Investigating the Overdependence on Supply Chain Partners, Exploitation and Willingness to Focus on Sustainability Performance in Business-to-Business Firms

Abstract

This study contributes to the field of sustainable supply chain management by shedding light on the relationship between overdependence on supply chain partners, exploitation, and the willingness of business-to-business partner firms to focus on sustainability performance. This study further investigates how ethical culture moderates this relationship. Drawing on resource dependency theory, the study develops a model and validates it using multivariate analysis among 120 dyads. The findings reveal that a business-to-business firm's overdependence on its supply chain partners can lead to it being exploited, which in turn negatively impacts its willingness to prioritize sustainability within the supply chain. Moreover, the study demonstrates that the stronger the firm's ethical culture, the weaker the effect of overdependence on exploitation, while at a lower level of the firm's ethical culture, the effect of overdependence on exploitation is stronger. The paper concludes with a discussion of these findings and proposes avenues for future research. The utilization of resource dependency theory unveils the potential downsides of overreliance on supply chain partners and its consequences within the supply chain.

Keywords

dark side, ethics, environment, exploitation, overdependence, supply chain partners, sustainability

1. Introduction

In the realm of sustainable business practices, the dynamic interplay between buyer-supplier relationships and sustainability performance has sparked a theoretical discourse (Villena et al., 2021; Blome et al., 2023). Recently, as highlighted by Gualandris & Kalchschmidt (2016), buyer-supplier trust illuminates the potential for enhanced sustainability within these relationships. However, this promising avenue is shadowed by a critical concern: the perilous overdependence on supply chain (SC) partners (Rossetti & Choi, 2005; Johnsen & Lacoste, 2016). The complications of such overreliance cast a foreboding shadow on the exploitation of these partnerships, especially pronounced within firms where ethical cultures falter (Rossetti & Choi, 2005; Schleper et al., 2017). This intricate web of connections, where sustainability aspirations intertwine with the ethical fabric of firms, paints a narrative of complexity and challenge. Within this context, the willingness to prioritize sustainability within SCs faces a formidable adversary. This is evident from industry reports. For instance, automobile manufacturers encounter difficulties in their SCs when attempting to implement sustainable practices.[i] The requirement for rare earth metals, which must come from labor-intensive, environmentally unstable areas, is necessary for electric vehicle batteries (Niri et al., 2024). This underscores the moral dilemma associated with sustainability initiatives and the reliance on these SCs.

Sustainability performance in the SC involves prioritizing sustainability, allocating resources for improvement, setting clear goals, monitoring and reporting consistently, integrating innovative sustainability technologies, and recognizing it as both a responsibility and an opportunity for growth (Qorri et al., 2018; Niri et al., 2021). However, the complex relationships between overdependence on SC partners and exploitation under poor ethical culture can influence the willingness of SC partners to focus on sustainability performance in the SC network. This is missing in the existing literature.

In business-to-business (B2B) markets, the quality of the relationship determines how strong the buyer-supplier relationship (BSR) remains. Social interaction and information sharing boost the B2B partnership (Bag et al., 2022b), which is a partnership in which both parties profit from the contract and are mutually rewarding. The partners may be dedicated to the relationship somehow, which is vital for a stronger bond (Takala & Uusitalo, 1996). To exchange information with business partners, ongoing negotiations are vital. In a business setting, negotiation refers to the interaction between the parties to reach an agreement on the terms, conditions, and guidelines for future B2B transactions (Malshe et al., 2010). Serial communications occur between the parties as they share information and exert influence over one another in a B2B partnership. However, individual objectives that may conflict with those of other parties can present difficulties in negotiations.

In a dyadic BSR, several ethical concerns may materialize, including exploiting workers, bribery and corruption, intellectual property infringement, discrimination, and environmental degradation (Carter, 2000). Both sides will contribute to creating a more unsustainable SC by placing less importance on ethical behavior in their dyadic BSR (Bag et al., 2022a). Nonetheless, the existing literature has not completely understood the consequences of overdependence on SC partners or their exploitation (Villena et al., 2011; Schleper et al., 2017). Moreover, the reasons why the exploitation of SC partners' impacts SC sustainability remain unclear.

The importance of SC partners focusing on sustainability performance, as highlighted by COP28 and similar global climate discussions, lies in their significant contribution to achieving climate goals, reducing risks and ultimately creating a more sustainable and resilient future. According to the study of Bag et al. (2023) SC partners are crucial in meeting the United Nation's sustainable development goals (SDGs), particularly in areas like climate change adaptation (CCA) policies and disaster risk reduction (DRR) under SDG 13 (climate action).

This involves enhancing resilience, adaptive capabilities, and building the necessary knowledge and capacity to address climate change.[ii] Research indicates that multinational customers' involvement prompts suppliers to align with CCA and DRR targets and foster commitment to these goals within the industry. The study of Bag et al. (2023) further shows that when tier-one suppliers comply and commit to these targets, it encourages tier-two suppliers (sub-suppliers) in the industry to do the same, ultimately contributing to the achievement of SDG 13.

However, B2B firms will fail to achieve sustainability targets unless they understand the dark side of over-dependence on SC partners under a weak ethical culture.

Research on environmental sustainability issues within the SC domain began in the late 1990s (e.g., Wu & Dunn, 1995; Klassen & McLaughlin, 1996). Since then, numerous scholarly articles have been published, leading to the maturation of the topic over time.

A substantial body of research on sustainability and corporate social responsibility (CSR) related to SCs has emerged not only in the supply chain management (SCM) discipline but also in business ethics (BE) journals. The BE field is particularly noteworthy as it serves as a key platform for discussions on sustainability and CSR, encompassing research that extends beyond the focal firm. Notably, sustainability topics such as SCM practices, activities and supplier management intersect the fields of SCM and BE (Quarshie et al., 2016).

Goebel et al. (2012) suggest that various aspects of a company's ethical culture greatly influence how purchasing managers consider social and environmental factors in supplier selection. Furthermore, Castillo et al. (2018) introduced the concept of supply chain integrity to examine how the interplay of business and ethical decisions can enhance sustainable supply chain management (SSCM) practices. Conversely, a poor ethical culture within a focal firm or its partners can adversely affect reputation and sustainability performance (Eltantawy et al., 2009). This is exemplified by companies like Sony Ericsson and H&M, which faced ethical

dilemmas and ambiguities due to their associations with questionable corporate actions by other entities within their SCs (Svensson, 2009).

Academic literature indicates that an ethical culture involves a code of conduct guiding internal and external stakeholders to align with sustainability goals. Explicit guidelines help employees follow appropriate procedures for obtaining necessary authorizations. Moreover, clear instructions regarding the responsible handling of financial assets prevent ethical issues from arising. Effective communication from top management to all employees about the expected standards of responsible interaction with external parties also mitigates ethical issues. Ensuring clarity on expected standards of responsible behavior is crucial. In organizations with a strong ethical culture, constant pressure on employees does not lead to situations where they are inclined to violate established rules (Eisenbeiss et al., 2015; Nicholson & Kurucz, 2019). Hence, the current research topic under investigation is timely and impactful.

To address these research gaps, further research is needed to examine the consequences of overdependency on SC partners and the mechanisms through which exploitation affects SC sustainability. By conducting this research, scholars can contribute to a more comprehensive understanding of the dynamics between overdependence, ethical culture, exploitation, and the pursuit of sustainable SC management. Hence, we aimed to answer the following research questions (RQs):

RQ1: What is the relationship between overdependence on SC partners and exploitation of SC partners under the moderating effect of firms' ethical culture?

RQ2: What is the relationship between the exploitation of SC partners and the willingness of SC partners to focus on SC sustainability?

This study employed Resource Dependence theory (RDT) as the foundational framework to support the relationships outlined in our proposed theoretical model. The paper's distinctive contribution lies in clarifying the mechanism by which a firm's overdependence on

its SC partners can result in its exploitation, consequently impacting its willingness of these partners toward sustainability goals in SC.

To address these RQs, we used an empirical research design according to the guidelines of Flynn et al. (1990). As mentioned earlier, we employed RDT as a theoretical lens to examine the relationships between various latent constructs. Data was collected through an online survey. The present study's unit of analysis was dyadic-level data. This study applied confirmatory factor analysis using Smart-PLS.

Our research philosophy is grounded in realism, positivism, and a structured empirical methodology. It leverages established RDT theory and quantitative methods to explore complex relationships in sustainable SCM, aiming for objective and generalizable insights. This approach ensures a systematic investigation of the RQs, contributing valuable knowledge to the field.

The remainder of this paper is organized as follows: Section 2 presents the hypotheses and model, and then Section 3 outlines the research method. Section 4 presents data analysis; and Section 5 presents the discussion. The last section concludes the paper with our final thoughts and suggestions for future research directions.

2. Theoretical underpinning

2.1 Sustainability in supply chains

Corporate responsibility and sustainability address the interaction between business and society (Bansal and Song, 2017; Wickert, 2021). According to Bansal and Song (2017) the two domains intersected in the 2000s in the areas of profit, society, and environment.

Bansal (2019) indicated that sustainable development research has transitioned from a peripheral topic to a central focus in management studies. This shift is crucial as business activities increasingly push planetary boundaries, making sustainable development more

urgent. According to Bansal (2005) “Three conditions are required to achieve sustainable development: i) environmental integrity, ii) economic prosperity, and iii) social equity.”

Markman and Krause (2016) pointed out that truly sustainable business practices are those that holistically improve environmental, social, and economic outcomes, with a clear prioritization that places the environment at the forefront, followed by social justice and then economic.

By incorporating values into organizational sustainability, companies aim to balance economic success, social equity, and environmental protection, thereby contributing positively to the broader goals of sustainable development. This approach helps build a resilient, reputable, and responsible organization capable of thriving in the long term (Jennings and Zandbergen, 1995).

In SCs, suppliers, focal companies, distributors, retailers, and customers are interconnected through flows of information, materials, and finances. Alongside the value of the product, the environmental and social burdens accumulated during various stages of production are also considered. Consequently, focal companies within SCs may be held accountable for their suppliers' environmental and social performance (Seuring and Müller, 2008).

Pressures and incentives from the government, customers, and other stakeholders drive sustainable supply chain management (SSCM) practices (Seuring and Müller, 2008).

Benn et al. (2013) emphasized the importance of organizational learning for enhancing sustainability. Hence, organizational learning and change, including education for sustainability discourse, are important.

Strategies such as supplier management for risks and performance and SCM for sustainable goods are popular strategies focal firms adopt to enhance SSCM performance (Seuring and Müller, 2008). The sustainability performance of suppliers has also been

emphasized in the work of Naffin et al. (2023). Earlier, Seuring and Müller, (2008) pointed out the need for collaboration among partner companies in SSCM. Naffin et al. (2023) further pointed out that specific relational characteristics, such as high transaction volumes, long-term relationships, and strategic partnerships, are positively associated with the sustainability performance of suppliers. This suggests that companies can potentially improve their suppliers' sustainability practices through deeper and more involved relationships (Valente and Oliver, 2018).

Although SSCM improves performance, it also involves unique challenges (Koberg and Longoni, 2019). Limited resources and insufficient support from buyers hinder small and medium-sized enterprise (SME) suppliers from taking part in multi-stakeholder initiatives (Koberg and Longoni, 2019). Hence, different SSCM configurations (open, third party, and closed) and governance mechanisms (Direct supplier assessment involving supplier collaboration and/or multi-stakeholder initiatives, and Indirect assessment involving industry-specific certifications and/or multi-industry certifications) are important in managing sustainability outcomes (supplier implementation of sustainable practices and environmental, social, and economic performance of buyers and suppliers (Koberg and Longoni, 2019).

The concept of ethical sustainability, particularly in relation to corporate social responsibility (CSR) has emerged as an important topic (Closs et al., 2011). Ethical sustainability requires managers to make decisions that prioritize ethical principles over mere legal compliance, often at a higher cost to the firm or SC. This ethical perspective extends beyond legal requirements to encompass broader societal expectations. The ethical sustainability dimension can be categorized into areas such as employee relations, community involvement, and business management practices. Firms can adopt ethical business practices such as safe material sourcing, responsible production, and transparent product traceability to

ensure compliance with varying national regulations while enhancing consumer well-being through responsible marketing practices.

There is considerable focus on establishing sustainable businesses, with companies aiming to enhance their reputations by emphasizing their environmental efforts. Examples include Walmart, the largest private employer in the US, which is actively pursuing significant initiatives to increase the environmental sustainability of its operations (Pfeffer, 2010; Gielens et al., 2018).

Although sustainability has become a central topic in SCM, managing sustainability outcomes is complex and requires consideration of appropriate power management in buyer-supplier relationship strategies (Touboulic et al., 2014). From the review of the literature, the ethical dimension emerged as a critical element in managing sustainability outcomes in SC (Blome et al., 2023).

2.2 Model building

The task of industrial buying and selling is becoming increasingly complex. Suppliers are located in different parts of the world, leading to complexities in purchasing activities (Bag et al., 2022a). International laws and foreign exchange fluctuations must be considered, along with product quality and after-sales services. Additionally, the organizational structure of firms varies, with buyers reporting to SC or finance managers depending on the organization. These factors make the process more intricate.

In tandem with these complexities, B2B enterprises must prioritize ethics and SC management for several reasons. First, trust plays a crucial role in B2B relationships, and an ethical culture is imperative for building and maintaining trust (Kittur et al., 2023). Engaging in unethical conduct could harm any long-term business relationship and destroy trust between the two firms (Loughran et al., 2023). Second, B2B firms are subject to legal and regulatory

requirements, and ethical behavior is essential for complying with these regulations. Their violation could result in legal penalties, fines, and damage to a company's reputation (Behera & Bala, 2023; Shrivastava, 2023). Third, ethics is increasingly significant in business decision-making. Demonstrating an ethical culture in firms' operations can attract more customers, investors, and stakeholders, thus improving a B2B firm's brand reputation and attracting new customers. Lastly, effective SCM is vital to a B2B company's success, and implementing ethical sales and purchasing practices can lead to increased business performance and customer retention (Markovic et al., 2018; Bag et al., 2022a).

The literature on BSRs encompasses various theoretical debates that bring attention to significant issues (Schmitz et al., 2016). For instance, Steinle & Schiele (2008) contended that suppliers are a valuable resource that can contribute significantly to a firm's competitive advantage. In the same vein, Eggert & Helm (2003) stressed the importance of transparency in delivering value to customers, raising their satisfaction levels, and generating favorable behavioral intentions. Additionally, Ide (2009) underscored the major changes that have occurred in traditional SC practices due to factors such as ongoing economic globalization and technological advances. For example, subcontracting structures have undergone significant changes, necessitating fresh efforts to establish fair trade as a business practice and to create a new business culture that endorses competition policy, small and medium-sized enterprise policy, and ethical practices.

Sahay (2003) provided SC managers with valuable information for evaluating their partner relationships and effectively managing them. Additionally, Co & Barro (2009) identified both aggressive and cooperative stakeholder strategies. Aggressive strategies involve forceful attitudes or behaviors toward stakeholders to modify their behavior, whereas cooperative strategies involve supportive attitudes or behaviors. When a low level of trust exists among stakeholders, firms may choose to adopt aggressive strategies to complete the

collaborative activity with their trading partners. Conversely, organizations tend to adopt cooperative strategies when there is a sense of interdependence, the perception that trading partners share the urgency to collaborate, and a realization that the collaborative activity benefits all involved stakeholders.

Linstead et al. (2014) presented a research stream that focuses on the negative aspects of organizations, known as the "dark side," and drew on theoretical resources from multiple disciplines to address the issue. While this line of research has gained prominence since the 1990s, its roots can be traced back to earlier studies. A tendency exists in mainstream work to disregard difficult ethical, political, and ideological concerns that could be a real problem for some people (Oliveira & Lumineau, 2019). This has led to the emergence of research that identifies concerns with the "dark side." Both Villena et al. (2011) and Schleper et al. (2017) have elevated the theoretical discourse on the negative aspects and unethical exploitation of suppliers to a more advanced level. Based on a literature review, Grandinetti (2017) identified two types of "dark side." The first occurs when one partner is aware of the unfavorable situation but remains trapped in the relationship due to a power imbalance and strong dependence. The second occurs when one partner undermines the relationship by keeping a secret from the other and exploiting the resultant information asymmetry.

More recently, Kim et al. (2022) proposed a new concept called buyer abusive behavior (BAB), examining the impact on suppliers of trucking services, when abused by their buyers. Their study demonstrated that contract-unrelated BAB, such as a buyer's demand for money or expensive gifts, negatively affects supplier performance and safety, whereas contract-related BAB, such as an unjust subcontract price decision, does not. Additionally, they found that the positive relationship between supplier performance and safety is weakened by contract-related BAB but strengthened by contract-unrelated BAB.

Nonetheless, Villena et al. (2011) noted that the literature on SCM has primarily focused on the positive aspects of collaborative BSRs, known as the "bright side." Such research has explored how buyers can utilize their BSRs to access and leverage resources using the social capital argument. To contribute to this field, Villena et al. (2011) investigated the "dark side" of social capital in BSRs, discovering that both the bright and dark sides do exist, with an inverted curvilinear relationship between social capital and performance, which means that too little or too much social capital can negatively affect performance. They further highlighted that while building social capital in a collaborative BSR has a positive impact on buyer performance, an excessive amount can reduce the buyer's ability to make effective decisions and increase supplier opportunistic behavior.

In their study, Schleper et al. (2017) shed light on the media's increasing accusations of supplier exploitation against firms, resulting in damaging sensationalized headlines that harm reputations and business success. Despite this, a rigorous ethical investigation into supplier exploitation is lacking, leaving unanswered questions about its antecedents and effect on sustainability performance.

The existing literature falls short of comprehensively elucidating the consequences of overreliance on SC partners and their exploitation (Johnsen and Lacoste, 2016), while the link between such exploitation and diminished focus on sustainability performance remains obscure. The research gap can be summarized as follows: Firstly, consequences of heavy reliance on SC partners and their exploitation: previous studies e.g. Villena et al. (2011); Schleper et al. (2017) and Kim et al. (2022) have examined the negative aspects and unethical exploitation of suppliers. However, there is still a lack of comprehensive understanding of the consequences of overreliance on SC partners (buyers' dependence on suppliers/other service providers and vice-versa) in the B2B context.

Secondly, Kaynak et al. (2015) have showcased that unethical behavior affects the continuity of business relationships. However, the overdependence on SC partners can lead to the exploitation of SC partners, and whether this relationship strength could be influenced by a moderating variable such as ethical culture remains unexplored. Further research is needed to uncover the potential consequences of overdependence and willingness to focus on sustainable performance in SC under the moderating effect of ethical culture.

Lastly, the impact of the exploitation of B2B SC partners and the willingness of SC partners to focus on sustainable performance is not well established. Filling this knowledge gap is critical to comprehensively understanding the relationship between exploitation, willingness of SC partners, and sustainable performance in SC.

We used RDT as a theoretical lens to examine the relationships. RDT highlights how organizations strategically respond to their reliance on external resources. Over the past three decades since Pfeffer & Salancik's (1978) foundational work, RDT has been extensively applied in research to illustrate how organizations navigate and mitigate their interdependence and uncertainties within their environments (Hillman et al., 2009).

RDT suggests that when faced with resource dependencies, organizations adopt various inter-organizational arrangements. These arrangements serve as mechanisms to reduce their reliance on external entities, thereby enhancing their autonomy. Additionally, by engaging in such arrangements, organizations can gain legitimacy in their environment, reinforcing their position and influence.

The theory's broad application across research domains demonstrates its versatility in explaining how organizations strategically manage their dependencies, reduce vulnerability, and adapt to environmental uncertainties. It provides a lens through which scholars and practitioners can understand and analyze the complex dynamics of interdependence, resource acquisition, and organizational strategies within diverse contexts (Drees & Heugens, 2013).

We developed a model based on the preceding discussion and presented it in Fig. 1:

<Insert Fig. I here>

2.3 Hypotheses

2.3.1. Overdependence of a firm on its SC partners and its subsequent exploitation

Durocher-Yvon et al. (2019) assert that dominance is particularly common in industries like automotive and retail, often manifesting through practices that provoke resentment. Additionally, small businesses subjected to such bullying are often forced to either shut down or comply with the demands of the dominant firm to stay operational. Previously, Arend & Wisner (2005) also pointed out the relationship issues among SC partners. The literature mentions that the dependence on SC partners helps to indirectly improve SC integration by building trust with SC partners (Zhang & Huo, 2013). Studies have mainly highlighted the positive impact of dependence on SC partners (Wu et al., 2004; Zhang & Huo, 2013), whereas only a few researchers have discussed the ill effects of overdependence. For instance, building social capital in a cooperative BSR significantly impacts buyer performance, as confirmed by Villena et al. (2011). Nevertheless, if done excessively, it can compromise the buyer's ability to be objective and make wise selections, as well as foster more opportunistic conduct on the part of the supplier.

The risk of unethical exploitation can undoubtedly increase with overdependence on SC partners. Overdependence on SC partners could result in the sharing of confidential information and the exposure of a weakness, which the SC partners could use against their SC partners in a crisis situation to increase profit margins (Linstead et al., 2014).

We support the argument using RDT to explain how an overdependence on SC partners creates a situation where a firm is very dependent on outside resources (Pfeffer & Salancik, 1978). Because of this overdependence, the firm's negotiating strength in the relationship is diminished and susceptibility is enhanced. As a result, if a firm depends too much on these

partners, it leaves itself open to unethical exploitation because the partners have a lot of power and they are crucial in providing resources (Cuervo-Cazurra et al., 2021). Hence, this study proposed the following hypothesis:

H1: Overdependence of one SC partner on others positively influences the exploitation of that SC partner.

2.3.2. Exploitation of SC partners and willingness to focus on the sustainability performance of SCs

SC actors who are primarily concerned with generating profits and short-term advantages may be less inclined to fund sustainability programs or prioritize ethical behavior in their SC. This may foster situations where immoral behaviors—such as labor exploitation or environmental degradation—are more likely (Linstead et al., 2014; Oliveira & Lumineau, 2019).

Actors in the SC may also face financial risks as a result of unethical behavior, such as bribery or corruption. These risks can include financial penalties, legal repercussions, reputational harm, and decreased business owing to ethical issues. The environmental sustainability of the SC may be badly impacted by unethical SC actions, such as unlawful deforestation or pollution. Ecosystems may be permanently harmed, local populations may suffer injury, and people in the SC may experience adverse effects on their health and well-being.

Moreover, the social sustainability of a SC may be badly impacted by the unethical treatment of workers, such as forced labor, child labor, or hazardous working conditions. This could result in a drop in staff morale, decreased productivity, and high turnover rates, all of which could affect the SC's overall sustainability performance (Bag et al., 2022a).

Unethical exploitation of SC partners is intended for short-term monetary gains or personal interests; thus, SC actors neglect sustainability performance–related criteria while making SC decisions (Silvestre et al., 2018). Hence, this study proposed the following hypothesis:

H2: The exploitation of SC partners negatively influences their willingness to focus on the sustainability performance of their SC.

2.3.3 Overdependence on SC partners and willingness to focus on sustainability performance of their SC

Excessive dependence on SC partners can diminish the willingness and ability of SC participants to emphasize sustainability, as it might restrict control, promote short-term cost-cutting over long-term sustainability objectives, present compliance hazards, and impede innovative efforts. To tackle this issue, it's crucial to broaden the supplier base, encourage cooperation, conduct routine assessments, and maintain a balanced approach that integrates sustainability as a strategic priority in SCM (Blome & Henke, 2009; Bag et al., 2022a).

Moreover, overdependence could result in an imbalance of power because SC partners, with their key resource provider status giving them leverage, could dictate or influence the firm's decisions. Prioritizing sustainability may encounter resistance if it calls for more resources or operational adjustments that go against the interests of the partners (Schnittfeld & Busch, 2016).

Furthermore, RDT places a strong emphasis on allocating critical resources first (Pfeffer & Salancik, 2015). We argue that even if sustainability is important, it might not be necessary for the firm's immediate survival or resource continuity, particularly if it depends too much on its SC partners. Hence,

H3: The overdependence on SC partners negatively influences the willingness of SC partners to focus on the sustainability performance of their SC.

2.3.4 Moderating effect of ethical culture

In the past, Castillo and colleagues (2018) examined how the interconnectedness of business and ethical choices can result in enhancements in SSCM strategies. Poor ethical culture within a company can have far-reaching consequences for its SC partners, resulting in the exploitation of workers and other forms of unethical conduct. Therefore, it is crucial for firms to prioritize ethical behavior and establish clear standards for their SC partners to ensure that they operate in a responsible and sustainable manner (Schleper et al., 2017).

A company's ethical culture can moderate overdependence on SC partners and their unethical exploitation. Lacking an ethical culture might make a firm more inclined to support unethical behavior in its SC or even engage in unethical behavior for short-term gains (Oliveira & Lumineau, 2019).

A business that prioritizes profitability and views its SC partners as a means to that end can be more ready to ignore unethical behavior or demand unfair conditions to maintain such ties. Similarly, if a business does not place a high priority on ethical behavior within its own walls, it may be more inclined to put up with or even encourage unethical activity within its SC (Simangunsong et al., 2016).

Thus, a low ethical culture can make it harder for businesses to identify and deal with unethical behavior inside their SC, which can increase the dangers related to overdependence on partners. By contrast, businesses with a strong ethical culture are more likely to value accountability, fairness, and responsibility in their interactions with SC partners and to take appropriate action when unethical activity is discovered (Simangunsong et al., 2016; Oyedijo et al., 2023). Hence, this study proposed the following hypothesis:

H4: Firms' ethical culture moderates the relationship between overdependence on SC partners and their exploitation, with ethical culture performing as a protective factor, so that the impact of overdependence on SC partners decreases their exploitation with higher ethical culture and vice-versa.

3. Method

3.1 Measurement items development and pretesting

After extracting the items of the key variables from the literature, the items of each construct were reviewed by a team of academic and managerial experts. In this process, the instrument was sent to six academics, three purchasing managers of buying firms, and three sales managers of supplier firms from India and South Africa for their feedback in terms of item clarity, ease of understanding, and understanding of the approximate time necessary for the respondents to complete the survey.

The six academics were identified from the International Purchasing and Supply Education and Research Association (IPSERA) database and were selected based on their significant research contributions in the area of Ethics and Purchasing Management. Additionally, three purchasing managers of buying firms were identified from the Chartered Institute of Procurement and Supply (CIPS) database. Furthermore, three sales managers of supplier firms were referred by the purchasing managers. The inclusion of these external partners enabled us to gather diverse perspectives, encompassing both theoretical expertise and practical experience within the SC domain. By soliciting feedback from academics, purchasing managers, and sales managers, our aim was to ensure the comprehensiveness, relevance, and practical utility of the measurement instrument in effectively capturing key constructs related to our sustainability management study.

We then modified the instrument based on the comments from each expert. Later, we developed two sets of questionnaires to suit the respondents (buyers and suppliers) in the dyad. All items were rated on a 5-point Likert-type scale, ranging from 1 (strongly disagree) to 5 (strongly agree). All of the measures under each variable reflected the shared activities and outcomes between the two organizations that the respondents perceived. The finalized survey instrument was designed to fit both buying and selling firms (see Table 1: Definition of Constructs and Table 2: operationalization of constructs). The survey aimed to gather data with a matched buyer-supplier set to examine both the parties' perceptions of the same study variables and proposed relationships.

<Insert Table I here>

<Insert Table II here>

3.2 Sampling and data collection

The present study's unit of analysis was dyadic-level data. In these relationships, both the firms (buying and supplying) may have a dual nature regarding channel functions, but both parties should require a balance in performing their relationships. The behavioral dimensions between buying and supplier firms must have interconnection to fully understand their complex and dynamic relationship (Gulati et al., 1999; Jap, 2001; Gulati et al., 2005; Cheung et al., 2011). Hence, the proposed conceptual model represents undistinguishable functions for both buyer and supplier firms. We studied the international buying and sales relationships between customer (the buyer) and their respective supply (the supplier) firms. The unit of analysis was the individual managers of these companies that constitute cross-border vertical dyads. A detailed description of the sample characteristics is provided in Table III.

The data collection process was conducted through an online survey of the purchasing managers of buying firms. After communicating via email with the purchasing managers of

buying firms, the researchers then identified the respective sales managers of their suppliers' contact. Thus, the present study initially contacted 189 key purchasing managers' contact details of the buying firms, and from them the key contacts of the supplier's firm's sales managers (179) were also recorded. The collected data consisted of buyer–supplier dyads (Nyaga et al., 2013). The data collection was conducted over a 13-month period, from February 2022 to March 2023. We sent emails to the participating buying firms to send a list of qualified participants, including their emails and contacts, to participate in the online survey. While completing their respective surveys, the participants were assured of complete privacy, confidentiality and consent to participate in the survey. In fact, we clearly informed the respondents about the purpose of the survey. In the same email, we also requested the same buying firms to send us details of their respective suppliers to form a cross-border dyadic sample (India and South Africa). After contacting the buying firm's multiple times by email and phone along with online meetings, we obtained the contact details of 189 potential respondents who agreed to participate in the online survey. In addition, we obtained another 179 potential respondents from the supply firms. After data collection we re-screened all of the collected data that we received in multiple phases. After the data screening process, a final sample frame of 120 (120 buyers and 120 suppliers) was created for performing the data analysis of the cross-border buyer-supplier dyad. A sample size of a minimum of 100 dyads was suggested for multi-level analysis by a number of researchers, such as Fuchs et al. (2017). Another study by Du & Wang (2016) indicated that the minimum number of dyads required for dyadic data analysis is 50 dyads with no missing data. Based on the above-mentioned guidelines, 120 dyads with 120 buyers and 120 suppliers exceed the suggested minimum sample size and are sufficient for dyadic data analysis.

<Insert Table III here>

3.3 Assessment of nonresponse, social desirability, and common method bias effect

Due to the nature of the dyadic data, the response rate from both the buyer and supplier sides is quite low. The problem of nonresponse bias could have impacted the data set if the respondents' opinions during the survey period did not specifically reflect the overall sample to whom the survey instrument had been sent (Carter, 2000). Lambert & Harrington (1990) suggested comparing the answers of early versus late respondents to the survey to test the existence of nonresponse bias. Therefore, the present study considered multiple reminders and pauses to collect data in different waves for each group. For instance, we examined nonresponse bias by comparing the first wave of responses (early respondents) and the second wave of responses (late respondents). Then, the data were tested through multivariate *t-tests*, resulting in the early respondents' data not reflecting statistically significant differences from the late respondents ($p = 0.3197$ for buyers, $p = 0.3618$ for suppliers).

Before testing the common method bias effect on the collected data set, we also examined social desirability bias issues on the collected data set. Social desirability bias impacts survey-based research when respondents do not perfectly answer questions to reflect themselves in a more favorable reflection (Fisher, 1993; Carter, 2000). To minimize social desirability bias, the present study applied multiple strategies; for example, to receive an honest response from the respondents, we only asked questions about their activities (Rudelius & Buchholz, 1979). Furthermore, the survey instrument also included a scale for measuring social desirability bias statements, such as "*No matter whom I am talking to, I have never felt the desire to tell someone off in my organization*," on a 5-point Likert scale ranging from "strongly disagree" to "strongly agree" (Crowne & Marlowe, 1960; Fisher, 1993). Subsequently, we performed a statistical relationship check between buyers' scores on the social desirability scale and their opinions of other dimensions, such as EC and the exploitation of SC partners. The results revealed no statistical significance among the variables with the social desirability scale ($p = 0.7013$ and 0.3729). The same relationship was also true with regard to supplier data ($p =$

0.7013 and 0.3729). However, the statistical tests cannot fully guarantee that social desirability bias did not exist.

The present study tested the collected data to check whether they suffered from common method bias, as they were collected through self-reports. The respondents were given two sets of instruments during the data collection period. The independent variable-related items were sent to them first, and after they completed the first part, the second part (dependent variable) was sent to them to complete (Yadlapalli et al., 2018). In addition, the questionnaire was structured into separate sections by variable name, so that the respondents could easily read the instructions and then proceed to provide their perception-based opinion on each statement accordingly in each section. During the data collection period, we assured the respondents that their confidentiality, responses and anonymity would be maintained with privacy during the data collection and presentation of the findings. Thus, we requested that the respondents answer each statement as honestly as possible. In addition, feedback from academic and industry experts was considered to reduce any verbal ambiguity (Podsakoff et al., 2003). Finally, Harman's one-factor test was performed on buyers' data and suppliers' data separately. The results from the two tests for each group demonstrated that the first factor for the buyers' data only explained 25.36% and that for the suppliers' data only explained 26.39% of the overall variance of the emerged factors, demonstrating that the data were not impacted by common method bias (Harman, 1967; Podsakoff et al., 2003).

Finally, the testing of a conceptual model may lead to defective deduction caused by omitted variables, which raises a concern about endogeneity (Wilms et al., 2021; Busenbark et al., 2022). In this aspect, the researcher develops the conceptual model grounded on established RDT theory and the relevant arguments were built to support the conceptual framework (Karttunen et al., 2022). Therefore, the respective relationship among the variables is supported by the relevant literature, theory, and contextual example, due to which the bias driven by

omitted variables is likely to be low in this research (Karttunen et al., 2022). From a statistical point of view, the researchers performed a Gaussian copula analysis process of the conceptual model to check the potential issues of endogeneity (Hult et al., 2018; Eckert & Hohberger, 2023). The results from the test revealed that none of the copula's values for both the data sets reflects any such significant influence at $p<0.05$, justifying low chances of extreme endogeneity to our proposed buyers' and suppliers' model.

4. Data Analysis

The aim of this research is to investigate the relationship between overdependence on SC partners and its effect on the willingness of B2B firms to prioritize sustainability performance while also exploring the moderating influence of ethical culture on the relationship between overdependence and the exploitation of supply chain partners. Thus, the present research examines the relationship between the above-mentioned latent constructs. Hence, the researchers had two options to apply either AMOS (covariance-based SEM technique) or Partial Least Squares (PLS)-SEM (variance-based SEM technique) (Hair Jr et al., 2017; Dash & Paul, 2021). As the dataset is relatively small, PLS-SEM was the best alternative. PLS is a non-parametric estimation procedure that can process the data with an iterative combination of principal components analysis to measure the constructs and conducts direct, indirect, and moderation causal relationships among constructs (Wynne, 1998). Under conditions of non-normality and small to medium sample size of data, it is more appropriate to apply PLS-SEM for analyzing moderating effects, which account for measurement error in exogenous constructs (Fornell & Bookstein, 1982; Chin & Newsted, 1999). Apart from that, in recent times, quite a high number of research embraced dyadic examination applied PLS-SEM for data analysis, such as Dhir et al. (2020), Tian et al. (2021), Ansong et al. (2023) and

Swierczek & Szozda (2023). Thus, we applied Smart-PLS v3 software for conducting the data analysis (Dash & Paul 2021).

4.1 Measurement model analysis

The present study applied confirmatory factor analysis by operationalizing Smart-PLS. The construct of the reflective measurement model was examined and validated through construct reliability, convergent validity, and discriminant validity (Rasoolimanesh, 2014; Hair et al., 2017). The analysis results of composite reliability and the Cronbach's alpha values of all constructs under the buyers and suppliers' data generated adequate construct reliability (see Table IV), indicating a threshold level of construct reliability (Hair et al., 2017). The average variance extracted (AVE) values under each construct were within the range of 0.524–0.591, which exceeded the 0.50 threshold, thus indicating an acceptable level of convergent validity of the measurement model (Fornell & Larcker, 1981; see Table IV).

<Insert Table IV here>

Finally, this study also tested discriminant validity by applying the Fornell–Larcker criterion. The analysis results revealed that the square root of AVE values was larger than the off-diagonal correlations in the rows and columns for both buyers' and suppliers' data, thus fulfilling the requirement of the Fornell–Larcker criterion (see Table V).

The collective results of the cross-loadings and the Fornell–Larcker criterion revealed that the discriminant validity of the measurement model was adequately met. Above all, the Heterotrait monotrait (HTMT) ratio was also examined to further confirm the issue of discriminant validity for both the data sets, indicating the fulfillment of the principles to satisfy the state of discriminant validity as all the values are less than 0.90 (Henseler et al., 2015).

<Insert Table V here>

4.2 Structural model

Before analyzing the structural model, this study evaluated it by assessing the collinearity issues of the corresponding dependent variables (EXP and WSP). The analysis results indicated that the respective VIF values on the buyers' and suppliers' data were in the acceptable range for both buyers' data and suppliers' data (<5 critical value and >0.2 critical value; Hair et al., 2014). Thus, each structural model had no collinearity issues. The results from Table VI highlight all the path coefficients and corresponding *t* values for both structural models, along with the R^2 values of the respective endogenous construct. The present study also performed the bootstrapping method with 5,000 runs. The results indicated that in both buyer's and supplier's data, all of the direct hypotheses were accepted (see Table VI, Figure II and III).

<Insert Table VI here>

The buyer and supplier-related tested model is presented in Fig. 2 and 3:

<Insert Fig. II here>

<Insert Fig. III here>

The predictive effect with respect to buyers' data of ODEP on WSP ($f^2 = 0.248$), ODEP on EXP ($f^2 = 0.548$), and EXP on WSP ($f^2 = 0.648$) had a combination of moderate-to-high implications for their corresponding R^2 values (Cohen, 1988). In addition, for the supplier's data, the predictive effect of ODEP on WSP ($f^2 = 0.319$), ODEP on EXP ($f^2 = 0.508$), and EXP on WSP ($f^2 = 0.619$) also reflected moderate to high implications for total R^2 values (Cohen, 1988). In addition, the present analysis examined the predictive relevance by calculating Q^2 [$Q^2 = 1 - (1 - r^2)$] for both data sets on the corresponding dependent variables (EXP and WSP) (The buyer model EXP: $Q^2 = 0.441$and WSP: $Q^2 = 0.761$ and supplier-related tested model EXP: $Q^2 = 0.489$ and WSP: $Q^2 = 0.739$). All Q^2 values were above zero, indicating that the structural models reflected sufficient predictive relevance on the dependent variables (Basbeth et al.,

2018; Yadlapalli et al., 2018). Based on the results of the structural model's analysis, the present study accepted H1, H2 and H3 for both data sets.

In order to test the moderating effect of a firm's ethical culture (EC) on the path between overdependence on SC partners (ODEP) and exploitation of SC partners (EXP), the present study adopted the steps of PROCESS MACRO Version 4.1, model 1 via SPSS version 22 (Hayes, 2013). The researchers performed the bootstrapping method with a 95% confidence interval. The results from the analysis revealed that ODEP proved to have a negative and significant effect on the EXP (See Table VII). The interaction term between ODEP and EC had a significant influence on EXP in both buyer's and supplier's data. Thus, we can argue that EC moderated the relationship between ODEP and EXP. In order to prove the conditional effect of ODEP on EXP according to the level of EC. This means that the moderator (EC) has a negative effect on the relationship between the ODEP and EXP variables.

The firm's ethical culture (EC) was analysed in three percentiles condition, and the effects of ODEP were all significant at $P<0.001$. Above all, the results from the analysis (see Table VII) justify that the higher the firm's ethical culture, the lower the effect of overdependence of SC partners on the unethical exploitation of SC partners. The results provide clear support that EC explores negative and significant moderating effects on the relationship between ODEP and EXP. Thus, the stronger the firm's ethical culture, the weaker the effect of overdependence on exploitation, while at a lower level of the firm's ethical culture, the effect of overdependence on exploitation is stronger.

<Insert Table VII here>

5. Discussion

5.1 Implications for theory

Findings show that overdependence on SC partners leads to the exploitation of SC partners in B2B firms. So, if a buyer is overdependent on their supplier, it leads to exploitation

of the buyer, and vice-versa. The findings corroborate with previous studies such as Villena et al. (2011) and Cuervo-Cazurra et al. (2021). Secondly, the exploitation of SC partners negatively influences the willingness of those SC actors to focus on the sustainability performance of SCs. Our study aligns with previous studies such as Schleper et al. (2017), Silvestre et al. (2018), and Oliveira & Lumineau (2019).

Thirdly, the overdependence on SC partners negatively influences their willingness to focus on sustainability performance in SCs. This finding extends the existing knowledge base, since limited debates on the effect of overdependence and sustainability management are available in the literature (Schleper et al., 2017).

Fourthly, firms' ethical culture moderates the relationship between overdependence on SC partners and exploitation of SC partners, with firms' ethical culture performing as a protective factor, so that the impact of overdependence on SC partners decreases the exploitation of SC partners in those firms with higher ethical culture and vice-versa. This finding aligns with previous studies such as Oliveira & Lumineau (2019) and Bag et al. (2022a).

These findings contribute significantly to RDT by adding depth to the understanding of inter-organizational relationships and dependencies in the context of B2B SCs. The identification of a link between overdependence on SC partners and exploitation extends RDT by emphasizing the ethical dimensions of dependency. It underscores that overdependence doesn't just shape power dynamics but can also influence ethical behavior within these relationships. This expansion adds a moral dimension to RDT's understanding of interdependence. Furthermore, the study's revelation that exploitation negatively affects sustainability focus aligns with RDT's power dynamics. However, this extension connects exploitation behavior to broader sustainability concerns, showcasing that unethical practices can hinder collaborative efforts toward sustainable performance within the SC. In addition,

identifying firms' ethical culture as a moderating factor between overdependence and exploitation further extends RDT. It introduces the concept that a strong ethical culture within firms can act as a protective mechanism against unethical behaviors arising from overdependence. This expansion highlights the role of internal ethical norms in reshaping external dependencies and mitigating exploitation.

These findings deepen RDT by emphasizing the ethical dimensions of dependency relationships, showcasing the impact of unethical behavior on sustainability, and recognizing the crucial role of ethical culture in shaping and mitigating the negative consequences of overdependence within SC dynamics. They expand RDT beyond resource acquisition and power dynamics to encompass ethical considerations and their implications for sustainability in interorganizational relationships.

5.2 Practical implications

Our research contributes to the ongoing debate on dependency on SC partners in sustainability projects. The UN SDGs have been adopted by firms globally to achieve sustainability targets by 2030. In today's interconnected world, addressing sustainability challenges necessitates collective efforts across SCs, involving stakeholders such as suppliers, customers, industry associations, and non-profit organizations. There are several significant collaborative sustainability initiatives that demonstrate how different sectors are working together to promote responsible practices and bring about positive impacts.

For instance, initiatives like the Marine Stewardship Council (MSC)[1] and Forest Stewardship Council (FSC) stand out for their efforts to ensure sustainable sourcing practices. The MSC collaborates with fisheries, seafood processors, retailers, and consumers to certify

[1] https://www.msc.org/

fisheries that adhere to rigorous sustainability standards, thereby supporting responsible fishing practices and preserving marine ecosystems.[2]

Similarly, the FSC collaborates with forest owners, timber industries, environmental groups, and consumers to establish standards for responsible forest management.[3]

In terms of social responsibility, initiatives like the Amfori Business Social Compliance Initiative (BSCI) play a crucial role in improving working conditions across global SCs. By bringing together retailers, importers, and producers to share best practices, conduct audits, and implement social compliance improvements, BSCI ensures fair treatment of workers, promotes workplace safety, and maintains ethical standards throughout supply chains.[4]

In the apparel and footwear sector, the Sustainable Apparel Coalition (SAC) serves as a noteworthy example of collaborative industry efforts. SAC members collaborate on initiatives like the Higg Index to measure and enhance environmental and social impacts across SCs. Through data sharing and best practice dissemination, SAC drives sustainability innovations, improves transparency, and reduces the industry's overall environmental footprint.[5]

Beyond these specific initiatives, the concept of Fair Trade certification underscores the importance of collaborative efforts in creating a fairer and more sustainable global trade system. This collaborative approach empowers marginalized communities, promotes economic stability, and fosters social equity in global SCs.[6]

Compliance-based sustainability focuses on adhering to standards and industry norms to achieve SDGs. Meanwhile, peripheral sustainability is often added as a supplementary activity to improve public image. If compliance-based standards are too strict and the goals

[2] https://www.msc.org/about-the-msc/the-mscs-sustainability-goals
[3] https://fsc.org/en/fsc-standards
[4] https://www.amfori.org/en/solutions/social/about-bsci
[5] https://product.higg.org/page/sustainable-apparel-coalition
[6] https://www.fairtrade.net/about/certification

unrealistic, managers face increased pressure as they struggle to operationalize them. Sustainability projects in micro, small, and medium enterprises (MSMEs) are generally perceived as additional responsibilities. For instance, the primary responsibilities of a buyer in a focal firm include purchasing and supply management, with key performance indicators linked to procurement and logistics management. Most of their time is consumed by creating purchase orders, following up with vendors, and managing logistics. The remainder of their time and energy is spent dealing with planning, production, and sales personnel based on weekly sales and operations integrated planning meetings. In this context, they are also expected to implement, manage, and control environmental projects, which is particularly challenging for MSMEs where resource scarcity is common. Budgets are often not approved to hire new personnel dedicated to sustainability projects, including green supplier development, green supplier audits, and environmental activities involving process and product design, manufacturing, packaging, logistics, and waste management processes. In such situations, buyers depend on their SC partners to help in the adoption and implementation of sustainable product and process-related changes. Problems arise when buyers become overly dependent on a single or a handful of SC partners for everything, such as preparing standard operating procedures, creating new designs, implementing clean technologies, and arranging audits for their own firms and their sub-suppliers. Doing all these without intellectual, financial, or manpower support from focal firms (customers) becomes difficult for SC partners (e.g., suppliers). When suppliers are larger and more powerful in the industry, they may dominate and exploit customers in sustainability projects by demanding more money for their supplies and services. Conversely, in sustainability projects, powerful customers can exploit suppliers when they depend on a few customers in the market. These issues become more severe when the ethical culture is weak and stakeholders are unsure about the dos and don’ts of the entire process. When ethical policies are not implemented and ethical audits are not conducted, SC

partners may exploit one another unethically, particularly when they see their partners are overly dependent on them in sustainability projects. Exploitation of SC partners ultimately leads to a low willingness to focus on sustainability performance. In such situations, the exploited firm may adopt deceptive practices, such as exaggerating or falsely claiming that their products, services, or overall operations are environmentally friendly or sustainable. Therefore, managers need to be aware of these dynamics in sustainability projects and consider organizational and environmental aspects when making supply chain decisions related to partner selection, development, and performance measurement in sustainability projects. The key practical implications of our findings for managers are as follows:

Depending too heavily on SC partners can pose a significant risk to managers. To mitigate this risk, managers can take several steps to decrease their overdependence on SC partners. First, they should focus on the diversification of SC partners and managing contracts carefully. It is better to broaden the supplier base and collaborate with multiple suppliers and work with them based on negotiated terms and conditions well-crafted in the form of a contract (Srinivasan et al., 2011; Prajogo et al., 2020). This approach minimizes overdependence on a single SC partner and provides alternatives in case of any issues.

In addition, building an ethical culture within an organization requires a foundation of trust culture, with an emphasis on ability, integrity, and benevolence, as well as ethical leadership and a strong organizational structure. Managers should develop a code of conduct that outlines ethical values, principles, and standards for all parties involved in the SC (Gullett et al., 2009; Goebel et al., 2012). However, managers should consider the nuanced limitations of ethical codes of conduct, recognizing the cultural and regional differences in ethical values and sustainability priorities across various areas (Buller et al., 2000). Nonetheless, it remains essential for managers to develop a code of conduct that delineates ethical values, principles, and standards for all parties involved in the SC while also acknowledging and accommodating

diverse cultural perspectives to ensure ethical standards are respected globally (Fellows & Liu, 2020). Regular review and communication of the code of conduct is necessary to ensure compliance. Managers should lead by example and demonstrate ethical behavior. This will set the tone for the entire organization and encourage others to act ethically. Managers should create a SC partner selection process that includes ethical criteria, such as labor practices, environmental standards, and human rights (Baskaran et al., 2011). This will ensure that suppliers align with the organization's ethical values. Managers should establish accountability mechanisms to ensure that all parties involved in the SC are responsible for their actions. Regular audits, performance reviews, and feedback mechanisms can be effective here. Managers should also encourage transparency by sharing information about the organization's SC practices and performance with stakeholders, including customers, investors, and employees. This will promote trust and accountability.

Furthermore, managers must stop the unethical exploitation of SC partners. The exploitation of SC partners can have detrimental effects on a company's reputation and financial stability (Schleper et al., 2017). To prevent and address such practices, managers should formulate a code of conduct that defines the company's ethical standards and expectations for behavior, including policies related to ethical sourcing practices, fair treatment of SC partners, and consequences for violating ethical guidelines. Managers should follow the guidelines proposed in the Corporate Sustainability Due Diligence Directive (CSDDD). The Rana Plaza disaster and other instances of corporate misconduct in global supply chains have galvanized advocacy efforts by rights groups, trade unions, and some businesses for enforceable laws holding corporations accountable for abuses. The European Commission initially introduced the CSDDD in 2022. On 14 December 2023, the Council and the European Parliament achieved a preliminary agreement (Council of the EU, 2023). This directive mandates large corporations to actively identify and mitigate adverse impacts on human rights (such as child labor and

worker exploitation) and the environment (including pollution and biodiversity loss) across their global operations. These regulations seek to promote ethical corporate behavior, ensure fairness, enhance transparency for consumers and investors, and strengthen environmental and human rights protections both in Europe and internationally.[7]

Managers should implement a SC partner program that will help them assess whether SC partners comply with the company's ethical standards. The program should include regular audits and evaluations of SC partner's performance, along with reporting mechanisms for any unethical practices (Gonzalez-Padron, 2016). Due to logistical challenges, adopting prioritization strategies may be necessary to focus auditing efforts on critical suppliers or those deemed to pose higher risks in terms of ethical compliance and sustainability performance. In addition, determining who should bear the costs associated with auditing procedures is a crucial consideration. While some organizations may opt to absorb these expenses as part of their corporate social responsibility initiatives, others may explore cost-sharing arrangements with partners or implement supplier compliance requirements as a condition of doing business (Caro et al., 2018).

Managers should also maintain open communication with SC partners to ensure that they understand the company's ethical standards and expectations and to identify and resolve any issues or concerns early on (Trevino & Nelson, 2021). Managers should collaborate with industry groups to develop best practices and standards for ethical behavior in the SC, which can help to establish a common understanding of ethical behavior and promote adherence to those standards.

The identification of overdependence as a potential trigger for exploitation suggests that auditing efforts could focus more intensely on industries or sectors where there's a high

[7] https://ec.europa.eu/commission/presscorner/detail/en/ip_23_6599

likelihood of unequal power dynamics. This could involve targeted audits aimed at assessing and mitigating the risk of exploitation within these specific SCs.

Last but not least, managers need to increase the willingness of SC partners to participate in building SC sustainability. Managers should work with their SC partners to develop shared sustainability goals that align with the overall business strategy (Valbuena-Hernandez & Ortiz-de-Mandojana, 2022). By developing shared goals, partners will feel a sense of ownership and commitment toward achieving them, which will further encourage their participation in building a sustainable SC. Lastly, managers should provide incentives to partners for achieving sustainability targets, which could be an effective strategy for motivating them. Incentives such as discounts, bonuses for meeting sustainability goals, and recognition of their efforts can help motivate partners to participate in building a sustainable SC (Cantor et al., 2012).

Policymakers could foster collaboration between regulatory bodies, auditors, and industry stakeholders to develop comprehensive frameworks that not only monitor compliance but also proactively identify and address potential exploitation arising from imbalanced SC relationships (Gurzawska, 2020).

6. Conclusion

6.1 Concluding remarks

This research sheds light on a critical but under-explored tension in SSCM: the interplay between dependence on partners and a firm's commitment to sustainability. Our findings demonstrate that overdependence on supply chain partners can lead to opportunistic behavior, hindering a firm’s willingness to prioritize sustainability within the SC.

However, the study also reveals a ray of hope. A strong ethical culture within a firm act as a buffer, weakening the negative influence of overdependence on partner exploitation.

This suggests that cultivating a culture of ethical conduct is not just the right thing to do, but also strategically beneficial for achieving sustainability goals within a complex supply chain network.

By extending RDT to encompass ethical considerations, this study offers valuable insights for both scholars and practitioners. It highlights the importance of ethical behavior in managing inter-organizational dependencies and achieving SSC practices. Businesses can leverage this knowledge by fostering a strong ethical culture to navigate dependence on partners effectively while remaining committed to sustainability objectives.

6.2 Limitations and future research directions

When industry gatekeepers provide contacts, it may introduce a bias towards certain types of individuals or organizations, potentially excluding or underrepresenting others. This could be a limitation in this study. Moreover, the use of cross-sectional data for the empirical analysis which is another limitation. However, future research using longitudinal data could further test the model. Other potential future research directions could be explored. For instance, conducting longitudinal studies to track changes in SC dynamics and ethical culture over time could provide deeper insights into the evolution of these relationships.

Future researchers could explore if overdependence of a firm on another SC partner that has a high performance could improve SC sustainability performance. In addition, future research can explore the nuances of ethical culture and its influence on other aspects of SSCM. Investigating how different dependence management strategies can mitigate the risks of overdependence while fostering collaboration for sustainability also presents a promising avenue for further exploration.

Understanding how these factors fluctuate and interact could offer a more comprehensive understanding of their impact. Moreover, exploring how these dynamics differ

in global versus local SC contexts could be insightful. Investigating how cultural, economic, or regulatory differences impact overdependence, exploitation, ethical culture, and sustainability practices could be an area for exploration.

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Appendix: Figures and Tables

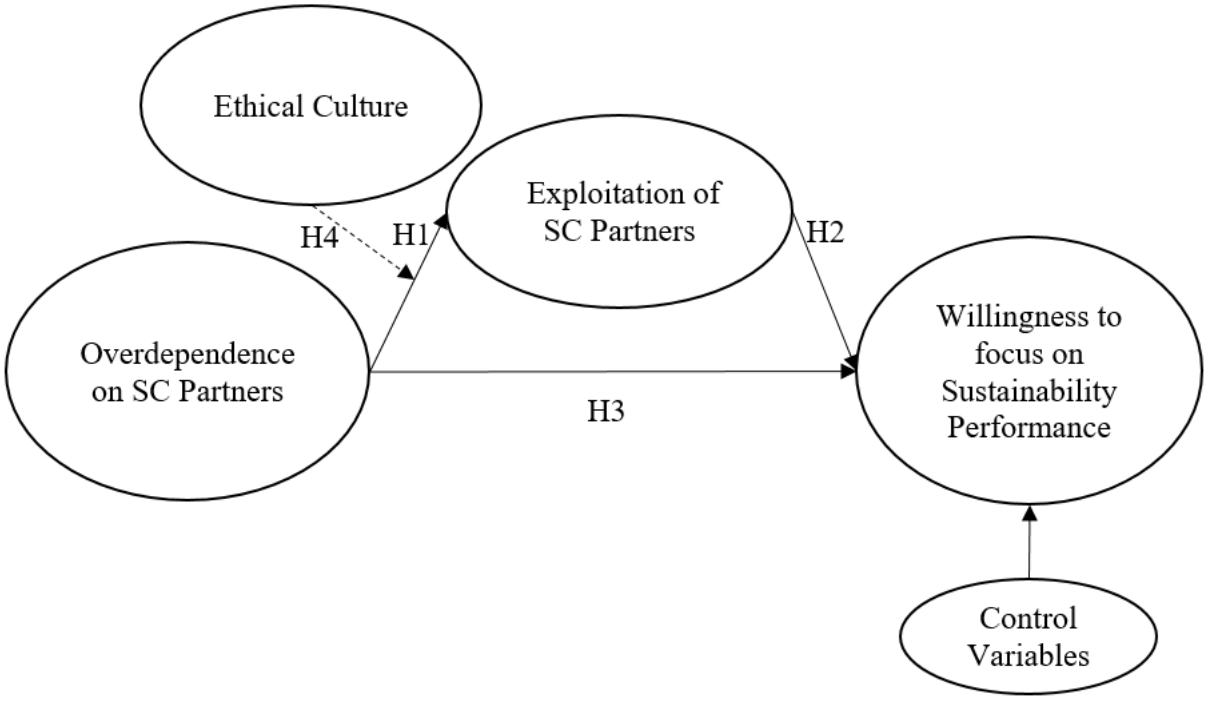

Fig. I. Theoretical model (Source: Based on literature and RDT theory)

Note: SC partners are the different entities that work together and interact within a SC to create and deliver products or services to the final customer. They are suppliers, manufacturers, distributors, wholesalers, logistics service providers, retailers, consultants and customers.

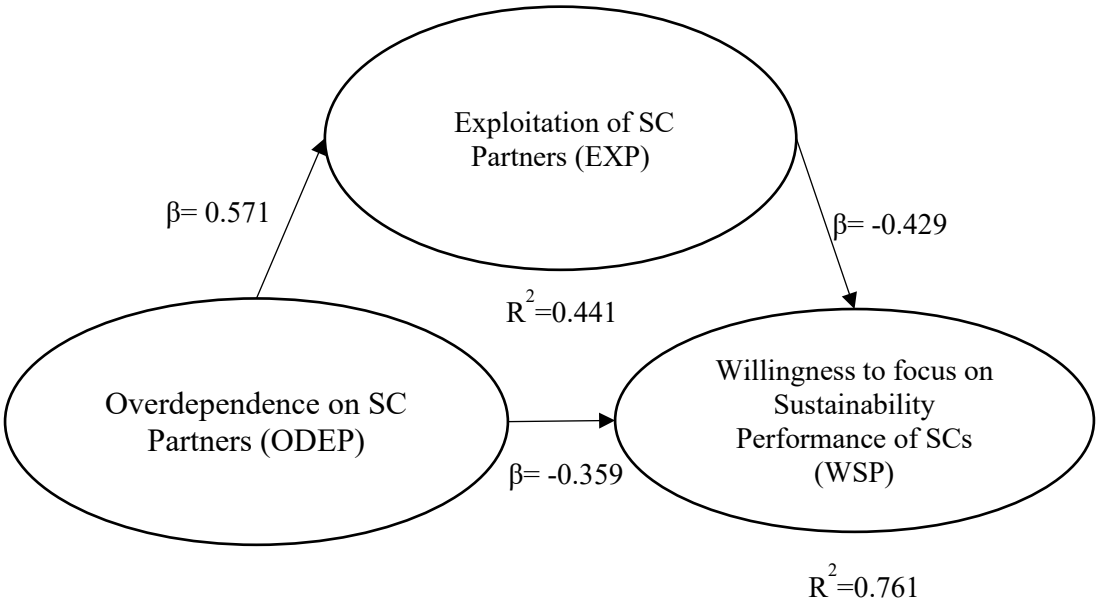

Fig. II. Tested model (buyer model)

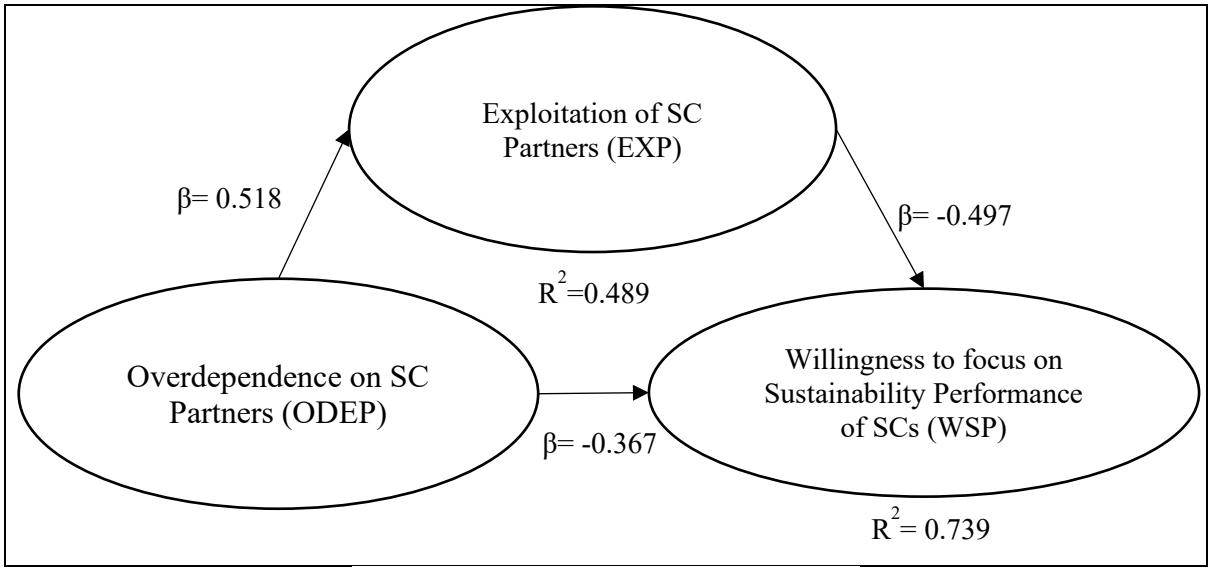

Fig. III. Tested model (supplier model)

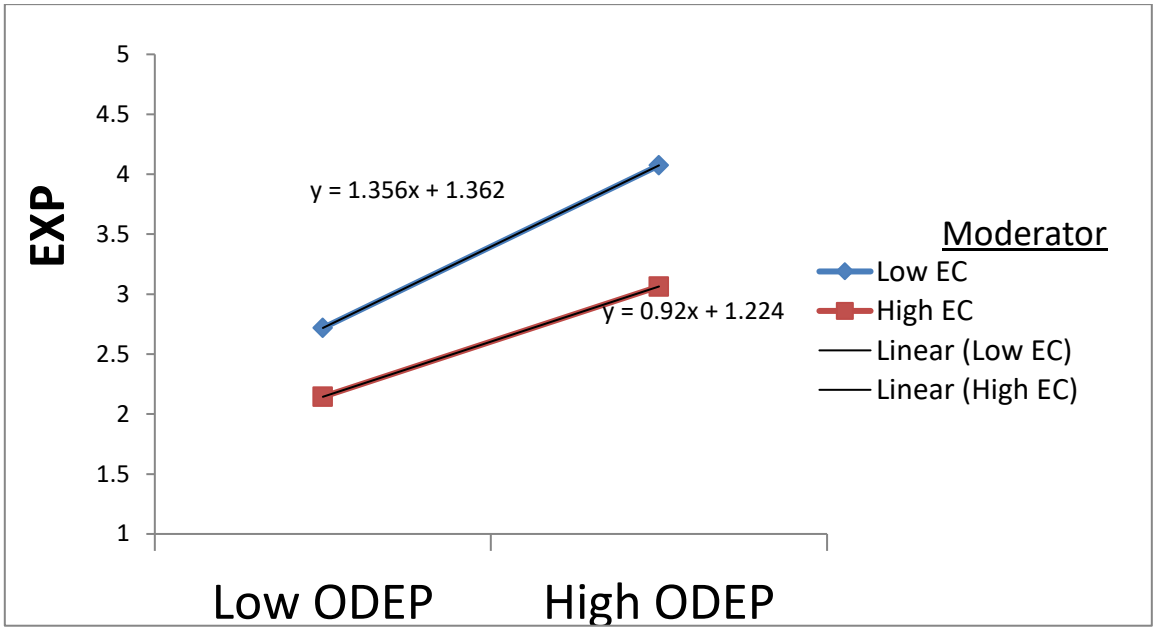

Fig. IVa. (Buyer Model)

Note: EC dampens the positive relationship between ODEP and EXP.

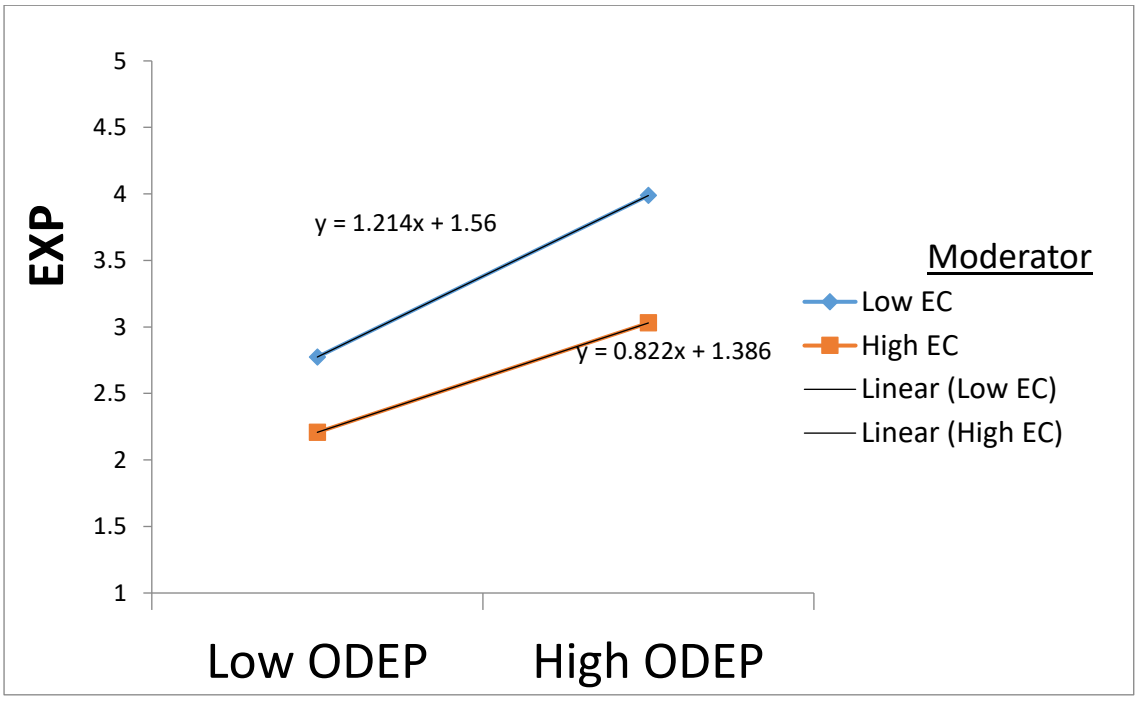

Figure IVb. (Supplier Model)

Note: EC dampens the positive relationship between ODEP and EXP.

Fig. IV. Moderation graph (Buyer and Supplier Model)

Table I. Definition of Constructs.

Constructs	Definition	Adapted from
Overdependence on Supply Chain Partners (ODEP)	Overdependence on Supply Chain Partners (ODEP) occurs when a buyer heavily relies on a single source for critical components or services, failing to diversify its sourcing or developing in-house alternatives. Conversely, it can also arise when suppliers excessively depend on a single customer without expanding their client base.	Ellram (1991); Zhang & Huo (2013)
Ethical Culture (EC)	Ethical Culture (EC) within an organization refers to the prevailing atmosphere and set of norms that emphasize and promote appropriate conduct, integrity, and responsibility among all employees. This culture is characterized by clear communication and guidance provided to each employee regarding their expected behavior towards colleagues, adherence to procedures for obtaining authorizations, responsible handling of financial assets, and interactions with external parties. Additionally, EC entails an environment where employees are not unduly pressured to compromise ethical standards and where senior management effectively communicates the importance of ethics and integrity, fostering a sense of commitment and adherence to ethical principles throughout the organization.	Eisenbeiss et al. (2015); Nicholson & Kurucz (2019)
Exploitation of SC Partners (UEXP)	The Exploitation of Supply Chain Partners (UEXP) refers to unethical practices employed by SC partners to gain advantages at the expense of their suppliers or other stakeholders within the supply chain. This exploitation may manifest in various forms, including delaying payments to suppliers despite fulfilling contractual obligations, imposing unfair working conditions such as long hours for minimal compensation leading to forced labor or mistreatment, leveraging bargaining power to negotiate contracts that are unjust to suppliers or unilaterally altering agreed-upon terms, and engaging in intellectual property violations such as stealing patents, trademarks, or trade secrets to achieve a competitive edge.	Schleper et al. (2017); Glavee-Geo et al. (2022)
Willingness to focus on the sustainability performance of supply chains (WSP)	Willingness to focus on the Sustainability Performance of Supply Chains (WSP) refers to a proactive and dedicated commitment by individuals or organizations to prioritize sustainability within their SC operations. This willingness is demonstrated through various actions, including advocating for sustainability as a top priority, being prepared to allocate additional resources to enhance sustainability performance, supporting the establishment of clear sustainability goals for the SC, and actively engaging in monitoring and reporting on sustainability metrics. Furthermore, individuals or organizations exhibiting WSP actively seek out new sustainability technologies and practices for integration into the supply chain, viewing sustainability not only as a responsibility but also as an opportunity for innovation and growth.	Labuschagne et al. (2005); Varsei et al. (2014)

Table II. Operationalization of Constructs.

Construct	Item No	Items	Adapted from
Overdependence on Supply Chain Partners **(ODEP)**	ODEP1	Our organization heavily relies on a single source of critical materials or services.	Ellram (1991); Zhang & Huo (2013)
	ODEP2	In order to retain our competitiveness within the industry, it is crucial to uphold a robust and collaborative partnership between our company and our primary SC associate.	
	ODEP3	We have not explored opportunities to bring certain SC activities in-house to reduce dependence on external partners.	
	ODEP4	Our organization often faces disruptions in the SC due to issues with our partners.	
Ethical Culture **(EC)**	EC1	The organization makes it sufficiently clear to each employee how he/she should conduct him-/herself appropriately toward others within the organization.	Eisenbeiss et al. (2015); Nicholson & Kurucz (2019)
	EC2	The organization has adequate clarity in instructing employees on the appropriate procedures for obtaining necessary authorizations.	
	EC3	The organization provides clear instructions to each employee regarding the responsible handling of money and other financial assets.	
	EC4	The organization effectively communicates to each employee the expected standards of responsible interaction with external individuals and organizations.	
	EC5	Within my organization, there is clarity regarding the expected standards of responsible behavior for every individual.	
	EC6	In my organization, constant pressure on employees does not lead to situations where they are inclined to violate established rules.	
	EC7	The senior management effectively conveys the significance of ethics and integrity in a clear and persuasive manner.	
Exploitation of SC Partners **(UEXP)**	UEXP1	In order to increase their own cash flow or profitability, our SC partners may choose to postpone payments even when the latter have completed their obligations under the contract.	Schleper et al. (2017); Glavee-Geo et al. (2022)
	UEXP2	Our SC partners may require their partners to work long hours for little pay, which can result in forced labour, mistreatment of the worker, or even exploitation of the worker.	
	UEXP3	Our SC partners may use their bargaining power to negotiate contracts that are unfair to their partners or to unilaterally alter a contract's terms after it has been agreed upon.	
	UEXP4	There is a concern related to violating or stealing patents, trademarks, or trade secrets by SC partners in order to acquire a competitive edge.	
Willingness to focus on	WSP1	I believe that sustainability should be a top priority in our SC operations.	Labuschagne et al. (2005);

the Sustainability Performance of SCs **(WSP)**	WSP2	I am willing to allocate additional resources to improve the sustainability performance of our SC.	Varsei et al. (2014)
	WSP3	Our organization should set clear sustainability goals for our SC, and I support this idea.	
	WSP4	I am committed to regularly monitoring and reporting on the sustainability performance of our SC.	
	WSP5	I actively seek out new sustainability technologies and practices that can be integrated into our SC.	
	WSP6	I believe that focusing on the sustainability performance of our SC is not only a responsibility but also an opportunity for innovation and growth.	

Table III. Demographic Profile of Buyer-supplier Firms.

Demographic variable		**Buyers (n=120)**		**Suppliers (n=120)**	
		Frequency	**Percentage**	**Frequency**	**Percentage**
Age Group	20-30	2	01.67%	3	2.50%
	31-40	35	29.17%	28	23.33%
	41-50	43	35.83%	40	33.33%
	51-60	38	31.67%	46	38.33%
	Above 60	2	01.67%	3	2.50%
Educational Qualifications	Postgraduate	74	61.67%	80	66.67%
	Graduate	25	20.83%	33	27.50%
	Diploma	21	17.50%	7	5.83%
No. of Employees in the Organization	Less than 100	18	15.00%	20	16.67%
	101-300	57	47.50%	52	43.33%
	301-500	37	30.83%	41	34.17%
	501-1000	8	6.67%	6	5.00%
	More than 1000	0	0.00%	1	0.83%
Age of the Organization (Years)	Above 20	52	43.33%	68	56.67%
	10 to 20	64	53.33%	52	43.33%
	Less than 10	4	3.33%	0	0.00%

Table IV. Measurement model (Outer)- Quality Criteria.

Construct	Item No	Buyer Measurement Model				Supplier Measurement Model			
		Loadings	**CR**	**AVE**	**SE**	**Loadings**	**CR**	**AVE**	**SE**
Overdependence on Supply Chain Partners **(ODEP)** **Cronbach alpha**: *0.791 (Buyer's data); 0.817 (Supplier's data)*	ODEP1	0.821	0.867	0.622	0.075	0.691	0.851	0.591	0.079
	ODEP2	0.810			0.073	0.880			0.077
	ODEP3	0.861			0.074	0.783			0.078
	ODEP4	0.650			0.078	0.709			0.073
Ethical Culture **(EC)** **Cronbach alpha:** *0.757 (Buyer's data); 0.780 (Supplier's data)*	EC1	0.710	0.885	0.524	0.078	0.692	0.885	0.524	0.077
	EC2	0.741			0.076	0.697			0.071
	EC3	0.700			0.077	0.709			0.076
	EC4	0.730			0.080	0.720			0.069
	EC5	0.691			0.077	0.713			0.071
	EC6	0.701			0.061	0.715			0.071
	EC7	0.770			0.035	0.796			0.049
Exploitation of SC Partners **(UEXP)** Cronbach alpha: *0.759 (Buyer's data); 0.831 (Supplier's data)*	EXP1	0.791	0.838	0.565	0.071	0.779	0.835	0.559	0.076
	EXP2	0.698			0.071	0.710			0.076
	EXP3	0.787			0.072	0.731			0.074
	EXP4	0.729			0.073	0.769			0.075
Willingness to focus on the sustainability performance of supply chains **(WSP)** **Cronbach alpha:** *0.801 (Buyer's data); 0.797 (Supplier's data)*	WSP1	0.841	0.898	0.598	0.074	0.721	0.879	0.549	0.071
	WSP2	0.759			0.072	0.764			0.073
	WSP3	0.789			0.072	0.736			0.072
	WSP4	0.758			0.072	0.706			0.076
	WSP5	0.689			0.072	0.716			0.075
	WSP6	0.796			0.081	0.799			0.079

Notes: CR= Composite reliability, AVE= average variance extracted, SE= Standard Error.

Table V. Means, Standard Deviations, and Fornell-larcker matrix for Discriminant Validity of the Constructs (Diagonal Value is the square root of AVE).

Buyer study						
Variable's Name	**ODEP**	**EC**	**EXP**	**WSP**	**Mean**	**Std. deviation**
ODEP	**0.788**				4.5061	1.4049
EC	0.551	**0.723**			3.8386	1.3062
EXP	0.467	0.468	**0.751**		4.3201	1.3217
WSP	0.501	0.398	0.431	**0.773**	4.2813	1.3451
Supplier Study						
Variable's Name	**ODEP**	**EC**	**EXP**	**WSP**	**Mean**	**Std. deviation**
ODEP	**0.768**				4.0567	1.4265
EC	0.571	**0.723**			3.7985	1.4257
EXP	0.479	0.419	**0.747**		4.6201	1.3882
WSP	0.486	0.407	0.398	**0.740**	4.0853	1.4761

Notes: Overdependence on Supply Chain Partners (ODEP), Ethical Culture (EC), Exploitation of SC Partners (UEXP), Willingness to focus on the Sustainability Performance of SCs (WSP)

Table VI. Structural Model Evaluation Results.

	Buyer Model	**Results**	**Supplier model**	**Results**
Corresponding IV and DV	**Path coefficient, t-value**		**Path coefficient, t-value**	
H1: ODEP→EXP (a)	0.571, 4.786 (H1 accepted)		0.518, 4.849(H1 accepted)	
H2: EXP→ WSP (b)	-0.429, -4.089 (H2 accepted)		-0.497, -3.876 (H2 accepted)	
H3: ODEP→WSP (c)	-0.359, -3.749 (H3 accepted)		-0.367, -3.983 (H3 accepted)	
Model Fit Indices	NFI	0.889	NFI	0.878
	SRMR	0.069	SRMR	0.067
	d_ULS	0.579	d_ULS	0.489
	d_G	0.249	D_G	0.217

Notes: Normed fit Index (NFI), Standardized Root Mean Square Residual (SRMR), d_ULS (the squared Euclidean distance) d_G (the geodesic distance)

Table VII. Test of Moderation.

Dependent Variable: Exploitation of SC partners (EXP)							
Buyer Model: *H4: ODEP*EC→EXP*	**β**	**S. E**	**t-values**	**F**	**R^2**	**Δ R^2**	**Remarks**
ODEP	0.569	0.136	4.781***				
EC	-0.396	0.107	-3.710	19.781	0.406	0.035	
ODEP*EC	-0.109	0.031	-3.516				Accepted
Supplier model							
*H4: ODEP*EC→EXP*	**β**	**S. E**	**t-values**	**F**	**R^2**	**Δ R^2**	**Remarks**
ODEP	0.509	0.135	3.770				
EC	-0.381	0.119	-3.201	17.039	0.453	0.036	
ODEP*EC	-0.098	0.021	-4.666***				Accepted

***** p < 0.001**

[i] https://www.pwc.de/en/sustainability/sustainability-in-the-automotive-industry.html

[ii] https://www.globalgoals.org/goals/13-climate-action/?gad_source=1&gclid=CjwKCAjw1K-zBhBIEiwAWeCOF2_rXJCHkYPqBbCzivitvYUWwn_4gjy3EfJJcbuIFWZkwEI-7QvdbBoCRisQAvD_BwE