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The role of buyer-supplier relationships in enhancing sustainable supply chain management in a logistics services context

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ABSTRACT
Environmental, social and economic concerns experienced over the past few decades have raised the need to address sustainability in supply chains, hence the concept of sustainable supply chain management (SSCM). Supply chains play a crucial role in contributing to sustainability. Focal firms face mounting pressures to ensure that their supply chains are managed for sustainability. The need to manage buyer-supplier relationships with the goal of transforming the supply chain to a more sustainable one is ever more evident. Grounded in social capital theory, the purpose of this qualitative study was to explore the role of buyer-supplier relationships in navigating a sustainable supply chain. Fourteen semi-structured interviews were conducted with buyers and suppliers of logistics services in the Gauteng province, operating throughout South Africa. The interviews took place in Gauteng but covered the nationwide operations of the firms. Data was analysed using a thematic analysis revealing prominent themes and sub-themes. The main findings indicate that aligning sustainability goals and values should occur prior to or very early on in a relationship. Structural capital in the form of interactions, information sharing and supplier evaluations regarding SSCM were found to be lacking in participant firms. Theoretically, this study extends the application of social capital theory to SSCM. For managers, insights are provided into how goals and objectives regarding sustainability should be aligned with supply chain partners, methods of communication regarding SSCM are explored and potential direction is given on how supply chain relationships can be geared towards SSCM.

Key phrases

Buyer-supplier relationships; qualitative; social capital theory; South Africa; SSCM and third-party logistics

1. INTRODUCTION

"A firm is no more sustainable than its supply chain" (Brewer & Arnette 2017:3). The rapid depletion of natural resources and concerns over economic inequalities and social issues has resulted in sustainability emerging as a critical area within academic research and practical business settings (Govindan, Khodaverdi & Jafarian 2013:1). Firms are faced with increasing pressures to pay attention to the actions of their supply chain partners, as they are held responsible for any sustainability related issues that rise in their supply chains due to the actions of supply chain partners (Roscoe, Cousins & Lamming 2016:1948; Touboulic, Chicksand & Walker 2014:579). The recurrence of sustainability related incidents have been attributed to actions of suppliers resulting in negative effects on the buying firm, also known as the "chain of liability effect" (Paulraj 2011:19; Roscoe *et al.* 2016:1948; Seuring & Müller 2008:1699; Van Tulder, Van Wijk & Kolk 2009:399). Buying firms, therefore, have an important role to play in initiating sustainability efforts which spread through the entire supply chain (Mani, Gunasekaran, Papadopoulos, Hazen & Dubey 2018:259; Reuter, Foerstl, Hartmann & Blome 2010:45; Wilhelm, Blome, Wieck & Xiao 2016:196). The need to transform and manage a supply chain towards sustainability gave rise to the concept of SSCM (Govindan, Seuring, Zhu & Azevedo 2016:1813; Pagell & Shevchenko 2014:45). SSCM is defined as "the management of material, information and capital flows as well as cooperation among companies along the supply chain while taking goals from all three dimensions of sustainable development, i.e. economic, environmental and social, into account which is derived from customer and stakeholder requirements" (Seuring & Müller 2008:1699).

A myriad of research indicates the importance of the role that suppliers play in the organisational success of a firm (Gualandris & Kalchschmidt 2016:2470; Krause, Vachon & Klassen 2009:19; Luzzini, Brandon-Jones, Brandon-Jones & Spina 2015:2; Wagner & Bode 2014:65; Yan, Ribbink & Pun 2018:36). The relationship between buyers and suppliers has been emphasised in the literature, relating to positive performance outcomes (Liao & Kuo 2014:295; Whipple, Wiedmer & Boyer 2015:24). In the context of SSCM, less is known on how buyers and suppliers can jointly unlock sustainability in the supply chain (Govindan *et al*. 2016:1814; Rota, Reynolds & Zanasi 2013). Specifically, the relationship aspect of buyer-

supplier relationships in the context of SSCM has not received enough attention resulting in scholars highlighting the need to explore how firms respond and adapt to sustainability pressures through their social relationships (Tipu & Fantazy 2018:2050; Touboulic & Walker 2015b:35). This study aims to investigate the intricacies of buyer-supplier relationships in enhancing SSCM.

Social capital theory (SCT) is an appropriate lens through which research on buyer-supplier relationships can be investigated (Touboulic & Walker 2015a:178). Social capital is a valued asset, resulting from access to resources as a result of social relationships (Lin 2017:35). Through social capital investments, enhanced supply chain performance could be achieved (Krause, Handfield & Tyler 2007:540). Social capital theory stems from the work of Nahapiet and Ghoshal (1998:243) who suggest three dimensions that make up social capital, namely: cognitive, structural and relational. Cognitive capital refers to those resources, which offer parties in a network with shared interpretations, representations, and systems of meaning (Nahapiet & Ghoshal 1998:244). Structural capital is concerned with the pattern of connections and links between partners in a supply chain (Chu, Yang, Lee & Park 2017:764). Of equal importance, the relational component of social capital is concerned with the long-term relationships that are formed to develop trust, friendship, and reciprocity through repeated transactions (Chu *et al*. 2017:8).

Over the years, firms have begun to outsource their logistics functions to third-party logistics service providers (3PLs) in order to focus on their core competencies (Leuschner, Carter, Goldsby & Rogers 2014:22). The 3PL-client relationships are collaborative and characterised by high levels of trust and commitment, communication, top management support, clear goals and coordination (Mocke, Niemann & Kotzé 2016:11; Qureshi, Kumar & Kumar 2007:692-694). Logistics activities, in particular, can play a significant role in addressing sustainability related issues in the supply chain. For example, sustainable transportation, inventory control, warehousing and packaging all play a crucial role in reducing the carbon footprint of supply chains (Esfahbodi, Zhang & Watson 2016:355). Various practices such as direct shipping, minimising empty miles and optimal space utilisation to name a few, contribute towards sustainability across the supply chain (Esfahbodi *et al*. 2016:355). The trend towards outsourcing to 3PLs results in a loss of control of logistics activities by the buying firms. It is crucial for focal firms to ensure that these 3PLs conduct themselves in a sustainable manner (Ağan, Kuzey, Acar & Açıkgöz 2016:2). Firms have also started to look into employing 3PL's that possess sustainable distribution capabilities (Esfahbodi *et al*. 2016:355).

Research on SSCM in the South African context is currently still in its infancy stage, with a focus mainly on aspects of green supply chain management (GSCM) (Coetzee & Bean 2016; Mafini & Loury-Okoumba 2018; Mafini & Muposhi 2017; Niemann, Hall & Oliver 2017:206; Niemann, Kotze & Adamo 2016:977-1013; Ojo, Mbohwa & Akinlabi 2014). There is a need to further investigate how SSCM as a holistic concept can be employed in supply chains operating in South Africa.

Literature on SSCM, in general, has focused extensively on either the environmental or economic dimensions of the triple bottom line (TBL) of sustainability. There is a dearth of research encompassing all three dimensions of the TBL (Ahi & Searcy 2015:2886; Brandenburg, Govindan, Sarkis & Seuring 2014:301; Sajjad 2015:51; Touboulic & Walker 2015b:34).

The purpose of this generic qualitative study was to explore the role that buyer-supplier relationships play in SSCM. This study considered the three components of the social capital theory to determine how social capital is employed between buyers and suppliers in an SSCM context.

The following research questions guided the study:

1. How are sustainability goals and values shared between buyers and suppliers?
2. How do buyers and suppliers interact with one another to facilitate information and resource exchange regarding sustainability?
3. How are long-term relationships geared towards sustainability in the supply chain?
4. Overall, which components of social capital are more prevalent within SSCM?

The contributions of this study are twofold. Theoretically, it extends the social capital theory to SSCM by identifying how buyer-supplier relationships are geared for SSCM within 3PL and buyer firms in Gauteng. Secondly, this study sheds light on the way 3PL buyer-supplier relationships are managed to enhance SSCM. This could be beneficial for managers who wish to enhance their relationships to achieve a sustainable supply chain but lack the knowledge of possible approaches that can be applied.

2. LITERATURE REVIEW

This section comprises a review of sustainability, SSCM and its importance, social capital theory and an overview of the South African third-party logistics industry.

2.1 Sustainability

Sustainable supply chain management is centred around the notion of the TBL, which indicates that in order for a supply chain to be fully sustainable, an organisation must consider the economic, environmental and social dimensions of its activities (Carter & Liane Easton 2011:46; Esfahbodi *et al*. 2016:350). Figure 1 below indicates the integration of the TBL of sustainability into SSCM.

Figure 1: Sustainable Supply Chain Management

Source: Adapted from Carter and Liane Easton (2011:48)

The TBL, as conceptualised by Elkington (1998:1-407), is at the core of Figure 1. This intersection of all three components indicates the tight definition of what sustainability should mean to a firm. Instead of recommending that firms identify and engage in social and environmental activities, it explicitly indicates that firms must identify those activities that improve economic performance. In addition these firms should command the prevention of social and environmental activities, which fall outside the sustainability intersection (Carter & Liane Easton 2011:48-49).

2.2 Overview of Sustainable Supply Chain Management

The environmental or "green" component is arguably the most detailed and developed component in studies conducted on SSCM (Zhu, Sarkis & Lai 2013:114-115; Zissis,

Saharidis, Aktas & Ioannou 2018:44). Green supply chain management (GSCM) is considered to be one of the most significant trends found within supply chain management (SCM) and is understood to be an integration of environmental management and SCM, focusing on only one element of the triple bottom line (Golicic & Smith 2013:89). The main idea behind GSCM is the elimination and reduction of adverse environmental impacts and wastage of resources that arise from operations along supply chains (Eltayeb, Zailani & Ramayah 2011:496). Within a South African context, SSCM literature is relatively young, with significant emphasis placed on the environmental component. There appears to be a strong focus placed mainly on practices, barriers, drivers and constraints of GSCM (Mvubu & Naude 2016:293; Niemann *et al*. 2017:206; Ojo, Mbohwa & Akinlabi 2013:315; Ojo *et al.* 2014:2320). Mafini & Muposhi (2017:2) investigated the impact of GSCM on the performance of medium enterprises. In the same vein, Coetzee and Bean (2016:1) studied how the implementation of environmental inititiaves can affect profitability and sustainability of the firm by quantifying these measures. Overall, while the environmental component of the TBL has received the majority of attention, scholars call for a holistic approach on all three aspects of the tiple bottom line, especially so for the inclusion of the social sustainability component (Huq & Stevenson 2018; 416; Mani *et al.* 2016:1-2; Sancha, Gimenez & Sierra 2016:1934) .

The literature currently available on SSCM that considers social sustainability, assumes two different perspectives, namely, purchasing and logistics (Sajjad 2015:68). Some common themes that assumed a purchasing perspective included: ethical and fair trade (Walker & Jones 2012:15), socially responsible purchasing (Green & Peloza 2011:48), and sustainable supplier management (Foerstl, Reuter, Hartmann & Blome 2010:118).

Themes of studies that assumed the logistics perspective included logistics, social responsibility (Miao, Cai & Xu 2012:18-27) diversity and employment issues (Keller & Ozment 2009:378). Socially responsible purchasing (SRP) considers where products were made, where they came from and who the supplier was. It could also be closely linked to environmental purchasing (Green & Peloza 2011:48; Tate, Ellram & Dooley 2012:173).

The founding works of Carroll (1979:500) emphasised the importance of the economic bottom line and the need for it to take priority over the other two dimensions. Over the years, some studies have reiterated the importance that firms place on the economic bottom line (Golicic & Smith 2013:78; Rao & Holt 2005:898; Zhu *et al*. 2013:106). This dimension is generally concerned with aspects like cost reductions, profitability, shareholder returns, and

total revenue earned. This is a clear indicator of why firms place significant emphasis on this dimension, as these are ultimately assumed to be the primary goals of a business (Pagell & Shevchenko 2014:46). While this has been the view of traditional SCM, the idea of SSCM is concerned with the explicit integration of both the environment and social goals of a firm, to extend to the economic bottom line of sustainability (Seuring & Müller 2008:1700). It is for this reason that emphasis should be on environmental and social practices that are favourable to the economic performance of the firm. Similarly, social and environmental initiatives should commence with an explicit acknowledgement towards the economic goals of the firm (Carter & Rogers 2008:370-372).

2.3 The importance of suppliers of logistics services (3PL's) in Sustainable Supply Chain Management

Previous research in the field of SCM has comprehensively studied the importance of suppliers on firm performance (Nagati & Rebolledo 2013:180-188). Suppliers play a crucial role in enhancing service performance, responsiveness, costs, market and sales growth and flexibility of a focal firm (Luzzini *et al*. 2015:2). In recent years, it has become more evident that firms should extend their sustainability efforts beyond intra-organisational undertakings. These firms need to take responsibility for their actions across the entire supply chain (Sajjad 2015:49). In cases where suppliers are found to be conducting business unethically or unsustainably, focal firms are sometimes held responsible for their supplier's actions. These focal firms then face pressures by stakeholders to examine the sustainability problems within their supply chains (Boström, Jönsson, Lockie, Mol & Oosterveer 2015:2). According to Ağan *et al*. (2016:2) on average, approximately 60% of components or services are obtained from suppliers. In general sustaining supplier relationships has been attributed as a core component of firm competitiveness (Esfahbodi *et al*. 2016:351; Nagati & Rebolledo 2013:180). It is therefore impossible for firms to be sustainable without taking into consideration the sustainability of their suppliers (Ağan *et al*. 2016:2; Esfahbodi *et al*. 2016: 354; Hsu, Tan, Zailani & Jayaraman 2013:659).

Previous research on buyer-supplier relationships has indicated a positive link between a strong buyer-supplier relationship and firm performance (Liao & Kuo 2014:295; Whipple *et al*. 2015:24). While SSCM is concerned with initiatives which reduce energy, waste, and costs, there is also a more significant shift towards stronger levels of collaboration (Esfahbodi *et al*. 2016:354; Hsu *et al*. 2013:659). This involves internal and external supply chain partners like suppliers, to review products, packaging, delivery methods and management systems (Bernardes 2010:56). The importance of buyer-supplier relationships

in sustainable supply chains should be equally emphasised (Ashby, Leat & Hudson-Smith 2012:498; Hsu *et al.* 2013:659; Kumar & Rahman 2016:837). Social capital theory is recommended as a theoretical lens through which research on these buyer-supplier relationships can be further understood (Ashby *et al*. 2012:507; Touboulic & Walker 2015a:30).

2.4 Social capital theory

Social capital is regarded as a valued asset, stemming from access to resources made available through social relationships (Lin 2017:3-28). This theory provides a lens through which to examine the advantages received by firms through social networks and the resulting relationships thereof (Lee 2015:44). Nahapiet and Ghoshal (1998:244) developed seminal works, which discuss the three dimensions of social capital, namely, cognitive, structural and relational capital.

2.4.1 The cognitive dimension of social capital

The cognitive dimension of social capital is concerned with mutual goals, values, and visions amongst parties within the social system. These goals could provide common representations, mutual understandings, and systems of meaning (Villena, Revilla & Choi 2011:562). In a firm, cognitive capital is symbolised by shared ideas consisting of shared goals and ambitions of the different parties involved. It exists when partners have similar views of common goals and on how they should cooperate (Krause *et al*. 2007:532). If goals and values are not aligned, communication between parties may lead to misunderstandings of events and thus, conflict. This conflict can lead to dissatisfaction of both parties, which may result in limited information sharing dampening productivity and performance (Inkpen & Tsang 2005:153). It can be argued that cognitive capital may positively affect performance in instances where members in a social network have similar goals and values in their relationships (Krause *et al*. 2007:532). The study aims to understand how the cognitive dimension of social capital can play a role in contributing towards SSCM.

2.4.2 The structural dimension of social capital

The structural dimension of social capital is concerned with a pattern of connections between parties, referred to as “who you reach, and how you reach them” (Nahapiet & Ghoshal 1998:244). Frequent interactions can be initiated by social events, the creation of cross-functional teams, team building, and joint problem-solving workshops (Whipple *et al.*

2015:6). This interaction may accelerate collaboration and cooperation within the supply chain (Carey, Lawson & Krause 2011:6).

Various types of information sharing are known to play a central role between a buyer and its key suppliers (Krause *et al*. 2007:533). When information is categorised and arranged appropriately, knowledge relating to resources and their meanings can be understood and shared via communication technology. Examples of this may include uncertainty in demand, raw materials, or supply (Lin, Huang & Lin 2002:259). In addition supplier evaluations and audits may provide both parties with vital information exchange which should eventually result in improvements to buyer performance (Krause *et al*. 2007:533).

Additionally, buying firms who partake in more face-to-face communications with suppliers, are seen to be more successful in tacit knowledge transfers, accruing performance enhancements as a result of these investments (Lawson, Petersen, Cousins & Handfield 2009:159). When compared to simpler information sharing or supplier evaluation, these more personal forms of communication are more positively related to a buying firm achieving improvements in quality, speed, flexibility, reliability, and delivery (Krause *et al*. 2007:533). The study further investigates how elements of structural social capital relate to SSCM.

2.4.3 The relational dimension of social capital

The relational dimension of social capital is concerned with aspects contained in personal relationships between parties such as trust, obligations, friendship, and respect (Blonska, Storey, Rozemeijer, Wetzels & de Ruyter 2013:2001). Recurrent transactions may create trust. Trust decreases the occurrence of expected opportunistic behaviour, creates transparency between parties, and incites open communication. Through repeated transactions, trust is formed and nurtured resulting in parties relying less on contracts to guarantee performance (Inkpen & Tsang 2005:153-154).

Research conducted on buyer-supplier relationships indicates that more contact and interactions in the relationship result in increased cooperation. Trust is enhanced amongst parties the longer they work together (Lee 2015:44). The main benefits that arise as a result of relational capital are cost reductions and the development of problem-solving capabilities between the two parties (Krause *et al*. 2007:535). In sum, relational capital is profoundly concerned with long-term relationships that cultivate friendship, respect, trust and reciprocity over time. These ultimately enable cooperative behaviour between the parties, which may lead to a reduction in transaction costs (Lee 2015:44). We explore the role of social capital in contributing towards SSCM.

2.5 The South African third-party logistics industry

Within a South African context, the importance of 3PL services can be indicated by the amount spent on logistics costs, which comprises 11.7% of South African GDP (Stellenbosch University 2016:3). South Africa has been labelled as a top performer when compared to its peers in other developing countries and is the most developed country in Africa in the contract logistics market (Niemann *et al*. 2017: 206). South Africa has also been characterised as a very "transport-hungry" country when compared to the rest of the world. This combined with the fact that a key driver of transport cost is a commodity with an unstable pricing structure illustrates that transport, specifically, in a South African context is a strategic resource, which necessitates national attention (Havenga, Simpson & de Bod 2012:8).

Some 3PL firms have increased their sustainability initiatives for reasons such as the corporate desire to be ethical, appealing to green customers, consumer-activism, or merely a wish to enhance the firm's image (Lieb & Lieb 2010:526). Falling in line with global trends, the drive towards more sustainable logistics systems is also gaining importance within the South African 3PL industry. Consolidation, combined with other efforts to improve efficiency, has resulted in certain sustainable improvements such as the development of more fuel-efficient vehicles (Havenga, Simpson & van Eeden 2010:722). It can be seen that efficiency improvements, and fuel efficiency in particular, are said to yield only marginal yearly gains and will not limit the rising trend in logistics costs given the structure of the South African freight transport market especially (Havenga, Simpson, de Bod & Viljoen 2014:6).

3. METHODOLOGY

This section describes the research design adopted for the study, along with the sampling criteria and data collection methods. Additionally, it explains the data analysis process, trustworthiness and the ethical considerations for the study.

3.1 Research design

This study made use of a generic qualitative research design. The purpose of generic qualitative research is to provide a detailed and rich description of people's experiences, views or perspectives relating to a specific topic or phenomenon (Percy, Kostere & Kostere 2015:78). The study attempted to create a deeper understanding of the role that buyer-supplier relationships play in SSCM, specifically between South African 3PLs and their clients, making this an appropriate research design. Data collection was conducted using

semi-structured personal interviews, which have been established as appropriate for a generic qualitative study and allowed the researcher to explore the experiences and perspectives of both buyers and suppliers of logistics services in the context of SSCM (Percy *et al*. 2015:79). An interview discussion guide was used to direct these interviews (Neergaard, Olesen, Andersen & Sondergaard 2009:3).

3.2 Sampling

The unit of analysis for this study was the relationship between South African 3PL supplier and buyer firms. The unit of data collection encompassed managers from both 3PL suppliers and buyer firms. Fourteen participants from fourteen different firms consented to participate in the study. A relational link exists between six of the 3PL firms and six of the buyer firms in this study. The remaining two firms belong to the buyer category, with no relational link present in this study. Data saturation was achieved after 12 interviews resulting in no new themes being uncovered in the final two interviews. In studies consisting of homogenous participants, saturation may be achieved within the first 6 to 12 interviews (Mason 2010:78).

Homogenous sampling was initially used to identify appropriate 3PL firms (Creswell 2012:208). The criteria used to select supplier firms indicated that they must be 3PL service providers operating within the South African region who incorporate sustainability practices within their firm. Once the study had commenced, snowball sampling was used to identify buyers of 3PL services by asking each participant to recommend an appropriate buyer/client of their firm (Creswell 2012:209).

Sampling of participants consisted of the same methods of using homogenous sampling to identify initial participants, followed by snowball sampling used to identify all subsequent participants from buyer firms. Criteria for selection of participants included the following:

- Middle, top or senior level management,
- At least two years' experience within the firm,
- Knowledgeable about relationships with buyers or suppliers,
- Knowledgeable about the sustainability practices of the firm.

Table 1 below provides a profile of the participants in this study:

Table 1: Profile of participants

BUYER FIRMS					SUPPLIER FIRMS				
Pseudonym	Position	Firm	Years employed	Interview length/min	Pseudonym	Position	Firm	Years employed	Interview length/min
P1	Operations manager	F1	8	34	P2	Key Accounts manager	F2	3	75
P3	SC coordinator	F3	3	53	P4	General manager	F4	9	47
P5	SC executive	F5	22	52	P6	Depot manager	F6	13	15
P7	SC manager	F7	3	27	P8	Managing director	F8	12	43
P9	Parts supply logistics and pricing manager	F9	11	31	P10	Key accounts manager	F10	3	26
P11	3PL manager	F11	5	51	P12	Campus manager	F12	1	17
P13	Head of the supply chain	F13	9	47					
P14	Customer logistics leader	F14	12	30					
Average interview length: 39min					Relational links present as indicated: F1-F12				

Source: Developed by the authors based on participant demographics and interview details

3.3 Data collection

The study made use of semi-structured interviews, which is suitable for the exploratory nature of the study in particular (Rowley 2012:262). These semi-structured interviews assisted in gaining deeper insight into buyer-supplier relationships in an SSCM context, through an intensive exploration of all three components of the social capital theory (Gill, Stewart, Treasure & Chadwick 2008:292). A discussion guide was developed with the study's research questions as a basis and underwent a pre-test with one organisation. No changes were required, and data collection continued. Interviews began with a brief description of the study, followed by requesting participants to sign an informed consent form. Leading questions were then asked, followed by a roundup question enquiring if the

participant had any further information to add. All interviews were recorded and transcribed within 14 days of being conducted. All transcriptions were outsourced to a professional transcription service and were checked to ensure the accuracy of information by reviewing each transcription while listening to the corresponding recording. The average length of the interviews was 39 minutes.

3.4 Data analysis

To analyse the data collected in the study, a thematic analysis was conducted based on the recommendations of Braun and Clarke (2012:57-71) and Creswell (2012:236-253). During data analysis, inductive codes were created from the data and merged with deductive codes found within the transcripts. These codes were then analysed and combined into a set of overarching themes according to their relevance to the study's overall research questions. These themes were then analysed against the transcriptions, to ensure that they covered all relevant patterns (Braun & Clarke 2012:63-65). This process was repeated where it was deemed necessary.

3.5 Trustworthiness

Several techniques were used to ensure the credibility, transferability, dependability, confirmability and authenticity of the study, and thus, ensure overall trustworthiness (Polit & Beck 2012:584). In order to obtain credibility, the researcher firstly ensured compliance with the ethical requirements of both confidentiality and voluntary participation. Secondly, by employing trusted methods such as purposive sampling and thematic analysis, it allowed the researchers to authentically capture the perspectives of participants and ensured the accuracy of data collection (Polit & Beck 2012:584-585; Shenton 2004:64-69). Thirdly, site triangulation was employed. This makes use of participants from various firms to cross-reference themes and show that the identified themes are not exclusive to a specific firm (Shenton 2004:66). Dependability, authenticity and transferability were obtained by providing detailed and rich descriptions of the precise methods followed (Polit & Beck 2012:585). This includes the research design, context of the study, sampling methods, the data collection, analysis methods and limitations of the study with directions for future research. Confirmability was established by determining a clear link between the gathered data and reviewed literature in order to ensure confidence in the research findings (Thomas & Magilvy 2011:153).

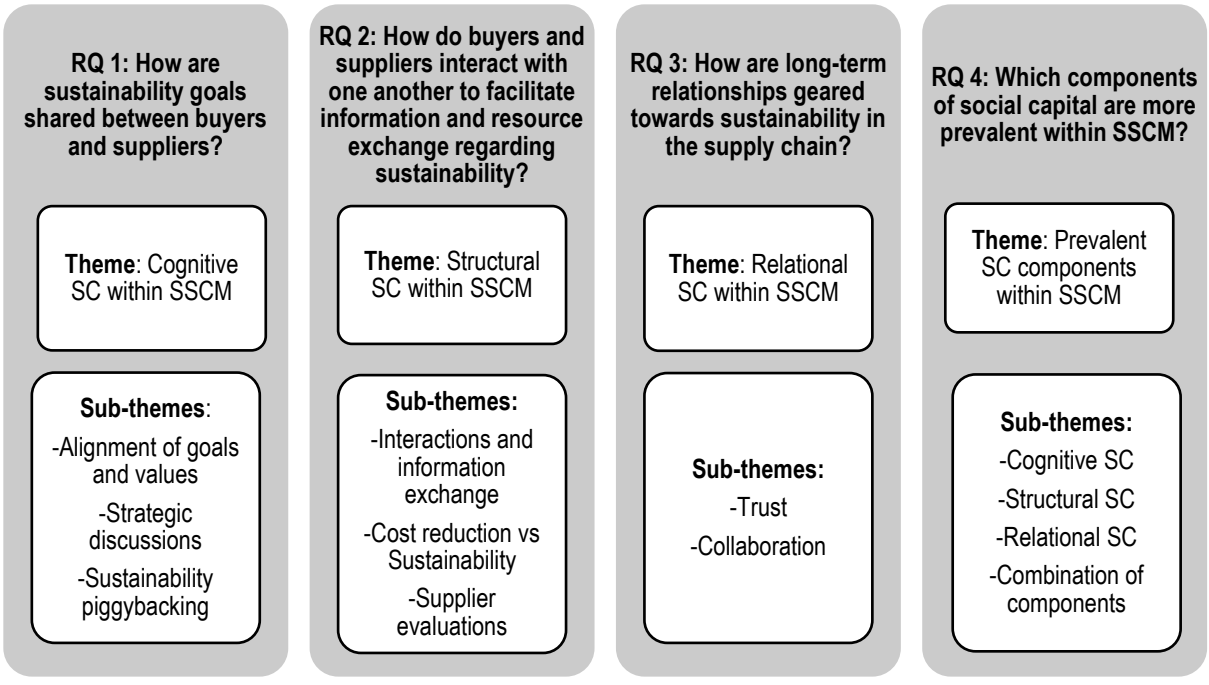
3.6 Ethical considerations

The Research Ethics Committee of one of Africa's top traditional universities and the largest contact university in South Africa provided ethical clearance for this study. Each participant was required to read and sign an informed consent form before the start of each interview. The researcher reiterated the anonymity and confidentiality of any findings of the study and also reminded participants that they were allowed to avoid answering any question they did not feel comfortable answering. Anonymity and confidentiality were achieved by assigning pseudonyms to each firm and participant.

4. FINDINGS

This study considered three (3) components of social capital to examine the role that buyer-supplier relationships play in SSCM. These components constitute the main themes of the study, which enabled each research question to be answered. The identified themes and sub-themes about each research question are indicated in Figure 2 below. The following sections discuss each theme in more detail.

Figure 2: A summary of research questions and related themes



Source: Developed by the authors based on thematic data analysis

4.1 Cognitive social capital within Sustainable Supply Chain Management

Research question one (1) related to cognitive social capital and explored how sustainability goals and values were shared between buyers and suppliers. The first sub-theme identified the way in which organisational goals and values between 3PLs and buyers are aligned. The second sub-theme pertained to strategic discussions that take place once goals and values have been aligned. The final theme was concerned with buyers who leverage the sustainability initiatives of their 3PLs.

4.1.1 Alignment of goals and values

Cognitive capital is symbolised by shared ideas consisting of shared goals and ambitions of different parties (Krause *et al*. 2007:532). Thirteen participants claimed to have aligned goals and values regarding SSCM with their relevant supply chain partner. Respondents indicate that aligning these goals and values needs to occur before, or very early on in the relationship. This begins during the tender process wherein only those 3PLs known to be compliant and show the potential to share sustainability goals are invited to participate. This is indicated by the following quotation by a buying firm participant:

> "*If it were a company that had a bad name regarding harming the environment and no thought of sustainability, we would not consider them. Where we considered it, was in deciding whom we would invite to tender*" (P5, male, SC executive, buyer).

One supplier-firm participant indicated a lack of shared goals and values between parties. This perception was based on the idea that buyers are not concerned with sustainability initiatives of their 3PLs. Instead, they are mostly concerned with the cost efficiencies a 3PL can provide. The following quote illustrates this:

> "*I cannot say that customers have a holistic view on sustainability through the supply chain because they do not see all the ends of the supply chain. They are not concerned with the sustainability in my business because they are only concerned with the economic aspects. They want me to have BEE, and socioeconomic aspects lined up, but they do not care. It is just really about the rands and cents*." (P8, Male, Managing Director, Supplier).

The presence of cognitive capital within this study is evidenced by the majority of the participants indicating shared values and goals, the exception above indicates that

there are still cases where buyers and suppliers are not aligned and still operate on a transactional basis.

4.1.2 Strategic discussions

Sharing values and goals addresses the "what' aspect of SSCM from a relational perspective, the "how" is explained by understanding the nature of strategic discussions between buyers and suppliers. From the thirteen participants that indicated that they share goals and values, two buyers and one supplier participant indicated that their firms engaged in further discussions with their relevant partners. Discussions are very strategic and involve only top-level management. The following quote represents the responses surrounding further engagement in sustainability discussions between 3PLs and their clients:

> "*We have projects and project sessions purely focused on strategic projects. I think we just came out of one last week […], and this morning was a discussion around sustainability around packaging and consumables. Next week we have followed up sessions to close that off. Last week we had one around lighting*." (P1, Male, Ops manager, Buyer).

Participants who emphasised these further discussions, represent three well known global firms and have each claimed that sustainability is considered to be a core value within their firms. This confirms the literature, which indicates the existence of cognitive capital when partners have similar views of common goals and on how they should cooperate (Krause *et al*. 2007:532). This finding also suggests that the focus on sustainability, as exhibited by the rest of the participant firms, becomes less of a priority owing to the lack of strategic emphasis. This is concerning as top management support has been cited as a key driver for the allocation of resources in executing sustainability related projects and initiatives (Chu *et al*. 2017:1-37).

4.1.3 Sustainability piggybacking

Five 3PL (supplier) participants indicated that their clients were aligning themselves and choosing 3PLs considered to be compliant and committed towards sustainability. This resulted in buyer firms being able to "piggyback" off of the sustainability practices of their 3PLs. This simultaneously creates a positive image for buyers by being associated with such firms. The following quote represents this finding:

> "*Customers always want to know how we can create efficiency. On an environmental level, we offer that as an option. So normally customers*

> *piggyback off of what we are already doing. They want to associate themselves with us because of our sustainability regarding the environment*." (P2, Male, Key Accounts Manager, Supplier).

Previous literature predicted this finding, where a supplier's actions impact a buyer, as well as the importance of buyers taking responsibility for their entire supply chains (Boström *et al*. 2015:2; Sajjad 2015:49). This finding suggests that in some cases, it may be the suppliers who drive sustainability within the supply chain, which simultaneously ensures that a focal firm is considered to be ethical and sustainable.

4.2 Structural social capital within Sustainable Supply Chain Management

Research question two (2) aimed to identify how buyers and suppliers interact with one another to achieve information and resource exchange regarding SSCM. The first sub-theme was concerned with the extent to which SSCM is included in the day-to-day interactions and exchanges between 3PLs and clients. The second sub-theme discusses an evident bias towards the economic component of the TBL, while the final sub-theme examines the extent to which SSCM is included within the key performance indicators (KPIs) of the participant firms.

4.2.1 Interactions and information exchange

The structural dimension of social capital is concerned with a pattern of connections between parties, namely "whom you reach, and how you reach them" (Nahapiet & Ghoshal 1998:244). The methods and manners of interactions between buyers and suppliers in this study differed across firms. This is due to buyers each having different needs both in terms of operational requirements and sustainability. This requires different levels of service and interactions from their 3PL. The following extract from a supplier firm illustrates this:

> "*That depends on the customer. The size of the account and the frequency of the business they are bringing in. Logistics is not one size fits all. It is usually much tailored to each customer. Whether we are doing transport or a full chain, or inbound from the origin of managing the South African leg and doing the delivery; we usually have to tailor the services*." (P2, Male, Key Accounts Manager, Supplier).

Table 2 below provides a summary of the manner in which all information is shared and the types of interactions that occurred between 3PLS and their buyers in this study:

Table 2: Information sharing and interactions between 3PLs and buyers

Shared information	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14
Monthly Reports		X		X			X						X	
Weekly Reports		X												
Fortnightly Reports		X												
Daily reports		X					X	X			X	X		
Shared systems – constant info exchange	X	X	X		X	X			X	X		X		X
Interactions														
Biannual meetings											X			
Monthly meetings	X	X	X	X	X	X	X	X	X	X	X	X	X	
Weekly Meetings	X	X	X	X	X	X	X	X	X	X				
Daily Meetings	X	X		X			X	X		X		X		X
Communication via email/Phone calls			X	X	X		X			X	X	X	X	

Source: Developed by the authors based on the sub-theme analysis

While it is evident that significant levels of information sharing and interactions between buyers and suppliers are present within participant firms in this study, it was found that discussions surrounding sustainability along the TBL in these exchanges seem to be lacking. Only five participants indicated that the above interactions and information exchanges included the topic of sustainability along with all three components of the TBL. The remaining participants indicated that discussions on sustainability were very strategic and therefore occurred mostly during the previously discussed tender process, or annual strategic meetings between buyers and suppliers. The following quotation illustrates this point:

> "*Environmentally and socially […] will only be at a higher level, and less frequently, annually, I would say. Not much happens at the lower level*." (P4, Male, General manager, Supplier).

This finding reveals that sustainability goals are present within firms; however not much is done on operationalising these goals to ensure SSCM. To ensure sustainability performance firms need to execute the strategic plans regarding sustainability practices on an operational level.

4.2.2 Cost reduction versus sustainability trade-off

The primary goals of every business are generally concerned with monetary aspects such as costs and profitability (Pagell & Shevchenko 2014:46). Nine participants indicated a clear bias toward the economic component of the TBL, specifically within these interactions and exchanges. This indicated that once strategic decisions were made, including sustainability objectives, buyer firms generally concerned themselves with economic aspects like cost reductions while assuming suppliers are behaving sustainably. The following extract indicates this:

> "*Economics is the main concern. When we go into the meetings, we want to improve processes and procedures so we can reduce the costs or do something better so that we get more value for our money*." (P3, Male, SC coordinator, Buyer).

This finding indicates that firms prioritise first and foremost the impact on the economic bottom line. Therefore, sustainability decisions have to make economic and financial sense in order to be implemented. This also shows that the true elements of sustainability, environmental and social sustainability, are overshadowed by the economic and financial component (Golicic & Smith 2013:78; Zhu *et al*. 2013:106). Sustainable supply chain management requires the interaction of all three components of the TBL (Carter & Rogers 2008:370-372).

4.2.3 Supplier evaluations

Supplier evaluations provide parties with vital information exchanges and result in improvements to buyer performance (Krause *et al*. 2007:533). These evaluations have been identified as the third sub-theme within structural capital, as indicated in Figure 2. All 3PL participants indicated that buyers evaluated them every month based on KPIs. All participants from buyer firms confirmed that they evaluated their 3PLs based on set KPIs. Only three buyer participants and one 3PL (supplier) participant indicated the explicit inclusion of sustainability goals and objectives along with all three components of the TBL within their relevant KPIs. The remaining firms once again indicated an explicit bias towards the economic component of the TBL within KPIs. The following quote demonstrates this:

> "*Usually, profit is most important. So, it is usually sustainability of profitability. Seldom do they ask about environmental sustainability unless it has a direct impact on their business, only then they will ask*." (P8, Male, Managing Director, Supplier).

While buyer firms ensure that supplier evaluations are conducted, these evaluations are not designed or aimed for sustainability in the supply chain. Cost reduction and efficiencies are rather prioritised. Suppliers, therefore, align with the expectations of the buyer and are not motivated to engage is sustainability related activities. Structural capital for sustainability is therefore lacking.

4.3 Relational social capital within Sustainable Supply Chain Management

Research question three (3) aimed to explore how long-term relationships between 3PLs and buyers are geared towards sustainability in the supply chain. Two sub-themes were identified namely: trust and collaboration.

4.3.1 Trust

Trust affects the quality and frequency of interactions between buyers and suppliers (Fernie & Sparks 2014:38-42). Within this theme, both dependability and benevolence were present, as identified by Hill, Eckerd, Wilson and Greer (2009:285). Dependability was found to be directly related to a 3PL's ability to reliably deliver their services as promised. Benevolence was seen to occur in that the supplier firms were expected to conduct themselves ethically with their client's wellbeing in mind. The following respective extracts support the above:

> "So, the more they deliver at the right place and time, the more the trust builds. So, I feel that that is what we have with our 3PL." (P3, Male, SC Coordinator, Buyer).

> "*If they are not sustainable and need help, the trust relationship creates a bridge. Which is ideally where each business should aim to get to. Where your customer is no longer discussing the economic sustainability of the business. They are saying, "We are beyond your price. We want to create a relationship where you can come in and contribute to how we are running our business*." (P2, Male, Key Accounts Manager, Supplier).

Seven participants claimed that a 3PL simply meeting KPIs, regardless of the nature of these KPIs, allows a buyer to trust their supplier regarding more strategic aspects such as sustainability. The quotes below represent this finding:

> "*The first and foremost would be the KPIs. If we as a service provider are […] and meeting those KPIs, it creates trust, and that is what we present towards them*." (P2, Male, Key Accounts Manager, Supplier).

> "*Having worked with them for so long and seeing how they operate, we trust that they are doing the right thing for the economy, the environment and their people*." (P5, Male, SC Executive, Buyer).

These findings on trust confirm the literature that states trust creates transparency between parties, and incites open communications (Inkpen & Tsang 2005:153-154).

4.3.2 Collaboration

All respondents within this study indicated the importance of understanding the needs of their partners in order for more collaboration to occur and ultimately achieve a more sustainable supply chain. The following quotes illustrate this:

> "*As time goes on, the more they understand our supply chain and understand what's happening. We also understand them more and the easier it becomes. That allows for more collaboration to happen*." (P1, Male, Ops Manager, Buyer).

> "*That we did together because they obviously have to approve certain things in terms of […] cartons and their waste as well. So that was a collaboration between the customer and ourselves*." (P2, Male, Key Accounts Manager, Supplier).

These forms of collaboration confirm literature with indicates the need for strong levels of collaboration with internal and external supply chain partners, like suppliers, to review products, packaging, delivery methods and management systems within an SSCM context (Ashby *et al*. 2012:498; Kumar & Rahman 2016:837;).

4.4 Components of social capital more prevalent within Sustainable Supply Chain Management

The fourth (4) research question in this study aimed to identify which of the three components of social capital are most prevalent within SSCM between buyers and suppliers in the 3PL industry. Table 3 below illustrates the importance that each firm places on the different components of social capital as indicated by each participant.

Table 3: Components of social capital most prevalent in SSCM

Social Capital	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	Total
Cognitive					X					X		X	X	X	5
Structural			X					X							2
Relational		X		X		X			X						4
All 3 equal	X						X				X				3

Source: Developed by the authors based on the analysis of the final research question

4.4.1 Cognitive, social capital

Of the three components, cognitive capital was found to be the most predominant component within this study, as identified in Table 3. Five participants indicated the importance of the role that this component plays in SSCM. The motives behind this finding were primarily based on shared visions and goals, serving as a foundation regarding SSCM objectives. Without these shared visions and goals, neither party can fully achieve their SSCM goals, nor can structural and relational capital play any significant role as indicated below:

> *"I am always talking about partnership. Now partnership means that we have got shared goals and aspirations. So, I would say that that is the most important. On that, you can build a trusting relationship and then thirdly, I would say is to share information and then on that level, create the vehicle of sustaining the top two*." (P13, Male, Head of SC, Buyer).

This finding contradicts a number of studies which indicate that relational social capital plays the most pertinent role within SSCM (Bernardes 2010:53; Lee 2015:50; Wu, Ding & Chen 2012:634). This finding falls in line with a study conducted by Hung, Chen and Chung (2014:189-206), whose findings indicate that cognitive capital plays the most pertinent role in knowledge sharing of sustainable practices between members of a supply chain.

4.4.2 Structural social capital

Structural capital was seen to play the least significant role for SSCM in this study. Only two participants indicated that structural capital played the most significant role within SSCM in their firms. Participants indicated that information sharing is vital in SSCM and that without it; there exists a significant misalignment between the expectations of both firms. Proper

information monitoring and management result in reliable delivery times and improved customer satisfaction, which ultimately plays a role in SSCM. The following quote represents this:

> "*Information sharing is a big one because in today's time we have big data where we collect a lot of information and use that to inform our decisions. For example, stock levels. That monitoring and management ultimately make things more sustainable*." (P3, Male, SC Coordinator, Buyer).

This relatively small number of participants once again confirms literature by Chu *et al*. (2017:1-37) wherein structural capital was seen to play the least significant role within SSCM.

4.4.3 Relational social capital

The relational component of social capital is seen to be the second most prevalent component within this study. Four participants in this study indicated the importance of relational capital on SSCM. Participants indicated the need to go beyond offering just the product/service by adding a personal touch to what would otherwise be a very transactional relationship. Strong relationships create opportunities for growth and improvement, which ultimately lies at the heart of SSCM. The following quote illustrates the motive behind firms placing the most importance on the relational component of social capital:

> "*I would say strong relationships, in the sense that people don't buy from companies. They buy from people. Certain customers have only kept their business with us because of a particular person. If that person moves, […] chances are they will move with whoever moved, which ultimately hinders sustainability*." (P2, Male, Key Accounts Manager, Supplier).

Although not identified as the most pertinent component in this study, it is evident that relational social capital was understood to be the most pertinent component amongst a significant number of participants. These responses confirm previous literature wherein this component was seen to play an important role in environmental and operational performance (Bernardes 2010:53; Lee 2015:50; Wu *et al*. 2012:634).

4.4.5 Combination of social capital components

Interestingly, three participants in this study indicated the equal importance of all three components within SSCM, as demonstrated in Table 3. Respondents indicated the necessity

of each component to work together and the consequences that may result in the absence of any of the components. This is represented by the following quotation:

> "*They are all equally important. Let's start with information, so even small information like moving routes. It is very important that information is shared back to us so that we can use that information to correct whatever problems may develop. That's one part. Strong relationships. When there's a relationship, people are open and able to come forth if there's any situation that we might not see coming. Shared visions and goals. So, of course our vision as the firm is […], which is a goal we've cascaded to them [3PLs]. Of course we educate them to ensure they sustain the quality until it reaches the final customer*." (P11, Male, 3PL manager, Buyer).

This finding is rather interesting, as no previous literature has alluded to all three components playing an equal role in SSCM. Previous findings have always indicated that at least one component played a more significant role (Bernardes 2010:53; Chu *et al*. 2017:1-37; Hung *et al*. 2014:189-206).

5. SUMMARY OF FINDINGS AND THEORETICAL IMPLICATIONS

The study aimed to explore the role that buyer-supplier relationships play within SSCM, particularly within the 3PL industry in Gauteng, specifically, through a social capital theory lens. The first research question explored how sustainability goals and values were shared between buyers and suppliers in a 3PL context. The majority of the respondents indicated the presence of shared sustainability goals and values between their relevant supply chain partners. The study showed that aligning goals and values between 3PLs and clients started at the bidding process. Buyer firms will seek out 3PL firms that have a track record of providing sustainable solutions for the supply chain. Once the relationship was established and core values were aligned, more strategic discussions around sustainability took place. In some instances, buyers aligned themselves with compliant 3PLs to utilise their 3PLs existing sustainability practices to improve their sustainability image. These findings indicated the clear presence of cognitive capital among buyers and suppliers of logistics services. This finding corroborated literature, which indicated the existence of cognitive capital when partners had similar views of common goals and how they should cooperate (Krause *et al*. 2007:532).

The second research question explored the manner in which buyers and suppliers interacted to achieve SSCM relating to information exchanges. The study indicated the apparent presence of a significant amount of interactions and information exchanges as identified in the literature (Krause *et al*. 2007:533). Very few participants mentioned the filtering of strategic goals into operational goals, relating to sustainability, and action related information being shared across supply chain partners. This indicates a lack of structural capital within SSCM. Participants indicated that the main priority is cost reduction and the economic and financial sense of decisions. Therefore, interactions and meetings among buyers and 3PLs are structured accordingly. A reason for this could be that sustainability related information and criteria are not clearly and operationally defined beyond the strategic level. The lack of clearly defined operational goals and actions pertaining to SSCM results in firms not clearly understanding the benefits of SSCM on all aspects of the TBL including cost reduction and efficiencies. This results in weakened information sharing efforts and weaker actions being taken towards the sustainability in the supply chain.

The third research question investigated how long-term relationships between 3PLs and clients were geared towards sustainability in the supply chain. The presence of benevolence, dependability, and delivering on KPIs leads to enhanced trust within the relationship, which ultimately opens the channels of communication on more strategic aspects such as sustainability along the TBL. The findings also indicate that suppliers of logistics services have to prove themselves by consistently achieving KPI's before they can be considered and trusted to partake in strategic decisions. This is when buyer firms seek inputs of their logistics services supplier to manage the supply chain for sustainability. When parties understand each other's needs, more collaboration regarding sustainability objectives can occur. Trust and collaboration confirm two (2) out of three (3) themes within buyer-supplier relationship literature previously identified (Fernie & Sparks 2014:38-42).

The final research question focused on identifying which components of social capital were more prevalent within SSCM. It was found that the most essential component, as indicated by respondents in this study, was cognitive capital, followed closely by relational capital, and finally, structural capital. While the literature highlights the importance of relational capital (Bernardes 2010:53; Lee 2015:50; Wu *et al*. 2012:634), this study shows that developing a relationship is closely tied with establishing shared goals and visions as a foundation to developing a relationship among buyer and supplier firms. A handful of respondents also indicated the fundamental importance of all three components possessing equal weighting, as the absence of any component would lead to SSCM objectives not being met. These

firms perhaps are further into their sustainability journey and can be considered exemplary cases and benchmark setters as described by Pagell and Wu (2009:40)

6. MANAGERIAL RECOMMENDATIONS

It is critical for managers to understand and consider the components of social capital when entering into and developing relationships with their supply chain partners in order to achieve more sustainable supply chains. Firms should evaluate the impact of their operations on all three elements of the TBL across the supply chain. These ultimately impact the sustainability and longevity of the firm itself. For this, there is a strong need to invest in social capital with its supply chain partners. Firstly managers of firms that outsource their logistics functions to 3PLs should reflect on the alignment of goals and shared visions of sustainability in the supply chain before forming a relationship geared towards this effect. This involves ensuring that only those 3PLs considered to have similar sustainability goals and values are invited to the bidding process. This will ensure that moving forward; both parties are aligned towards common goals regarding sustainability. Secondly, beyond establishing strategic sustainability related goals for the supply chain, managers should establish criteria and relevant operational information to be shared with their supply chain partners regarding sustainability in the supply chain. This will ensure that sustainability goals are understood by all parties and could be achieved by including more SSCM related KPIs within supplier evaluations and audits. Finally, managers should be fully committed to enhancing the relationships they have with their supply chain partners. It is imperative that managers understand the importance of meeting key deliverables to first ensure trust between supply chain partners. Once trust is developed, collaboration and communication on aspects such as SSCM between partners become simpler.

7. LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

The study was limited to the South African context, specifically to 3PL's and their clients operating from the Gauteng province. While the province is known for its economic power, future studies could expand the study to the rest of Africa. All buyer firms within the study belonged to different industries. This limited the study's ability to draw industry specific conclusions. As most 3PLs have large client bases, with different goals and objectives, future research could take on a more industry-specific approach when identifying buyer firms. This may unveil more focused findings relating to the role that buyer-supplier relationships play within SSCM between 3PLs and their clients. The study also found that structural capital pertaining to information sharing regarding SSCM was strikingly lacking

among buyer and supplier firms of logistics services. Future research could further investigate why this is the case and how it can be addressed. Finally, the main method of inquiry was qualitative, limiting the study's generalisability. Future research could build on this study by quantitatively testing which social capital components are deemed more important in the 3PL industry, thereby providing a more generalisable contribution.

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