendship, reciprocity? Could you give some examples? Did you also have any bad experiences?

### **SUSTAINABILITY PERFORMANCE:**

- How would you rate the performance of Supplier X with regards to environmental and social compliance? Could you please give some examples?
- In your opinion, why some suppliers score higher/lower on sustainability performance?

## **APPENDIX B. QUESTIONNAIRE ITEMS:**

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**Buyer dependence** (*Caniëls and Gelderman, 2005*): Please indicate to what extent you agree/disagree with the following statements about Supplier X (*1: completely disagree; 5: completely agree*):

- The products/services we sell to this customer constitute an important portion of our total sales.
- If we changed this supplier, it would be difficult for us to find a new supplier to substitute their place.
- We are dependent on this supplier's technological expertise.
- We are highly dependent on this supplier.



**Supplier dependence** (*Caniëls and Gelderman, 2005*): Please indicate to what extent you agree/disagree with the following statements about Customer X (1: completely disagree; 5: completely agree):

- The products/services we sell to this customer constitute a significant part of our total sales.
- If we did not work with this customer, it would be difficult for us to find a new customer to substitute them.
- We are dependent on this customer's technological expertise.
- We are highly dependent on this customer.

**Relational capital** (*Villena and Craighead, 2017*): Please indicate the extent to which the relationship is characterized by... (1: to a very low extent; 5: to a very high extent)

- A close personal interaction
- Mutual respect
- Mutual trust
- Friendship
- Reciprocity

**Supplier satisfaction** (*Eckerd and Hill, 2012*): Please indicate to what extent you agree/disagree with the following statements about Customer X (1: completely disagree; 5: completely agree):

- Our companies have an effective working relationship.
- The buying firm carried out its responsibilities and commitments to our company.
- The time and effort spent developing and maintaining our relationship with this buying firm is worthwhile.
- We are satisfied with our relationship with this buying firm.
- Our relationship with this buying firm is productive.

**Supplier relation-specific investments** (*Wagner and Bode, 2014*): Please indicate to what extent you agree/disagree with the following statements about Customer X (1: completely disagree; 5: completely agree):

- We changed our product features for this customer.
- We changed our personnel for this customer.
- We changed our inventory and logistics for this customer.
- We changed our capital equipment and tools for this customer.
- We made significant investments in specific knowledge dedicated to this customer.

**Supplier sustainability performance** (Luzzini et al., 2015): What is the level of supplier X's performance – compared to other suppliers – for the following objectives (1: much lower; 5: much higher):

- Environmental compliance from this supplier.
- Social compliance from this supplier.

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## Özet

### Tedarikçi sürdürülebilirlik performansını anlamak: Bağımlılık ve ilişkisel sermayenin rolü

Sürdürülebilirlik performansını arttırmaya yönelik artan paydaş baskısı ile firmalar, alıcı-tedarikçi ilişkisi özelliklerinin tedarikçilerin sürdürülebilirlik çabalarını teşvik etmede veya tehlikeye atmada nasıl bir rol oynadığını anlamaya odaklanmaktadır. Bu çalışmada, alıcı-tedarikçi bağımlılığı ve ilişkisel sermayenin tedarikçilerin çevresel ve sosyal performansına olan etkisi incelenmektedir. Gömülü, çoklu vaka yöntemi ile Türkiye'deki beş büyük alıcı firma ve bu firmaların tedarikçileri ikili ilişki düzeyinde analiz edilmiştir. Bulgularımız tedarikçi sürdürülebilirlik performansında hem tamamlayıcı hem de çelişkili roller gösteren bağımlılık ve ilişkisel sermaye arasında karmaşık bir etkileşim olduğunu göstermektedir. Çalışmanın sonunda, ileriki çalışmalarda test edilmek üzere hipotezler geliştirilmektedir.

*Anahtar kelimeler:* Bağımlılık, ilişkisel sermaye, tedarikçi sürdürülebilirlik performansı.





