



“Guiding buyer-supplier relationships through supply chain disruptions: a study of South African 3PLs and clients”

AUTHORS	Evert de Goede Jaco Nel Wesley Niemann  https://orcid.org/0000-0003-3304-0159
ARTICLE INFO	Evert de Goede, Jaco Nel and Wesley Niemann (2018). Guiding buyer-supplier relationships through supply chain disruptions: a study of South African 3PLs and clients. <i>Problems and Perspectives in Management</i> , 16(2), 113-133. doi: 10.21511/ppm.16(2).2018.11
DOI	http://dx.doi.org/10.21511/ppm.16(2).2018.11
RELEASED ON	Friday, 04 May 2018
RECEIVED ON	Thursday, 25 May 2017
ACCEPTED ON	Thursday, 15 March 2018
LICENSE	 This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License
JOURNAL	"Problems and Perspectives in Management"
ISSN PRINT	1727-7051
ISSN ONLINE	1810-5467
PUBLISHER	LLC “Consulting Publishing Company “Business Perspectives”
FOUNDER	LLC “Consulting Publishing Company “Business Perspectives”



NUMBER OF REFERENCES

61



NUMBER OF FIGURES

0



NUMBER OF TABLES

4

© The author(s) 2025. This publication is an open access article.



BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10, Sumy,
40022, Ukraine

www.businessperspectives.org

Received on: 25th of May, 2017

Accepted on: 15th of March, 2018

© Evert de Goede, Jaco Nel, Wesley
Niemann, 2018

Evert de Goede, Student, Department
of Business Management, University
of Pretoria, South Africa.

Jaco Nel, Student, Department
of Business Management, University
of Pretoria, South Africa.

Wesley Niemann, Lecturer,
Department of Business
Management, University of Pretoria,
South Africa.



This is an Open Access article,
distributed under the terms of the
[Creative Commons Attribution-Non-
Commercial 4.0 International license](https://creativecommons.org/licenses/by-nc/4.0/),
which permits re-use, distribution,
and reproduction, provided the
materials aren't used for commercial
purposes and the original work is
properly cited.

Evert de Goede (South Africa), Jaco Nel (South Africa), Wesley Niemann (South Africa)

GUIDING BUYER-SUPPLIER RELATIONSHIPS THROUGH SUPPLY CHAIN DISRUPTIONS: A STUDY OF SOUTH AFRICAN 3PLS AND CLIENTS

Abstract

Even though a lot of attention has been directed towards risk management, disruptions are inevitably present within supply chains and should therefore be successfully managed if organizations are to thrive in today's ever-changing world. How organizations respond to these disruptions has an impact on the relationship between the parties involved. This study explored what factors influenced buyer-supplier relationships in either a strengthening or weakening manner within a disruption context. A generic qualitative research approach was used to gather data by conducting semi-structured interviews with 24 participants that consisted of 3PLs and clients who have experienced a recent disruption between each other. This study reported on the relational factors within pre-, during- and post- disruption phases. A total of 18 strengthening factors were identified with the majority being classified into the during-disruption phase. The factors that added to existing disruption literature included having a mutual business understanding, problem solving ability and an introspective focus when resolving disruptions. Twelve weakening factors emerged from the data. Common business problems, a lack of, or weak prior relationship, no mutual business understanding and the occurrence and late detection of the disruption are novel findings. Practitioners gain value from this study as it equips them to manage supply chain disruptions successfully by highlighting important strengthening and weakening relational factors to consider when working with supply chain members to resolve disruptions. The study contributes to the body of knowledge by being one of the first empirical studies conducted on the relational effects of supply chain disruptions in a developing country context.

Keywords

supply chain disruptions, supply chain relationships,
third party logistics service providers, qualitative
research, South Africa

JEL Classification M10, M11

INTRODUCTION

Supply chain disruptions are unexpected events that end up disturbing the normal flow of goods and services within and between organizations (Craighead, Blackhurst, Rungtusanatham, & Handfield, 2007, p. 132; Skipper & Hanna, 2009, p. 405). Several studies in the previous decade have suggested supply chain disruption prevention through the means of effective risk management (Jüttner, Peck, & Christopher, 2003, pp. 197-210; Chopra & Sodhi, 2004, pp. 53-61; Tomlin, 2006, pp. 639-657). However, despite pre-emptive precautions, not all risks can be prevented (Golgeci & Ponomarov, 2013, p. 611). Thus, disruptions continue to take place and have devastating effects on organizations. It also increases in severity as it progresses through the links in a supply chain. This is otherwise known as the "snowball effect", which highlights the difference between the strength of a disruption at the final supply chain member and the strength that it had at the member that

was directly affected by the disruption (Świerczek, 2014, p. 90). Therefore, it is critical that supply chain members identify, react and respond quickly and in an effective manner, to disruptions, in order to reduce their impact as much as possible (Chang, Ellinger, & Blackhurst, 2015, p. 643).

There are various ways that these organizations can respond to disruptions, but the wrong response has the capacity to strain supply chain relationships (Porterfield, Macdonald, & Griffis, 2012, p. 403). In turn, having strong buyer-supplier relationships can increase an organization's resilience, performance, and competitive advantage, thereby making it a vital weapon to survive in the modern business environment (Daugherty, 2011, p. 18; Fawcett, Fawcett, Watson, & Magnan, 2012, p. 44). Moreover, Scholten and Schilder (2015, p. 482) found that collaboration in buyer-supplier relationships is essential to reduce the impact of disruptions upon the organizations involved and is consequently an antecedent to resilience. Grönroos (2011, p. 240) also argues that the way in which suppliers handle quality problems or service failures can ultimately affect the value the customer can gain from the relationship, making it even more critical for supply chain partners to handle disruptions effectively in order to create optimal value in the business relationship.

Daugherty (2011, p. 24) stated that further research is necessary in order to explore the challenges of modern buyer-supplier relationships within the supply chain. One of these relational challenges is within the context of supply chain disruptions which, in turn, has received limited attention in recent literature (Porterfield et al., 2012, p. 400; Bode & Wagner, 2015, p. 215). Porterfield et al. (2012, pp. 399-427) conducted the only known study on the relational effects of supply chain disruptions, but from a B2C service failure perspective amongst 12 industries in the USA. Their results might not be transferable to individual industries, a B2B buyer-supplier relationship perspective or a developing country such as South Africa where the importance of certain factors related to people, as well as their customs, may be different (Çerri, 2012, p. 85). This study therefore responds to the call by Macdonald and Corsi (2013, p. 285) to explore this gap with a focus on a particular industry, within a developing country and from a buyer-supplier perspective.

Logistics is crucial to the success of any organization and an important function in the supply chain (Ponomarov & Holcomb, 2009, p. 125). This study therefore centres on the buyer and suppliers of logistics services as many disruptions might occur during outsourced logistics (Klibi, Martel, & Guitouni, 2010, p. 287). Moreover, Langley (2012, p. 26) stated that one of the top reasons for establishing strong relationships with third party logistics (3PL) service providers is to mitigate supply chain risks. This subsequently emphasizes the fragility and significance of the buyer-supplier relationship between 3PLs and their clients. Thus, the supplier industry of this study centres on 3PLs, while the buyer industry includes any client of a 3PL. The purpose of this qualitative study is to explore what relational factors present between South African 3PLs and clients can influence their relationship when a supply chain disruption occurs. The following research questions are scrutinized:

- What factors throughout the management of supply chain disruptions have a strengthening effect on buyer-supplier relationships?
- What factors throughout the management of supply chain disruptions have a weakening effect on buyer-supplier relationships?

The study contributes to the body of knowledge by being one of the first empirical studies conducted on the relational effects of supply chain disruptions in the South African context. The study adds to the scarce literature on supply chain disruption management by identifying new factors that strengthen and weaken buyer-supplier relationships in times of disruption. Practitioners gain value from this study as it equips and re-affirms their perception of the relational factors that should be considered when managing supply chain disruptions. Both the relational factors that strengthen or weaken the buyer-supplier relationship are highlighted.

1. LITERATURE REVIEW

1.1. Supply chain disruption management

According to Behdani, Adhitya, Lukszo, and Srinivasan (2012, p. 8), disruption management is “a structured and continuous process to analyze the impact of disruptions across the supply chain and to handle them in their entire lifecycle”. Disruption management along with traditional risk management can be seen as the reactive and proactive plans to address disruptions, respectively (Dani & Deep, 2010, p. 396) and form part or serve as an antecedent of the broader, topic namely supply chain resilience (Jüttner & Maklan, 2011, p. 247; Scholten & Schilder, 2015, p. 472). A brief overview of existing disruption management frameworks will be given as this study investigates the relational factors present during this management process.

Blackhurst, Craighead, Elkins, and Handfield (2005, p. 4069) pioneered a framework for practically responding to disruptions as they occurred. They identified three areas that were crucial to successfully managing supply chain disruptions, namely discovery, recovery and redesign. This framework is still widely regarded as the seminal framework for disruption management (Macdonald & Corsi, 2013, p. 270; Porterfield et al., 2012, p. 402). The second framework is the 3R framework designed by Pyke and Tang (2010, p. 244). The first stage is readiness, where an organization should implement policies and action plans that will help effectively manage the disruption once it occurs. The second stage is responsiveness, where organizations should implement the plans that allow them to respond to the disruption as quickly as possible. The last stage is recovery, where organizations should try to restore operations back to its normal state. Here they should also review the whole process for possible ways of improvement.

Grounded upon the previous two frameworks the InForMDRiSC (Integrated Framework for Managing Disruption Risks in Supply Chains) Framework was developed by Behdani (2013, p. 32). To date, this is the most recent framework that includes both risk and disruption management

cycles. The disruption management cycle comes into play when the risk management cycle failed to prevent a disruption from occurring. During the first stage, disruption detection, the focus is to minimize the effects of a disruption by identifying its characteristics and potential consequences (Behdani, 2013, p. 35). One of the best ways to identify and dissolve problems early is regular site visits to key suppliers (Sheffi, 2015, p. 36). At the second stage, disruption reaction, the organization must respond quickly for the supply chain to return back to normal operations. The most important determinants of success in this step are representative reaction teams, visibility, organizational and functional teamwork (Blackhurst et al., 2005, p. 4072; Macdonald & Corsi, 2013, p. 272). The third stage, disruption recovery, is where the actual disruption is resolved. At the last stage, disruption learning, the organization should reflect on lessons learned after the disruption is managed with all the parties involved, and document policies and procedures to be better prepared for future disruptions (Bowman, 2015, p. 81).

All three frameworks have a pre-disruption, during-disruption and post-disruption phase that forms part of the overall topic of disruption management. The pre-disruption phase, which is the period directly before a disruption occurs, includes terms such as readiness, discovery and detection. During-disruption phase entails the period when the disruption strikes until when it is resolved and includes terms resembling recovery, responsiveness and reaction. Lastly, the post-disruption phase, that is after it was resolved, includes terms aligned to learning and redesign. Thus, the relational factors will be grouped into each of these disruption management phases in the findings section of the article. In summary, it is apparent from these frameworks that collaboration and strong relationships with other supply chain members are critical to disruption management (Scholten, Sharkey Scott, & Fynes, 2014, p. 222).

1.2. Relational factors influencing the buyer-supplier relationship

Porterfield et al. (2012, p. 404) noted that when a disruption occurs, it can cause positive relational outcomes or severe relational challenges, and these specific outcomes remain an open question,

especially in the 3PL industry. Supply chain disruptions are an inter-organizational phenomenon and are therefore only present in dyadic relationships between two supply chain members (Bode, Wagner, Petersen, & Ellram, 2011, p. 833). No single entity has enough resources to respond to disruptions effectively on its own, therefore highlighting the importance of working together with other organizations (Bui, Cho, Sankaran, & Sovereign, 2000, p. 427). Strong buyer-supplier relationships can assist a healthy interchange between supply chain strategy and responsiveness, as well as enable flexibility which, in turn, will help organizations to respond to disruptions successfully to minimize its effects (Johnson, Elliott, & Drake, 2013, pp. 332-333; Pettit, Croxton, & Fiksel, 2013, p. 69; Qrunfleh & Tarafdar, 2013, pp. 578-579). Not only are relationships important for effective disruption management, but how the disruption was managed by both parties also plays an integral part in the relationship itself (Porterfield et al., 2012, p. 420). Thus, the different factors influencing buyer-supplier relationships are considered within a supply chain relationship context.

Primarily, collaboration forms the core of buyer-supplier relationships, and is an agreement among two or more autonomous supply chain partners to work effectively together towards common goals and mutual gain, to integrate their resources in a better way than when they were functioning in isolation (Bowersox, Closs, & Stank, 2003, p. 18; Cao, Vonderembse, Zhang, & Ragu-Nathan, 2010, pp. 6617-6621). Collaboration is seen as “the glue that holds supply chains together during a crisis” (Richey, 2009, p. 623) and is thus crucial during disruption management as it helps supply chain members to detect, react, recover and learn from disruptions (Jüttner & Maklan, 2011, pp. 254, 255; Scholten & Schilder, 2015, p. 473; Scholten et al., 2014, p. 222).

Collaboration is enabled by two additional factors, namely trust and information sharing (Golicic & Mentzer, 2006, p. 96; Mentzer, Foggin, & Golicic, 2000, p. 53; Scholten & Schilder, 2015, p. 478). Trust has a positive linear relationship with relational quality, facilitates the implementation of collaboration and helps to increase creative problem solving (Çerri, 2012, pp. 75, 86; Gounaris, 2005, p. 135; Svensson, 2004, p. 480). It is defined as “the reli-

ance by one person, group, or firm upon a voluntarily accepted duty on the part of another person, group, or firm to recognize and protect the rights and interests of all others engaged in a joint endeavour or economic exchange” (Hosmer, 1995, p. 393). In turn, factors influencing trust include, but are not limited to, credibility, benevolence, dependability, competence and absence of opportunism (Chen, Yen, Rajkumar, & Tomochko, 2011, p. 263; Krathu et al., 2015, p. 569; Nyaga, Whipple, & Lynch, 2010, p. 109).

In order to experience the full benefits of supply chain collaboration, information sharing is critical (Kwon & Suh, 2005, pp. 26, 32). In the context of this study, information sharing is defined as a facilitator of communication between supply chain members (Fiala, 2005, p. 422) and it can, therefore, help the partners to understand the needs of the other party, better align goals, efforts and expectations (Çerri, 2012, p. 76; Daugherty, 2011, p. 24). Often, the difference between disruptions being well managed and an opportunity to manage them better is effective communication (Macdonald & Corsi, 2013, p. 279). This will cause fewer discrepancies between desired and actual actions and outcomes, increasing the satisfaction of partners (Vidal, Fenneteau, Paché, Johnston, & Johnston, 2016, p. 55; Wang, Kayande, & Jap, 2010, pp. 1109, 1120).

Even though these three factors, namely collaboration, trust and communication, were the most frequently found in the literature, warranting an explanation of each, other factors can also have an influence on relationships. Thus, in order to provide a comprehensive scope of relational factors in times of disruptions, a summary in Table 1 was formulated by using the most recent literature in both supply chain relationships and buyer-supplier relationships associated with the topic. Only Porterfield et al. (2012, pp. 399-427) and Scholten and Schilder (2015, pp. 471-484) had direct relevance to supply chain disruptions. Most of the literature scrutinized did not differentiate between factors that strengthen or weaken relationships, but rather focused purely on their identification. Therefore, this literature review recognizes the factors, while data collection will help to classify them based on the participants' experience.

Table 1. Factors influencing buyer-supplier relationships

Source: Authors' compilation.

Factors	Cerri (2012)	Chen et al. (2011)	Fleming (2014)	Krathu et al. (2015)	Nyaga et al. (2010)	Porterfield et al. (2012)	Scholten and Schilder (2015)	Wang et al. (2010)
Collaboration	✓	✓	✓	✓	✓	✓	✓	–
Communication	✓	✓	✓	✓	✓	✓	✓	–
Trust	✓	✓	✓	✓	✓	✓	–	✓
Reciprocity/fairness	–	–	✓	✓	✓	✓	✓	✓
Strategic focus and goal alignment	–	✓	✓	✓	–	–	✓	✓
Dependability/relationship value	–	✓	✓	✓	✓	–	✓	–
Competence & reputation	✓	✓	✓	✓	–	–	✓	–
Commitment	–	✓	✓	✓	✓	✓	–	–
Satisfaction	–	✓	–	✓	✓	✓	–	–
Opportunism	–	✓	✓	✓	–	–	–	✓
Flexibility	–	–	✓	✓	–	–	✓	–
Benevolence	–	✓	✓	✓	–	–	–	–
Responsiveness	–	–	–	✓	–	✓	✓	–
Face to face contact	✓	–	–	✓	–	–	✓	–
Visibility	–	–	–	–	–	–	✓	–
Behavioral uncertainty	–	✓	–	✓	–	–	–	✓
Individuals	✓	–	✓	–	–	✓	–	–
Shared IT	–	–	–	✓	–	–	–	–
Taking responsibility	–	–	–	–	–	✓	–	–
Historic relationship	–	–	✓	–	–	–	–	–
Business understanding	✓	–	–	–	–	–	–	–

Even though most of the factors contained in Table 1 seem to have a strengthening focus, it cannot be guaranteed that their absence will have a weakening effect. Therefore, these prominent relational factors will be used, together with others realized during data collection, in order to determine which of them will strengthen or weaken buyer-supplier relationships by their presence or subsequent absence.

2. RESEARCH METHOD AND DESIGN

2.1. Research design

Given the nature of this study, an explorative design was the most appropriate as important relational factors during supply chain disruptions have received minimal attention in existing literature (Myers, 2013, p. 5). This led to the researchers' decision to explore knowledge rather than to test it quantitatively (Merriam, 2009, p. 5). Subsequently, a generic and descriptive qualitative design was adopted as it provided the researchers the necessary flexibility to

explore and develop a comprehensive understanding of the phenomenon under study and to describe the characteristics accurately identified during data collection (Kahlke, 2014, p. 47). A cross-sectional time horizon was used as it gave the researchers the advantage of conducting data collection in a short period of time (Patton, 2015, p. 255).

2.2. Sampling

The unit of analysis under investigation was buyer-supplier relationships in the context of logistics services. It was therefore reasonable to gather data from both perspectives in order to gain perceptual similarities between buyers and suppliers. The target population was determined by utilizing critical incident criterion sampling as there should have been a recent major disruption between the buyer and supplier of logistics services within the last two years, they should have fulfilled the definition of a 3PL and a client, have offices in South Africa and have had an existing buyer-supplier relationship before the disruption struck (Patton, 2015, p. 281). A 3PL or a client was contacted via email and if they were willing to participate and fulfilled the

criteria, a meeting was scheduled with a specific individual from that organization. To increase the richness of the data, maximum variation sampling was used in the selection of these potential participating organizations. The result was that buyers from multiple industries participated in this study, as well as suppliers of various logistics services, both differing in respective sizes. Once either a buyer or a supplier agreed to participate in this study, snowball sampling was used to identify the other organization with whom they had experienced a disruption.

The individual from the first organization was identified using criterion sampling as he/she should have been directly involved in the management of the disruption and should have had decision making authority during the disruption. Snowball sampling was once again utilized to identify the individual from the other organization that fulfilled the same criteria. Twelve disruption cases were investigated, which consisted of 24 individual participants and 20 organizations. Two organizations participated twice as they experienced different disruptions with different buyers and suppliers, respectively, as illustrated in Table 2.

Theoretical saturation became evident after the closing of the eleventh disruption case did not deliver any significant new data. This was confirmed when an additional disruption case reached information redundancy (Polit & Beck, 2012, p. 522).

2.3. Data collection

Semi-structured interviews were conducted of which 16 were face-to-face, four were telephonic and two were video calls. The latter two methods were used due to geographic constraints. The buyer and supplier numbers in Table 2 provide a clear distinction between interviews. Semi-structured interviews allowed the researchers to guide participants to describe the relational factors experienced in their own words. This also gave the researchers the freedom and flexibility to pursue issues that emerged as the interviews progressed (Rowley, 2012, p. 262).

An interview protocol was developed to lead interviews with questions based on the study's literature review. The protocol structure started with

the organization's and individual's background, then moved towards disruptions in general, funnelling into a specific disruption experienced with a buyer/supplier. Within the disruption scenario, questions facilitated the identification of strengthening and weakening relational factors, with probes being used whenever clarity, examples or further explanations were necessary. The protocol was subsequently tested with a single participant who fulfilled the sampling criteria. After minor refinements were made, the interviews continued. The interviews were audio-recorded and thereafter transcribed. The researchers transcribed eighteen interviews with the remainder being outsourced to a transcription service provider due to a lack of capacity. Verbatim transcripts were confirmed by the researchers who carefully listened to the recordings while reading through their transcriptions. The interview length ranged from 20 to 90 minutes with an average of 39 minutes as indicated in Table 2.

2.4. Data analysis

Each of the interviews was examined through the use of thematic analysis. Braun and Clarke (2012, p. 57) describe it as the systematic approach of identifying codes from raw data extracts and then organizing them into similar groups in order to identify themes. This process was iterative as the researchers moved to and from among the data set as new codes were identified. The researchers discussed the codes and themes found to determine whether they were in agreement with each other and whether it was directly related to answering this study's research questions, thus both researchers were closely involved in the coding and analysis process whereby the one constantly assessed the other's findings and perceptions. The process was initiated by reading through the interview transcripts to get a holistic overview of the raw data gathered. Thereafter codes were formulated inductively and deductively, the former was derived from the actual content in the data set and the latter was from existing literature contained in Table 1. Condensing the codes into smaller but similar categories has facilitated the emergence of subthemes. Finally, observing the subthemes that includes all the relational factors found in the study, a further grouping activity took place for the identification of themes.

Table 2. Summary of participants

Source: Authors' compilation.

Buyer code	Job title	Years in industry	Buyer org code	Industry	Supplier code	Job title	Years in industry	Supplier org code	Industry
B1	Supply chain executive	17	BC1	FMCG	S1	Supply chain manager	20	SC1	3PL
B2	Transport services manager	5	BC2	Retail	S2	Strategic client lead	10	SC2	3PL
B3	Logistics representative	4	BC3	Agriculture	S3	Operations manager	6	SC3	3PL
B4	CEO	15	BC4	Wholesale	S4	Managing director	15	SC4	3PL
B5	National logistics manager	7	BC5	FMCG	S5	Contract manager	24	SC5	3PL
B6A	Logistics administrative manager	3	BC6	Retail	S6	Sales director	25	SC6	3PL
B6B	Managing director	30			S7	Transport manager	17	SC7	3PL
B7	Dealer services manager	6	BC7	Mining and heavy commercial	S8	Senior director	20	SC8	3PL
B8	Imports manager	20	BC8	Retail	S9	Operations director	18	SC9	3PL
B9	Distribution manager	9	BC9	Retail	S10	Divisional Executive	2	SC10	3PL
B10A	Strategic sourcing manager	5			S11	Branch manager	5	SC11	3PL
B10B	Group shipping manager	4			DID NOT PARTICIPATE				
DID NOT PARTICIPATE					DID NOT PARTICIPATE				
B12	Supply chain manager	3	BC12	Chemical	DID NOT PARTICIPATE				

Total number of participants: 24 Average length: 39min
 Total number of interviews: 22 Gender: 18 male, 6 female
 Total number of direct relational links: 10

2.5. Trustworthiness

Lincoln and Guba (1985) identified four criteria for a study to be regarded as trustworthy, namely, its credibility, dependability, confirmability and transferability. Several measures were used to ensure the study's trustworthiness and are subsequently explained. Having done researcher triangulation during data collection, as well as data analysis, minimized any bias by one researcher (Milne & Oberle, 2005, p. 413). By interviewing both the buyer and supplier of logistics services who have experienced a supply chain disruption between them ensured that person triangulation also takes place. Peer-debriefing that included sessions with expert academics in methodology and supply chain management was done dur-

ing the course of this study. A thick audit trail showing the critical reasoning behind each decision with regards to the methodology and the thematic analysis process of this study was left. This study was also presented at a recent academic conference as a work-in-progress paper where other academics gave valuable feedback. All of the abovementioned actions will further the study's credibility, dependability and confirmability (Polit & Beck, 2012, p. 590). Lastly, to enhance the transferability of this study, a solid description of the context of this study was given and possible boundaries in terms of the methodology, industry, geographic areas and relationship perspective will assist future researchers to test and determine its transferability to other precincts (Shenton, 2004, p. 69).

2.6. Ethical considerations

A research ethics committee of a South African university approved this study. The participants gave consent to be interviewed for the purposes of this study on the condition that anonymity and confidentiality will be adhered to. The freedom to stop the interview and also to refuse to answer a question was provided by the researchers.

3. FINDINGS AND DISCUSSION

The overall themes of the study's findings are based on its objectives, which are to identify both the strengthening and weakening relational factors present when organizations manage supply chain disruptions. They are also aligned to the study's literature review by using the influencing factors found in existing literature together with new factors identified during data collection and grouping them under subthemes according to the

disruption management phases identified when analyzing the three frameworks in the literature review, namely pre-, during- and post-disruption. The discussion guide that steered the interviews during data collection was also structured in this manner, with participants asked to comment on the relational factors that strengthened and weakened their relationship within each of the disruption management phases. Using this format the researchers poses to fulfil the study's purpose and provide clear answers to its research questions.

The findings are reported on, discussed and finally related back to the literature after each subtheme, however, in reality, most of these factors are mutually supporting and naturally overlapping. A monistic outlook on the literature is taken, where this study seeks to add to relational factors within the existing disruption literature, by borrowing factors inductively from buyer-supplier relationship literature and deductively from the participants who then stated whether the factors strengthened or weakened their relationships. No meaningful

Table 3. Factors strengthening the buyer-supplier relationship

Source: Authors' compilation.

Phase	Relational factors	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B12	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	
Before-disruption	Strategic focus	X	-	X	-	X	-	X	X	X	X	X	X	-	-	-	X	X	X	X	X	X	-	
	Historic relationship	X	-	X	-	-	-	-	-	X	X	X	X	X	X	X	-	X	-	X	X	X	-	
	Mutual business understanding	-	X	X	-	-	-	-	-	X	X	-	X	-	X	X	X	X	-	X	-	X	X	
	Proactive management	-	-	-	-	X	X	X	-	-	X	X	-	X	-	X	X	-	-	X	X	X	X	
During-disruption	Communication	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
	Problem solving ability	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	X	X	X
	Collaboration	X	X	X	-	X	-	X	X	X	X	X	X	X	X	X	-	X	X	X	X	X	X	X
	Good business ethics	X	-	X	X	X	X	X	-	X	X	X	X	X	X	X	X	X	X	X	X	-	X	X
	Physical presence	X	X	X	X	X	-	X	-	X	X	-	X	X	X	X	X	X	X	X	-	X	X	X
	Individual	X	X	X	-	X	-	X	-	X	X	X	X	X	-	X	X	X	X	-	X	X	X	X
	Introspective focus	X	X	-	-	-	X	X	X	X	X	-	X	X	X	X	X	X	X	-	X	X	X	X
	Responsiveness	X	-	-	X	X	X	-	X		X	X	-	X	-	X	X	X	X	X	X	X	X	X
	Transparency	X	X	-	-	-	X	-	X		X	X	X		X	X	X	X	X	X	X	-	X	X
	Commitment	X	X	-	X	X	X	X			X	X	X	X		X	X	-	-	X	-	-	X	
	Absence of monetary focus	X	-	-	-	-	X	X	X	X		X	-	-	-	-	-	X	X	X	-	-	X	
	Trust	X	-	-	-	-	-	-	-	-	X	X	-	-	X	X	X	X	-	X	-	X	X	
After-disruption	Learning	X	-	-	-	X	-	-	-	X	X	-	X	-	-	X	-	X	X	X	X	X	-	
	Monitor and follow-up	X	-	-	-	X	-	X	-	-	X	-	-	-	X	-	X	-	-	-	-	X	-	

differences were found between relational factors mentioned by 3PLs and clients and therefore the following discussion will not compare the views of buyers and suppliers, but rather provide a combined overview of reality.

3.1. Factors that strengthen buyer-supplier relationships

This study identified 18 relational factors that need to be taken into account and practised in order to strengthen relationships during times of disruption, as illustrated in Table 3.

3.1.1. Pre-disruption phase

The pre-disruption phase entails all the relational factors that should be in place before the actual disruption struck. If these factors are present, the participants reported that it would strengthen the relational bond between the organizations before they have started to respond to disruptions, effectively making these factors antecedents of maintaining good buyer-supplier relationships during disruptions. The first factor to be discussed is strategic focus. This entails organizations that practice strategic communication centred on establishing communication channels between each other not only on the operational level, but also on a strategic level. These organizations do not only plan together for next week's activities, but they also sit together and align long-term goals that will benefit both of them. Thus, for organizations to have a strategic focus is for them to continually see disruptions from a long term perspective, making investments to avoid or to manage them better, not residing only to a short-term relief operation.

“And they tend to take a longer term view and not a shorter term view, so if they give you feedback, they give you feedback on the now, but they'll also tell you this is the solution that they would suggest to get the ball rolling now, but the long-term solution looks like that, you know and that is basically where we should gear ourselves to go. So that for me is also something nice, so, of SC7”.
(B8, female, imports manager).

Having a healthy prior relationship plays a key role in sustaining the buyer-supplier relationship when disruptions occur. Participants reported

that it will lessen the influence of disruptions as the two organizations have walked the path of difficulties together in the past, developing a bond of trust, reputation and reliance that is not easily broken by disruptions. This is illustrated by the words of S8:

“But you don't build the relationship in time of crises, you build the relationship before that and you have to build that strong relationship so that when something goes wrong that relationship is in place and within the framework of the relationship you work together to actually solve the problem”.

(S8, male, senior director).

In conjunction with having a healthy prior relationship, the participants emphasized that there should be a mutual business understanding to be able to successfully steer through disruptions. In most cases, the supplier of logistics services should have some experience or insights into their client's industry. This is either through individuals that were actually working there or by it being one of the supplier organization's special focus areas. Additionally, when each of the two organizations comprehend important features of the other's operating model and unique challenges, they are likely to know where disruptions can occur and what their potential impact can be on the other organization. This mutual business understanding is clearly demonstrated by the following quote:

“Its an understanding of both entities in understanding the uniqueness around clothing and the clothing and footwear codes and duties structures and what they try and look for. So I think, it's a two way street”.

(B6B, male, managing director).

Lastly, a proactive management approach towards disruptions has a positive effect on the relationship between buyers and suppliers. This approach contains all the preventative measures taken by organizations so that the disruptions are avoided, otherwise known as risk management. The buyers emphasized that they would rather want a disruption to not occur at all than to be successfully managed by suppliers. They value and appreciate all the measures taken by the other organizations as the impact of a disruption far outweighs the

cost and effort of avoiding it. In this study, most of the 3PLs are aware of this strengthening factor of their relationship as seen in the quote by S6:

“Okay what can we do to mitigate it in the future. They will start working on preventative ways to, to and, and hopefully that works. And so you start pre-planning and then you start, prevention is better than cure, so we do that as well”.
(S6, male, sales director).

The factors identified within the subtheme relate back to existing disruption literature in the following ways: firstly, a strategic focus is in line with Fleming (2014, p. 182) who stated that strong relationships exist when all the interactions between organizations are viewed on a strategic level. This factor is also present in disruption literature where Scholten and Schilder (2015, p. 480) align goal coherence and strategic focus with collaboration during disruptions. Secondly, the prior relationship is identified by Fleming (2014, p. 62) who argued that strong relationships among business partners are developed because of the past performance of suppliers. Disruption literature confirmed this statement with Scholten and Schilder (2015, p. 482) reporting that the longer organizations have been working together, the more resilient they become to incoming disruptions. Thirdly, although the business understanding of both buyer and suppliers is confirmed to be present in strong supply chain relationships in Çerri (2012, p. 78), it is nonetheless new to disruption literature. Having a mutual business understanding expands the body of knowledge by stressing the importance of buyers realizing the daily challenges and functions of their suppliers and vice versa. Finally, Scholten and Schilder (2015, p. 472) acknowledged that being proactive about disruptions is part of supply chain resilience which in turn strengthens the relationships. This study’s finding is therefore in line with existing literature with regards to the contribution of risk management to buyer-supplier relationships during disruptions.

3.1.2. During-disruption phase

Standing paramount in responding to disruptions is communication. In this study, communication and general information sharing are aligned to each other and describe the same factor. The par-

ticipants accentuated that communicating on an operational level regarding the progress of resolving disruptions is critical. Buyers do not want to be left in the dark about a disruption that impacts them directly. Thus, organizations should take care to communicate frequently and accurately to all the parties involved. The suppliers also mentioned that they value the fact that buyers actually communicate their concerns regarding service levels or malperformance. It is extremely bad to remain quiet and switch to another logistics service provider without stating your issues with the current one. This critical factor of communication in all its forms and shapes are summarized by S7:

“I think all I can say is, to manage any disruption, communication is key”.
(S7, female, transport manager).

The ability to solve the actual problem is imperative to good relationships. This problem solving ability entails getting to the root cause of disruptions and focusing on resolving it entirely is a necessary skill if an organization is to strengthen relationships during disruptions. To solve problems effectively, organizations should be solution orientated as well. They should possess the ability to not only get to a solution, but also to formulate one that will satisfy the client the best. This factor includes the ability of actually solving the disruption. B1 highlights how their supplier possessed this ability:

“... they came to us and they said “you know, this is what we need to do, we understand and we realize the extent of the problem, so they, they actually came to us with a solution which was good”.
(B1, male, supply chain executive).

Collaboration is essential to good relationships as already portrayed in this study’s literature review. It involves working together and making dyadic efforts among buyers and suppliers. The participants added that when the two organizations plan together and take a “we” not “us and them” approach when dealing with disruptions, it further enhances their relationship. This means that they are an inseparable partnership with communal rather than individual goals. This is explained by B10A:

“We are actually taking a more partnership understanding and seeing this through strategic goals together, so we are not just having a look at the two different companies, we are actually looking at it as the same issue and not working in silos, we want to work together”.

(B10A, female, strategic sourcing manager).

The demonstration of good business ethics, which can take many shapes and sizes, is found to be important to practice. Taking responsibility for your actions and not assigning blame to the other party strengthens relationships. Giving the organization that is guilty for causing the disruption the opportunity to rectify their errors goes hand in hand with this. Benevolence, demonstrated when the one party helps the other without being obligated to do so, naturally contributes as well. The last major contributor was found to be when the one organization showed real concern when the disruption was of such a nature that injuries or fatalities occurred. Additional ethics that participants mentioned to a lesser degree are honesty, respect and reciprocity. Taking responsibility is illustrated by S1 when asked how they responded to disruptions:

“and putting your hand up and saying “listen, we, we’ve dropped the ball on this, we’re not going to be delivering in this area because, you know, the truck broke down” or whatever it is”

(S1, female, supply chain manager).

To have a physical presence when managing disruptions between buyers and suppliers is important to the participants. They want suppliers to actively resolve the issue on-site and not from a desk in another town. This includes having joint meetings where both parties meet each other to argue and discuss the road ahead. Face-to-face contact is key as both the 3PLs and clients claimed that the importance of emotional, personal involvement in contact sessions enhances understanding and conflict resolution. A well-suited representative in the form of an on-site manager or a designated contact person from suppliers is good for the relationship as it helps to address problems and speed up communication. This is due to the accessibility gained by buyers to communicate and interact with the suppliers on demand. A quote by B9 highlights the effectiveness of all parties being

physically present with face to face, joint meetings to respond to disruptions:

“My supply chain executive was contacted and the parties involved, the week after that we had a proper sit down for about four and a half hours to five hours were all of us actually came down to a table and said listen here this is the issues, this is what we need to have a look at”.

(B9, male, distribution manager).

Good customer service always comes down to the attitude and aptitude of individuals in an organization. The individual in charge of managing the disruption can influence the business relationship positively in many ways. Participants confirmed that ultimately it is not buyers dealing with suppliers, but rather people dealing with people. If the individual is professional in his business affairs, knowledgeable in his field and competent in resolving disruptions, then it was found that the organizations’ relationships were maintained. S6 demonstrated this when asked about their response to a disruption:

“We mobilize our network and our skill and our people”.

(S6, male, sales director).

Additionally, it is important for practitioners to have an introspective focus when dealing with disruptions by considering their own organization and people for possible causes thereof. Participants mentioned that buyers should do their own internal investigations whenever disruptions occur as they might have materialized because of themselves and not the supplier. Doing internal improvements to better facilitate the responsible organisation’s recovery effort is valued. This includes the realisation that you might be the reason for the other organization’s slow progress. B9 comments on how they improved data integrity issues internally before they could expect the 3PL to deliver satisfactory service:

“But yet again in this exercise we saw that listen here, we also need to do some homework. Instead of just blaming them, how do you make their life easier to eventually make both worlds’ lives easier”.

(B9, male, distribution manager).

An important relational factor that contributes to the successful management of a disruption and the consequential improvement of the buyer-supplier relationship is the supplier's responsiveness. The financial impact of disruptions that takes a long time to be resolved is enormous. Buyers can't afford a sluggish response by suppliers and therefore require a 3PL that emphasize urgency and quality in dealing with disruptions. This required responsiveness is praised by B5 when he commented on the response of the 3PL when their outsourced drivers began to strike:

"... and they could actually quite quickly solve the root cause of the problem, identify what the concern was and get to an agreement with them and with the drivers on how to resolve it".
(B5, male, national logistics manager).

Being transparent about the disruption was found to be important. This necessitates suppliers to be open and honest about the problems and progress experienced throughout these difficult times. They should give the client the needed visibility to feel involved and up to date so that they can either help with the disruption or make informed decisions regarding it. This is clearly described by B6A:

"But they need to tell us, this is what is happening this morning. Even if nothing happened. Even if they say look we are still waiting for customs providing this container".
(B6A, male, logistics administrative manager).

When the suppliers demonstrate commitment to resolve disruptions, it was found to further strengthen the relationship with buyers. Commitment relates to the complete and genuine intent of 3PLs to provide a service or solve an issue with their clients. B7 illustrates this when he praised the overall great effort of his supplier following a truck accident that took place:

"... also how quickly they managed to get a representative there who was in a position to actually make a call on what needs to happen. So they got a second vehicle there, they got crane, a mobile crane there to move the part., get it onto a vehicle, and get it to the facility for inspection. I honestly think that they did really manage the incident really well".
(B7, male, dealer services manager).

Not only is the financial impact of disruptions, due to the temporary stoppage of goods or services, enormous for the buyers of logistics services, but the actual cost of resolving disruptions is also a burden for suppliers. Given the low profit margins of the 3PL industry, most of them do not want to incur unnecessary costs, but will rather look for the cheapest way out. Thus, the researchers identified that the relationship is strengthened when the parties involved, especially the suppliers, demonstrates an absence of monetary focus when resolving a disruption. This includes the willingness to absorb financial losses or share financial burdens with each other. This is indicated by B8 when she elaborates on how their supplier does not initially focus on the cost implication of resolving the disruption:

"You know without saying ok we (SC7) first need to work out the cost. So they will first help you now and maybe if there's a cost impact they will come to us later. But usually that's not their, you know their first focus".
(B8, female, imports manager).

The final relational factor present during the disruption that will strengthen buyer-supplier relationships is trust. Having and building trust with the other organization while dealing with the disruption is important, especially from a supplier perspective. It is important that the buyer trusts suppliers to deal with it effectively. Trust is gained by the presence of various of the factors already mentioned, however, this study did not propose to trace the descendant factors of trust. The participants illustrated this, as in the words of S2 when she stated that after successfully managing disruptions, over time trust was built:

"You build confidence and trust in each other, and that then sort of defines the partnership".
(S2, female, strategic client lead).

Comparing strengthening factors within the during-disruption subtheme systematically with disruption literature gave rise to various implications. First of all, the sharing of information, and communicating collaboratively when disruptions occur was ascribed to successful buyer-supplier relationships (Scholten & Schilder, 2015, p. 478). The identification of communication as a factor is therefore

not new to the literature of disruptions. Problem solving ability is not new to buyer-supplier relationship literature as Fleming (2014, p. 60) argued that productive problem solving was evident in good relationships. It is however new to relationship literature in the context of supply chain disruptions. This may be because most literature did not investigate whether the disruption was actually resolved and whether the buyer was satisfied about it. In their study about collaboration in supply chain resilience, Scholten and Schilder (2015, p. 474) made their case by summarizing existing literature and have shown existing impact of collaboration on responsiveness and disruption mitigation. Hence, the advantages of collaboration during supply chain disruptions were found in the existing literature. The factor of practicing good business ethics and taking responsibility is not new to the disruption literature. Porterfield et al. (2012, p. 412) found that the ability for suppliers to take the blame or responsibility for errors improved the relationship between the parties involved. Additionally, the demonstration of benevolence also advanced the relationship. The literature indicated that to be physically present in the form of face-to-face contact is especially important to resolve disruptions quickly and is a general antecedent to other forms of communication such as emails (Scholten & Schilder, 2015, p. 478). Additionally, Çerri (2012, p. 86) argued that effective representatives who are focused on building relationships and trust with their respective clients influenced the buyer-supplier relationship positively.

With regard to the individuals as relational factors, the interpersonal interface that includes commitment and professionalism among suppliers' staff members have been found in previous disruption literature to advance the relationship and is therefore not new (Porterfield et al., 2012, p. 411; Ulaga & Eggert, 2005, p. 80). Having an introspective focus is new to existing disruption literature. No studies could be found that address the introspective focus of both suppliers and buyers during times of disruption. This finding implies that organizations have begun to understand the need of self-assessment before assigning blame to outside parties.

One of the numerous interorganizational success factors identified by Krathu et al. (2015, p. 566) was a supplier's ability to respond quickly to buy-

er demands. Aligning the responsiveness factor to disruption literature, Porterfield et al. (2012, p. 419) identified that a supplier's responsiveness during disruptions is associated with relational outcomes. This study therefore agrees with both buyer-supplier literature and disruption literature. Transparency was highlighted by Scholten and Schilder (2015, p. 480), as they argued that visibility into the end to end spectrum of a disruption, implying that every member should be transparent about information relevant to the disruption, is a necessity for healthy relationships.

Commitment as a relational factor has been mentioned by Chen et al. (2011, p. 263) where they described it as the belief of an organization in the profitability of an ongoing buyer-supplier relationship that they are willing to commit maximum effort in its maintenance. Porterfield et al. (2012, p. 413) confirm the importance of this factor during times of disruptions. The absence of a monetary focus by suppliers of logistics services was mentioned by Porterfield et al. (2012, p. 414). This study subsequently adds to the literature by identifying it as a strengthening factor, effectively expanding on their work. Lastly, trust is regarded as one of the cornerstones of healthy buyer-supplier relationships and it is present when one organization is willing to rely on another organization's integrity (Chen et al., 2011, p. 263). Porterfield et al. (2012, p. 421) did mention that customers, or buyers, are concerned about the relational outcome of trust after a disruption. This study supports the existing literature as it identifies the increase of trust during disruptions is due to the positive perception created in presence of other strengthening factors during the disruption (Grönroos, 2011, p. 242).

3.1.3. Post-disruption phase

After the disruption took place, there are two areas that will positively affect relationships, but to a lesser degree than those already mentioned. Firstly, the element of learning, where the parties involved review what happened and compile procedures to be better prepared to deal with the disruption next time it materialises. Secondly, monitoring and follow-up was cited by participants to consist of informing the client on whether there are additional issues after the disruption has been

resolved, as well as communicating whether the disruption might occur again. Both of these post disruption factors are present in disruption literature (Porterfield et al., 2012, p. 414). Additionally, it appears to tie back to the proactive management factor before a disruption. There is therefore the possibility that the relational factors found pre- and post-disruptions are part of a cycle where the one ties into the other. This finding is in line with the disruption management frameworks unpacked in the literature review, where Behdani (2013, pp. 34, 82) also supports the notion that disruption management is a cyclical, dynamic process.

In summary, the frequency and scope of the relational factors found during disruptions are a clear indication that it is possible for 3PLs to encounter a disruption with a client and still have a stronger relationship, if they incorporate these factors in the management thereof.

3.2. Factors that weaken buyer-supplier relationships

The researchers identified 11 factors that weaken relational outcomes in the management of disruptions. These factors are summarized in Table 4.

3.2.1. Pre-disruption phase

The first factor that plays a weakening role when present before disruptions is common business problems. These problems consist of multiple roots which surfaced during the interviews with participants. Each one of them were mentioned to a lesser degree than all the other factors portrayed in Table 4 and therefore warranted their consolidation. The first root is the integration of systems and processes across buyers and suppliers. Some parties commented on data integration and corruption problems as well, while others had process and system integration issues. Suppliers also stated that impossible expectations were set by some of the buyers, which led to the deterioration of the relationship. These business problems also include misaligned strategies and a general attitude of reactive rather than proactive measures. The latter can be seen in the following quote by B7 after being asked why the relationship was worse:

“Just in that there was a critical issue, and even though they reacted really well to it, it’s something that should’ve been avoided”.

(B7, male, dealer services manager).

The preceding relationship could contribute to the weakening of the relationship before a disruption

Table 4. Factors weakening the buyer-supplier relationship

Source: Authors’ compilation.

Phase	Relational factors	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B12	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	
Pre-disruption	Common business problems	X	-	X	-	X	-	X	-	-	X	X	X	X	-	X	X	-	X	X	-	X	X	
	Bad or lack of prior relationship	-	-	X	-	-	-	-	-	-	-	-	-	-	-	X	-	X	-	-	-	X	-	
	Lack of business understanding	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	
During-disruption	Individuals involved	X	X	X	X	X	X	X	X	X	X	X	X	X	-	X	X	X	X	X	X	X	X	
	Lack of communication	X	X	-	X	X	X	X	X	X	X	X	-	X	-	X	X	X	X	X	-	X	X	
	Inadequate response	X	-	X	X	X	-	X	X	X	-	X	X	X	X	X	-	X	X	X	X	X	X	
	Disruption occurrence & detection	X	-	X	-	X	-	X	-	X	X	X	-	X	X	X	X	X	-	-	X	X	X	
	Lack of collaboration	-	-	-	-	X	X	-	X	X	X	-	X	-	X	X	X	-	-	X	-	X	X	
	Monetary focus	-	-	X	X	-	-	-	-	-	-	X	X	X	-	X	X	X	X	-	-	X	-	X
	Lack of trust	-	X	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	X	-	-	X	X	
Post-disruption	Absence of learning	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	
	Defective outcome	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

as well. If the buyer and supplier had a new, unhealthy or problem ridden relationship beforehand a disruption can propel it even more downward. It is therefore critical that organizations seek good relationships with their long-term partners as the management of a disruption depends on it. S6 emphasized this when they experienced a disruption with a new client and how difficult it was to restore the relationship:

“so a lot depends on where you are in the relationship. If you are in the beginning of the relationship, it is very sensitive, right very sensitive. Almost impossible”.

(S6, male, sales director).

Having a lack of understanding of each other's business proved ominous as soon as the relationship came under strain from the disruption. Participants were adamant that suppliers should understand the industry and business challenges of their buyers, while buyers should understand the constraints and processes of logistics service providers. Lacking this mutual understanding gives rise to impossible expectations, conflicts and frustrations that hinders relationships. S9 provides transportation services to a retailer and confirms this isolated view as an issue:

“Because their world is the four walls that's around them. They don't understand the industry, they don't want to listen to what's happening. They believe that it's a perfect world and their parcel will arrive in the perfect time. So anything out of that you, the transporter is to blame”.

(S9, male, operations director).

The weakening factors found under the subtheme pre-disruption are all new to disruption literature. Firstly, common business problems are related. Even though the presence of integration, a strategic focus and proactive management has already been confirmed to strengthen relationships in the literature, the finding that the absence thereof strains the relationship within a disruption context is new. This therefore expands disruption literature in a buyer-supplier context and warrants further investigation. Secondly, a bad or young prior relationship was not found in the investigated literature to be adversely impacted by disruptions. Lastly, the ignorance of buyers and suppli-

ers to not grow their understanding of each other's businesses and the subsequent impact that has on their relationship during disruptions are novel to the literature.

3.2.2. During-disruption phase

Several factors present during the disruption have been identified to cause negative effects on the relationship. The individuals involved in handling it being foremost, as summarized by S6:

“I think a lot of it depends on the individuals that are dealing with the issues”.

(S6, male, sales director).

This is especially so when individuals are incompetent, make false promises of delivery and let their personality get in the way by taking business problems personally. Most importantly, handling conflict situations in an unprofessional way, which includes shouting and namecalling, strains the personal and buyer-supplier relationship between the two parties. There are numerous issues when individuals across the participating organizations deal with each other, and these issues have a broader impact than realized, as seen when S10 was asked to comment on what strained the relationship the most:

“So that's probably the single biggest impact on, if I look at it from a straining a relationship towards our side is occasionally how some of their operational staff speak to some of our operational staff”.

(S10, male, divisional executive).

The lack of communication proved to be another prominent factor. Relationships can't exist or grow if there is no communication between the buyer and supplier. The participants also highlighted that not only is the absence of communication a concern, but also the way in which staff communicate to each other. This includes sharing the right information, in the right manner, in the right quantity to the right person. The seriousness of not communicating is well emphasized by S8:

“Not communicate. The biggest, biggest, biggest problem”.

(S8, male, senior director).

An inadequate response comprises of various actions such as a period of blame assignment, inactivity, a lack of dyadic efforts to rectify the situation, and ultimately a lack of urgency to deal with disruptions. Assigning blame frequently emerged during the interviews as participants highlighted how the other organizations tried to shift attention away from themselves by giving excuses for their faults or by blaming the inputs received by others. Thus, when parties do not take responsibility and immediately share full and truthful information about the disruption, the relationship is harmed. After being asked what could have weakened the relationship with their logistics provider dramatically, B12 mentioned:

"I think if their driver tried to cover up ... that something happened. That would've really irritated us, and would've strained the relationship a lot more".

(B12, male, supply chain manager).

Although disruptions are at times outside of anybody's control, the fact that it really occurred had a weakening effect on most relationships. The default response to any unplanned for event is observed to be negative, in some cases more than others. This was made worse if the supplier who was perceived to be responsible for managing the disruption did not detect the occurrence, but the buyer did. Moreover, this occurrence and late detection of disruptions were worsened if the cause of the disruption was due to an error by the supplier. A level of frustration and disappointment from the buyers was observed, as realized by S10:

"... so whenever you make a mistake that always puts strain on the relationship especially if it's something that's preventative".

(S10, male, divisional executive).

Negative relational outcomes can also be expected when there is a lack of collaboration. This includes when the management efforts do not seek to benefit both organizations, but rather focus on promoting and helping themselves to the detriment of the other organization, otherwise known as opportunism. A selfish and self-interest attitude among organizations promoted an inadequate commitment to resolve the disruption effectively. This subsequently led to a sub-standard view

of supply chain disruptions which is problematic for supply chain partners. S3 demonstrated this by not allowing the buyer to interfere with the management of a disruption that occurred in the buyer's warehouse:

"The action plan is from my side, it's not from the clients side, so it's mine. Although it's their building it's my warehouse".

(S3, male, operations manager).

Money is a very sensitive topic during disruptions, especially because of the fact that the impact thereof on buyers far outweighs the cost incurred by suppliers to restore it back to normal. An excessive focus on the cost of managing the disruption by suppliers given preference above the quick resolution thereof weakens the relationship. Participants also highlighted that conflict does occur when discussions over the party responsible to bear the financial burden of the disruption takes place. This overemphasis on the monetary value to resolve disruptions was highlighted by B3, when their supplier would rather opt for a cheaper but lengthier solution:

"They wanted to go the cheapest route ... we were not interested".

(B3, male, logistics representative).

Largely, due to the presence of the weakening factors discussed, participants experienced a decline of trust in the other organization's abilities, which was increased by successive failures to handle disruptions. Even though the lack of trust seems to exist because of the accumulation of other weakening factors, only a small amount of buyers and suppliers mentioned the direct importance of it. Evidence of this relationship among factors is illustrated by B2:

"It is because you trust that person and you just lose a little bit of trust, because they maybe did not communicate to the right people and you asked them to. But you I think that is the worst, it's just to loss in trust".

(B2, female, transport services manager).

Relating the during-disruption subtheme back to disruption literature begins with the individuals. Porterfield et al. (2012, p. 412) found that

the absence of honesty by supplier personnel had a devastating effect on how buyers incorporated them into decision making. However, other factors such as taking business personally and handling conflict situations in an unprofessional way are new. Thus, this study builds on the findings of Porterfield et al. (2012, pp. 399-427). None of the disruption literature most relevant to this study's topic has highlighted the absence of communication as a weakening factor; however, Macdonald and Corsi (2013, p. 270) described poor communication as one of the main causes of disruptions. This factor therefore builds on these findings by finding that it also leads to a weakened relationship. Porterfield et al. (2012, p. 412) again confirm the assignment of blame and the lack of urgency as weakening factors amongst the organizations involved in a disruption. Thus, an inadequate response is not new to disruption literature. The actual occurrence of disruptions and the late or lack of detection factor is new to disruption literature as factors that influence supply chain relationships in a negative way.

Nyaga et al. (2010, p. 103) identified that the presence of opportunism, or the lack of collaboration, deteriorates the value of a buyer-supplier relationship. This is confirmed by Ro, Su, and Chen (2016, p. 7) who studied the impact of disruptions on inter alia excepted opportunism between buyers and suppliers. The overemphasis of money by suppliers during the management of disruptions is confirmed to be a weakening factor when they take advantage of disruptions for personal gain (Porterfield et al., 2012, p. 411). However, this study builds on Porterfield et al. (2012, p. 411) as it is here viewed from the perspective of cost to resolve the disruption, rather than seeking per-

sonal gain. The absence of trust is naturally a red light for any buyer-supplier relationship and is usually a symptom of deep rooted causes to problems (Çerri, 2012, p. 79). The effect of a weak disruption recovery effort has been sited to negatively impact supplier credibility and trust with buyers (Porterfield et al., 2012, p. 417).

3.2.3. Post-disruption phase

The data showed that only a couple of participants mentioned the absence of learning and failed outcomes as factors that have a negative influence on buyer-supplier relationships. This can be interpreted that factors weakening relationships are predominantly present before and during the management of the disruption rather than what happens afterwards.

Finally, this study found that the personal relationship among individuals from the buyers and suppliers of logistics services appears to have a moderating effect on the relationships between the organizations involved in the disruption. The influence of personal relationships upon business relationships is well known in the literature (Çerri, 2012, p. 78). When pressed about the relationship that existed between the participants the majority commented that a healthy and personal connection with the other individual made disruption management easier, faster and more effective, than if the two parties did not know each other at all, highlighting the need for further investigation. S11 stated this influence of a personal relationship on the management of disruptions:

“So with the personal relationship, it allows you to speed up that process”.

(S11, male, branch manager)

CONCLUSION

Summary and theoretical implications

The purpose of this study was to identify the relational factors between buyers and suppliers of logistics services that will affect their relationship during times of disruptions. The research questions guided the study to explore both strengthening and weakening relational factors. Noting that this study's focus was on relationships during times of disruption and not on relationships in their normal state, the factors added to the literature are not new across other relationship disciplines, but adds to the literature of buyer-supplier relationships within a disruption context.

This study presents a contribution to disruption literature by reviewing which factors agree, builds upon and adds to it, respectively. The participants mentioned the importance of having a strategic focus, a healthy prior relationship, proactive management, communication, collaboration, good business ethics, physical presence, competent individuals, responsiveness, transparency, commitment, monitoring and follow-up, and learning in order to strengthen relationships. Factors weakening relationships present in disruption literature includes an inadequate response, the absence of collaboration and a lack of trust. Building upon disruption literature, this study expands on the absence of a monetary focus and the presence of trust as strengthening factors and incompetent individuals involved, an overemphasis on money and a lack of communication as weakening factors.

New to disruption literature, this study identified that a mutual business understanding, problem solving ability and having an introspective focus will strengthen relationships. Due to the gap within current disruption literature on weakening relational factors, this study found common business problems, a bad or lack of a historic relationship, no mutual business understanding, no communication and the disruption's occurrence and late detection, as factors closing that gap. It was also found that positive relational outcomes were mentioned more often and could indicate the relative importance thereof to negative relational outcomes, which supports findings by Ulaga and Eggert (2005, p. 88). The effect and influence of personal relationships on disruption management was identified as a possible moderating variable, which has the potential to dramatically improve an organization's relationship regardless of the relational factors present. This study marginally opposes other buyer-supplier relationship literature as trust was not found to be as vital (Çerri, 2012, p. 74), because the practitioners involved in this study did not mention it during the interviews to such a degree as depicted in the existing literature. This may be due to the fact that they reasoned trust was implied if the other strengthening factors were present, as argued by (Grönroos, 2011, p. 242).

Managerial implications

Practitioners gain insight into actions that sustain a healthy relationship during disruptions and know what actions or factors to avoid so that the relationship will not be strained. Critical factors to take into account during disruptions are those that have both a strengthening effect in its presence and a weakening effect in its absence. These critical factors that they should cultivate are: a mutual business understanding, a healthy prior relationship, proactive management, communication, competent individuals, quick responses, collaboration, the absence of a monetary focus and trust. It is recommended that managers prioritize these and ensure they are practiced before moving to the other relational factors found in this study. Subsequently, personnel who are dealing with disruptions can be informed about the correct ways to manage disruptions so that the desired relational outcomes might be achieved in their respective contexts and organizations. Practitioners gain additional value from the study's findings in terms of the potentiality of interdependencies that may exist among factors, and identified antecedents that consist of all the pre-disruption factors. The achievement of one factor hinge on the performance of another, therefore the practitioners know now for instance that trust and collaboration are not gained easily, but depend on the presence of the majority of factors identified. Lastly, the realization of a cyclical flow of the relational factors within disruption management highlights the importance for managers to be continually engaged in the development of their buyer-supplier relationship and not only when a disruption strikes as the time before and after disruptions do play an integral part in what the relational outcome will be.

Limitations and future research

This study has several limitations. The first limitation is that the sample size of 22 interviews is limited and therefore the findings cannot be generalized across all buyers and suppliers of logistics services. Future research should therefore test these strengthening and weakening relational factors quantita-

tively, particularly their degree of impact when managing disruptions. An investigation into other industries, as well as within other developing countries, will test whether this study is transferrable. The study is limited in capacity, and therefore it cannot investigate the effect of personal relationships as a mediating factor. Therefore, future research should investigate the moderating effect that the personal relationship between the individuals handling the disruption can have on the business relationship. Additionally, this study highlights the need for further research to investigate the exact interdependencies of the factors that leads to the increase or depreciation of trust during disruptions as it is non-existent in disruption literature. In conclusion, this study focused on buyer-supplier relationships and could only provide insights from that perspective. Future research could provide an in-depth analysis in supply chain disruption management to identify best practices in each phase of the management process.

REFERENCES

- Behdani, B., Adhitya, A., Lukszo, Z., & Srinivasan, R. (2012). *How to handle disruptions in supply chains: an integrated framework and a review of literature*. Retrieved from http://s3.amazonaws.com/academia.edu.documents/31407656/Behdani_How_to_handle_SC_disruption.pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL3A&Expires=1495193716&Signature=DdvNpFMbdlmXUMHP1TF9nzWD9Gg%3D&response-content-disposition=inline%3B%20filename%3DHow_to_Handle_Disruptions_in_Supply_Chai.pdf
- Behdani, B. (2013). *Handling disruptions in supply chains: an integrated framework and an agent-based model* (Doctoral dissertation). Retrieved from TU Delft repository. <https://doi.org/10.4233/uuid:6f5e8db3-c1b7-4b2d-8035-3ae37a617564>
- Blackhurst, J., Craighead, C. W., Elkins, D., & Handfield, R. B. (2005). An empirically derived agenda of critical research issues for managing supply-chain disruptions. *International Journal of Production Research*, 43(19), 4067-4081. <http://dx.doi.org/10.1080/00207540500151549>
- Bode, C., & Wagner, S. M. (2015). Structural drivers of upstream supply chain complexity and the frequency of supply chain disruptions. *Journal of Operations Management*, 36, 215-228. <https://doi.org/10.1016/j.jom.2014.12.004>
- Bode, C., Wagner, S. M., Petersen, K. J., & Ellram, L. M. (2011). Understanding responses to supply chain disruptions: Insights from information processing and resource dependence perspectives. *Academy of Management Journal*, 54(4), 833-856. <https://doi.org/10.5465/AMJ.2011.64870145>
- Bowersox, D. J., Closs, D. J., & Stank, T. P. (2003). How to master cross-enterprise collaboration. *Supply Chain Management Review*, 7(4), 18-27.
- Bowman, J. (2015). *Strategies for mitigating supply chain disruptions* (Doctoral dissertation). Retrieved from <https://scholarworks.waldenu.edu/cgi/viewcontent.cgi?referer=https://scholar.google.co.za/&httpsredir=1&article=2939&context=dissertations>
- Braun, V., & Clarke, V. (2012). Thematic analysis. In H. Cooper (Ed.), *APA handbook of research methods in psychology: Volume 2 Research designs*. Washington, DC: American Psychological Association.
- Bui, T., Cho, S., Sankaran, S., & Sovereign, M. (2000). A framework for designing a global information network for multinational humanitarian assistance/disaster relief. *Information Systems Frontiers*, 1(4), 427-442. <https://doi.org/10.1023/A:1010074210709>
- Cao, M., Vonderembse, M. A., Zhang, Q., & Ragu-Nathan, T. (2010). Supply chain collaboration: conceptualisation and instrument development. *International Journal of Production Research*, 48(22), 6613-6635.
- Çerri, S. (2012). Exploring factor affecting trust and relationship quality in a supply chain context. *Journal of Business Studies Quarterly*, 4(1), 74-90.
- Chang, W., Ellinger, A. E., & Blackhurst, J. (2015). A contextual approach to supply chain risk mitigation. *The International Journal of Logistics Management*, 26(3), 642-656. <http://dx.doi.org/10.1108/IJLM-02-2014-0026>
- Chen, J. V., Yen, D. C., Rajkumar, T., & Tomochko, N. A. (2011). The antecedent factors on trust and commitment in supply chain relationships. *Computer Standards & Interfaces*, 33(3), 262-270. <https://doi.org/10.1016/j.csi.2010.05.003>
- Chopra, S., & Sodhi, M. S. (2004). Managing risk to avoid supply-chain breakdown. *MIT Sloan Management Review*, 46(1), 53-61.
- Craighead, C. W., Blackhurst, J., Rungtusanatham, M. J., & Handfield, R. B. (2007). The severity of supply chain disruptions: design characteristics and mitigation capabilities. *Decision Sciences*, 38(1), 131-156. <https://doi.org/10.1111/j.1540-5915.2007.00151.x>
- Dani, S., & Deep, A. (2010). Fragile food supply chains: reacting to risks. *International Journal of Logistics: Research and Applications*, 13(5), 395-410.
- Daugherty, P. (2011). Review of logistics and supply chain relationship literature and suggested research agenda. *International Journal*

- of Physical Distribution & Logistics Management, 41(1), 16-31. <http://dx.doi.org/10.1108/09600031111101402>
18. Fawcett, S. E., Fawcett, A. M., Watson, B. J., & Magnan, G. M. (2012). Peeking inside the black box: toward an understanding of supply chain collaboration dynamics. *Journal of Supply Chain Management*, 48(1), 44-72. <https://doi.org/10.1111/j.1745-493X.2011.03241.x>
 19. Fiala, P. (2005). Information sharing in supply chains. *Omega*, 33(5), 419-423. <https://doi.org/10.1016/j.omega.2004.07.006>
 20. Fleming, D. (2014). *Understanding the process of repair in dissolving business to business relationships: an SME perspective* (Doctoral dissertation). Retrieved from <http://repository.wit.ie/2973/>
 21. Golobic, S. L., & Mentzer, J. T. (2006). An empirical examination of relationship magnitude. *Journal of Business Logistics*, 27(1), 81-108. <https://doi.org/10.1002/j.2158-1592.2006.tb00242.x>
 22. Golgeci, I., & Ponomarov, S. Y. (2013). Does firm innovativeness enable effective responses to supply chain disruptions? An empirical study. *Supply Chain Management: An International Journal*, 18(6), 604-617. <http://dx.doi.org/10.1108/SCM-10-2012-0331>
 23. Gounaris, S. P. (2005). Trust and commitment influences on customer retention: insights from business-to-business services. *Journal of Business Research*, 58(2), 126-140. [https://doi.org/10.1016/S0148-2963\(03\)00122-X](https://doi.org/10.1016/S0148-2963(03)00122-X)
 24. Grönroos, C. (2011). A service perspective on business relationships: the value creation, interaction and marketing interface. *Industrial Marketing Management*, 40(2), 240-247. <https://doi.org/10.1016/j.indmarman.2010.06.036>
 25. Hosmer, L. T. (1995). Trust: the connecting link between organizational theory and philosophical ethics. *Academy of Management Review*, 20(2), 379-403. <https://doi.org/10.5465/AMR.1995.9507312923>
 26. Johnson, N., Elliott, D., & Drake, P. (2013). Exploring the role of social capital in facilitating supply chain resilience. *Supply Chain Management: An International Journal*, 18(3), 324-336. <http://dx.doi.org/10.1108/SCM-06-2012-0203>
 27. Jüttner, U., & Maklan, S. (2011). Supply chain resilience in the global financial crisis: an empirical study. *Supply Chain Management: An International Journal*, 16(4), 246-259. <http://dx.doi.org/10.1108/13598541111139062>
 28. Jüttner, U., Peck, H., & Christopher, M. (2003). Supply chain risk management: outlining an agenda for future research. *International Journal of Logistics: Research and Applications*, 6(4), 197-210.
 29. Kahlke, R. M. (2014). Generic qualitative approaches: pitfalls and benefits of methodological mixology. *International Journal of Qualitative Methods*, 13(1), 37-52.
 30. Klibi, W., Martel, A., & Guitouni, A. (2010). The design of robust value-creating supply chain networks: a critical review. *European Journal of Operational Research*, 203(2), 283-293. <https://doi.org/10.1016/j.ejor.2009.06.011>
 31. Krathu, W., Pichler, C., Xiao, G., Werthner, H., Neidhardt, J., Zapletal, M., & Huemer, C. (2015). Inter-organizational success factors: a cause and effect model. *Information Systems and e-Business Management*, 13(3), 553-593. <https://doi.org/10.1007/s10257-014-0258-z>
 32. Kwon, I. G., & Suh, T. (2005). Trust, commitment and relationships in supply chain management: a path analysis. *Supply Chain Management: An International Journal*, 10(1), 26-33. <http://dx.doi.org/10.1108/13598540510578351>
 33. Langley, C. (2012). *Third-party logistics study: the state of logistics outsourcing*. Retrieved from https://www.capgemini.com/resource-file-access/resource/pdf/2013_Third-Party_Logistics_Study.pdf
 34. Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills: Sage.
 35. Macdonald, J. R., & Corsi, T. M. (2013). Supply Chain disruption management: severe events, recovery, and performance. *Journal of Business Logistics*, 34(4), 270-288. <https://doi.org/10.1016/j.jom.2009.07.005>
 36. Mentzer, J. T., Foggin, J. H., & Golobic, S. L. (2000). Collaboration: the enablers, impediments, and benefits. *Supply Chain Management Review*, 4(4), 52-58.
 37. Merriam, S. B. (2009). *Qualitative research: a guide to design and implementation* (2nd ed.). San Francisco, CA: Wiley.
 38. Milne, J., & Oberle, K. (2005). Enhancing rigor in qualitative description. *Journal of Wound Ostomy & Continence Nursing*, 32(6), 413-420.
 39. Myers, M. D. (2013). *Qualitative research in business and management* (2nd ed.). Croydon, UK: Sage.
 40. Nyaga, G. N., Whipple, J. M., & Lynch, D. F. (2010). Examining supply chain relationships: do buyer and supplier perspectives on collaborative relationships differ? *Journal of Operations Management*, 28(2), 101-114. <https://doi.org/10.1111/jbl.12026>
 41. Patton, M. Q. (2015). *Qualitative research & evaluation methods: integrating theory and practice* (4th ed.). Upper Saddle River, NJ: Sage.
 42. Pettit, T. J., Croxton, K. L., & Fiksel, J. (2013). Ensuring supply chain resilience: development and implementation of an assessment tool. *Journal of Business Logistics*, 34(1), 46-76. <https://doi.org/10.1111/jbl.12009>
 43. Polit, D. F., & Beck, C. T. (2012). *Nursing research: generating and assessing evidence for nursing practice* (9th ed.). Philadelphia, PA: Wolters Kluwer Health | Lippincott Williams & Wilkins.
 44. Ponomarov, S. Y., & Holcomb, M. C. (2009). Understanding the concept of supply chain resilience. *International Journal of Logistics Management*, 20(1), 124-143. <http://dx.doi.org/10.1108/09574090910954873>

45. Porterfield, T. E., Macdonald, J. R., & Griffis, S. E. (2012). An exploration of the relational effects of supply chain disruptions. *Transportation Journal*, 51(4), 399-427. <https://doi.org/10.5325/transportationj.51.4.0399>
46. Pyke, D., & Tang, C. S. (2010). How to mitigate product safety risks proactively? Process, challenges and opportunities. *International Journal of Logistics: Research and Applications*, 13(4), 243-256.
47. Qrunfleh, S., & Tarafdar, M. (2013). Lean and agile supply chain strategies and supply chain responsiveness: the role of strategic supplier partnership and postponement. *Supply Chain Management: An International Journal*, 18(6), 571-582. <http://dx.doi.org/10.1108/SCM-01-2013-0015>
48. Richey, G. R. (2009). The supply chain crisis and disaster pyramid: a theoretical framework for understanding preparedness and recovery. *International Journal of Physical Distribution & Logistics Management*, 39(7), 619-628. <http://dx.doi.org/10.1108/09600030910996288>
49. Ro, Y. K., Su, H. C., & Chen, Y. S. (2016). A tale of two perspectives on an impending supply disruption. *Journal of Supply Chain Management*, 52(1), 3-20. <https://doi.org/10.1111/jscm.12100>
50. Rowley, J. (2012). Conducting research interviews. *Management Research Review*, 35(3), 260-271.
51. Scholten, K., & Schilder, S. (2015). The role of collaboration in supply chain resilience. *Supply Chain Management: An International Journal*, 20(4), 471-484. <http://dx.doi.org/10.1108/SCM-11-2014-0386>
52. Scholten, K., Sharkey Scott, P., & Fynes, B. (2014). Mitigation processes: antecedents for building supply chain resilience. *Supply Chain Management: An International Journal*, 19(2), 211-228. <http://dx.doi.org/10.1108/SCM-06-2013-0191>
53. Sheffi, Y. (2015). Preparing for disruptions through early detection. *MIT Sloan Management Review*, 57(1), 31-42.
54. Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22(2), 63-75. <https://doi.org/10.3233/EFI-2004-22201>
55. Skipper, J. B., & Hanna, J. B. (2009). Minimizing supply chain disruption risk through enhanced flexibility. *International Journal of Physical Distribution & Logistics Management*, 39(5), 404-427. <http://dx.doi.org/10.1108/09600030910973742>
56. Svensson, G. (2004). Vulnerability in business relationships: the gap between dependence and trust. *Journal of Business & Industrial Marketing*, 19(7), 469-483. <http://dx.doi.org/10.1108/08858620410564418>
57. Świerczek, A. (2014). The impact of supply chain integration on the "snowball effect" in the transmission of disruptions: an empirical evaluation of the model. *International Journal of Production Economics*, 157, 89-104. <https://doi.org/10.1016/j.ijpe.2013.08.010>
58. Tomlin, B. (2006). On the value of mitigation and contingency strategies for managing supply chain disruption risks. *Management Science*, 52(5), 639-657. <http://dx.doi.org/10.1287/mnsc.1060.0515>
59. Ulaga, W., & Eggert, A. (2005). Relationship value in business markets: the construct and its dimensions. *Journal of Business-to-Business Marketing*, 12(1), 73-99. http://dx.doi.org/10.1300/J033v12n01_04
60. Vidal, D., Fenneteau, H., Paché, G., Johnston, W., & Johnston, W. (2016). Should I stay or should I go? Customers' reactions faced with the deterioration of a business relationship. *Journal of Business & Industrial Marketing*, 31(1), 47-58. <http://dx.doi.org/10.1108/JBIM-06-2014-0124>
61. Wang, Q., Kayande, U., & Jap, S. (2010). The seeds of dissolution: discrepancy and incoherence in buyer-supplier exchange. *Marketing Science*, 29(6), 1109-1124. <http://dx.doi.org/10.1287/mksc.1100.0582>