Creating sustainable food supply networks through brokerage

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Abstract
Recent research suggests that firms can obtain resources to support adoption of sustainable supply chain management (SSCM) practices through their supply network ties. This paper explores the role of brokerage in the exchange of financial and knowledge resources aimed at supporting the adoption of SSCM practices in supply networks. The paper presents a case study of the banana supply network in Costa Rica. We identify brokers in the network and brokerage behaviors. We extend SSCM research by considering a wide range of actors and contribute by uncovering the behaviors and actions that characterize brokerage in supply networks.

Keywords: sustainable supply chain management, supply networks, brokerage

Introduction
Environmental, social and economic outcomes can be improved in supply networks when firms successfully adopt sustainable business practices such as sustainable supply chain management (SSCM) (Seuring and Muller, 2008). SSCM is concerned with the integration of environmental, social and economic goals across a firm's supply management operations (Gimenez et al., 2012). Small and medium sized firms in food supply networks, however, frequently struggle to adopt SSCM practices due to high costs, lack of financial resources and lack of knowledge resources (Collins et al., 2007). Small and medium sized farmers in these networks increasingly experience stagnant revenues combined with constant cost reduction pressures that threaten their economic sustainability and inhibit adoption of SSCM practices (Renting et al., 2003).

Adoption of SSCM is influenced by availability of financial and knowledge resources. Focal firms that lack financial and knowledge resources to adopt SSCM practices often search for these resources outside firm boundaries (Lee and Klassen, 2008). Although SSCM research has examined the exchange of financial and knowledge resources between a focal firm and its direct customers and/or suppliers (e.g. Gimenez and Tachizawa, 2012), there is growing evidence that such resources are also held by organizations to which a focal firm is indirectly connected such as competitors, downstream customers or NGOs (Pagell and Wu, 2009).

A network perspective, which views any system as a set of interrelated actors, is appropriate for considering the exchange of financial and knowledge resources in a supply network formed by a focal firm's ties with direct and indirect suppliers, customers and sustainability-focused actors (Tate et al., 2013; Saunders et al., 2017). This perspective suggests that a focal firm can access financial and knowledge resources through its network ties (Borgatti and Li, 2009).

Brokers coordinate the exchange of resources between other actors that are themselves unconnected or weakly connected, and allow a focal firm to reach organizations to which it is indirectly connected (Burt, 2000). Previous research has considered the impact of brokers in relation to entrepreneurial and innovation-related outcomes in supply networks (Bellamy et al., 2014; Carnovale et al., 2017). Yet despite the mounting evidence that focal firms often require external resources to successfully adopt sustainable business practices and recent suggestions that these resources may be held by supply network actors that are indirectly connected to a focal firm, relatively few studies have considered brokerage in relation to sustainability in supply networks.

A recent conceptual contribution by Saunders et al. (2017) posits that brokers help incorporate knowledge and information from indirectly connected organizations in the development of sustainability initiatives, and influence their diffusion and adoption by transferring information about the initiative to indirectly connected supply network organizations. We extend the important conceptual contribution made by Saunders et al. (2017) by empirically examining the impact of brokerage in supply networks, defined as "behavior by which an actor influences, manages or facilitates interaction between other actors" (Obstfeld et al., p. 141) to adopt SSCM practices.

In this paper, we aim to shed light on the behaviors and actions associated to brokerage that influence the exchange of financial and knowledge resources aimed at supporting SSCM in food supply networks. The research question that guides this study is: *How does brokerage influence adoption of SSCM practices by small and medium firms in food supply networks?*

To answer this research question we conducted a case study of the fresh banana supply network in Costa Rica. The banana supply network is a theoretically relevant context to study the impact of brokerage on adoption of SSCM practices. Intensive production of the crop has been linked to negative environmental outcomes, social challenges and declining producer prices (FAO, 2018). As a result of public concerns over negative environmental and social outcomes, retailers and distributors increasingly request producers to adopt sustainable business practices. Small and medium producers, however, struggle to cope with increasing costs and decreasing prices. The network is also characterized by 3rd parties, including NGOs, multi-stakeholder initiatives (MSI) and producer associations, which hold valuable financial and knowledge resources. The network thus presents opportunities for actors to engage in brokerage.

Literature review

SSCM practices

Sustainability, defined as meeting present needs without compromising the ability of future generations to meet their own needs, considers a focal firm's environmental, social and economic performance (Elkington, 1998). SSCM, defined as the integration of an organization's social, environmental and economic goals in the systemic coordination of business processes for improving the performance of the individual company and its supply chains specifies that an organization's performance should be evaluated considering the impact of its own and its suppliers' operations on ecological and social systems as well as profit (Carter and Rogers, 2008).

SSCM practices are adopted across a firm's operational processes to improve environmental and social outcomes (Gimenez et al., 2012). Environmental practices include land management in farms, resource conservation and recycling and reuse of waste in farms and food processing facilities (Pullman et al., 2009). Social practices are concerned with ensuring worker quality of life, job satisfaction, skill development and fair compensation in both farms and food processing facilities (Yawar and Seuring, 2015). SSCM practices have also been linked to improved economic performance for focal firms (Golicic and Smith, 2013).

Financial and knowledge resources

Adoption of SSCM practices requires financial and knowledge resources (Lee and Klassen, 2008; Gold et al., 2010). Financial resources refer to assets used by a focal firm to fund capital expenditures or working capital. In food supply networks farmers must pay the costs associated with achieving certifications such as GlobalGAP or Rainforest Alliance (Alvarez et al., 2010).

Adoption of SSCM practices also requires that firms build up knowledge resources (Sarkis et al., 2010). Knowledge resources refer to focal firm awareness of formal practices for efficient production, awareness of the supply chain management activities of suppliers and customers and awareness of the activities of peripheral network actors (Tachizawa and Wong, 2014; Schoenherr et al., 2015).

In food supply networks, awareness of formal processes for efficient production is associated with the use of good agricultural practices such as appropriate application of fertilizer. Awareness of the supply chain management activities of suppliers and customers is exemplified by farmers being knowledgeable about the procurement, production and distribution activities required for their product to reach the final destination in good conditions. Awareness of the activities of peripheral actors in the network is exemplified by farmers that are knowledgeable about the activities of NGOs that are active in the network, for example.

Small and medium farmers can lack financial and knowledge resources. Farmers face intense pressure from their customers to cut costs on a continuous basis without sacrificing quality (Choi and Linton, 2011). Furthermore, as suppliers of raw materials they are often required to continuously invest in new technologies to maintain competitiveness. This reduces profit margins and constrains availability of financial resources.

Small and medium farmers may also lack the knowledge resources necessary for successfully adopting SSCM practices. SSCM practices require training to be effective (Sarkis et al., 2010). Lacking close contact with end consumers, farmers may not be sufficiently aware of environmental and social responsibilities.

Brokerage

Brokerage is defined as behavior through which an actor influences interaction between other actors (Obstfeld et al., 2014). Brokers are characterized by having direct ties with two or more network actors that are themselves unconnected or only weakly connected.

Extant literature suggests that brokerage impacts how information, knowledge or other resources are exchanged between actors in organizational networks. Brokerage can influence the exchange of resources by facilitating the transfer of financial or knowledge resources between unconnected organizations or enabling the creation of a new tie between previously unconnected organizations (Obstfeld, 2005). Ayuso et al. (2013), for example, describe SME suppliers who act as transmitters of buyer CSR requirements in supply chains, thus facilitating the transfer of

knowledge resources in the supply network. Adobor et al. (2014) describe a trade association that works to build connections between buyers and minority owned suppliers, while Rodriguez et al. (2016) describe an NGO that connects a multi-national buyer with poor suppliers. In these cases brokerage enables the exchange of resources between previously unconnected actors through creation of new network ties.

Alternatively, brokerage can hinder the exchange of resources by keeping disconnected organizations apart or cultivating conflict between weakly connected organizations. Buyers that keep competing suppliers separated from each other (Choi and Wu, 2009b) or first-tier suppliers that actively work to keep their customers and their suppliers disconnected (Wilhelm et al., 2016) hinder the exchange of resources in their supply networks.

Methods

We address our research questions through inductive research based on a case study (Yin, 2009). Conducting a case study is appropriate because the phenomenon under study is complex and we intend to capture contextual conditions that we believe are relevant to the study of sustainability in supply networks (Baxter and Jack, 2008). This method allows us to build a thorough description of the underlying reality of brokerage, resource exchange and sustainable outcomes in supply networks. Case studies can be used for exploration, theory building, theory testing or theory extension (Voss et al., 2002). Our case study serves for building theory regarding the relationship between brokerage, the exchange of financial and knowledge resources and sustainable outcomes in supply networks.

Sampling

Given our interest in exploring brokerage and exchange of financial and knowledge resources aimed at supporting adoption of SSCM in food supply networks, our unit of analysis is the supply network. Our research focuses on the banana supply network in Costa Rica, which is a theoretically relevant context for conducting our study (Eisenhardt, 1989). This network is characterized by a wide range of actors including global agribusinesses such as Dole, Del Monte, Chiquita and Fyffes, independent farmers, local and international retailers, NGOs, MSIs and producer associations.

Environmental and social performance in the network has improved over the past twenty years. The plastic bags usually used to cover the bananas in the plantations that were previously discarded into rivers are now recycled. Chemical pesticides are gradually being replaced by biological pesticides. Resource consumption in banana packaging plants has been reduced by re-using the water used to wash bananas prior to packing. Worker health and safety have improved with reductions in the use of toxic agrochemicals. Yet bananas remain a commodity, and retailers increasingly rely on certifications and private standards to differentiate their product in terms of quality and credence attributes such as environmentally and socially responsible farming (Roth et al., 2008). To achieve certifications, independent farmers facing stagnant prices and increasing production costs are simultaneously required adopt SSCM practices.

As a result of advances in sustainability some actors in the supply network, such as the local producer association, NGOs, and well established farmers, have accumulated knowledge resources that enable them to engage in brokerage. Independent farmers often interact with each other and with 3rd parties such as the producer association or the MSI to obtain the resources needed to adopt SSCM practices.

Data collection

We collected primary and archival data to achieve our objective of exploring brokerage at the network level. Primary data was collected through 14 semi-structured interviews conducted in person (when one of the researchers travelled to Costa Rica) or over Skype. We developed a semi-structured interview protocol to guide the interview process and enhance construct validity. We interviewed respondents from a wide range of organizations in the banana supply network including producers, producer associations, distributors, NGOs, retailers, MSI and consultants. Respondents occupied positions that ranged from general manager to procurement manager and working group coordinators. All interviews were recorded and transcribed and generally lasted between 30 and 60 minutes. Table 1 contains details regarding the respondents and types of organizations included in our primary data. We also collected archival data from websites, reports published by NGOs or MSIs and industry research organizations. Whenever possible, we used archival data to triangulate the information collected via interviews. We created a case study database using NVivo 12 software to facilitate retrieval of data during the collection and analysis stages.

Table 1 – Informants per type of organization

Organization	Size	Informant	Interviews
Producer A	Plantation size: 400 ha	Commercial director	1
Producer B	Plantation size: 706 ha	General manager	1
Producer C	Plantation size: 320 ha	General Manager	1
Producer D	Plantation size: 300 ha	Operations manager	1
Association of producers	Groups 932 small and very small producers	Founder	1
Distributor	Exports: 23.000.000 cases per year	Costa Rica operations manager	2
Local retailer	49 stores	Procurement manager	1
Certifying NGO	NA	Global director for sustainable agriculture	1
	NA	Costa Rica commodity lead	1
Producer Association	NA	Account manager	1
MSI	NA	Working group coordinator	1
Consultant	NA	General manager	1
Consultant	NA	Director of operations	1

Data coding

Given the exploratory nature of our research, we took an inductive approach to analyze our data. In accordance with grounded research procedures, data collection, coding and analysis were iterative and took place at the same time. We first coded our data to identify the general themes (open coding). In this stage we identified the connections between actors in the network and the resources that were present in the supply network. We also identified the actors in the network that engaged in brokerage, and instances where brokerage took place leading to exchange these resources with other actors. We wrote thick descriptions of the instances where brokerage appeared to be important for an actor's subsequent adoption of SSCM practices. In each of these instances we coded the behaviors and actions that characterized the exchange. We also coded the SSCM

practices that were adopted by actors across the network. In the next stage, we organized the general themes into categories (axial coding), and finally we integrated the categories to build new theory. All coding has been carried out using NVivo 12 software.

Results

We set out to explore the influence of brokerage on resource exchange and adoption of SSCM practices by small and medium firms in supply networks. The network is composed by a wide variety of actors that play different roles in instances where resources are exchanged. We describe the actors and their role in the network below.

Producers

Producers in the network are farmers who are either independent or vertically integrated within the structure of large global distributors. Independent producers sell their product to large global distributors or directly to retailers in North America or Europe. Producers engage in different levels of SSCM practices. To export, producers must be certified by GlobalGAP. Rainforest Alliance certification is increasingly important for gaining market access, especially for producers that sell directly to retailers. Producers that sell directly to retailers are also certified by retailer private standards. In terms of environmental SSCM practices, producers adopt land management and resource conservation practices. For improvement of social outcomes, producers protect worker health and well-being and engage with their communities by developing infrastructure such as housing. Practices aimed at improving environmental and social outcomes, nevertheless, are perceived as additional cost burdens. The general manager of producer B, for example, described certifications as "*just expenses, in terms of revenue they represent nothing*". The manager of producer C stated that "*producers end up paying for the party*" and stressed that "*bananas taste exactly the same*".

Obtaining access to sell directly to retailers is a key concern for independent producers. The manager of producer C stated that "*95% of the time*" producers that sell to global distributors receive lower prices and are held to higher quality standards. For the manager of producer B, "*small producers that want to survive will need to find niches and go direct [to the retailers], because otherwise, at least in this country, the costs are too high for what we get in return*". We thus identified market access as a key resource for producers to remain economically viable.

Distributors and retailers

Four distributors (Dole, Del Monte, Chiquita and Fyffes) account for the majority of banana exports from Costa Rica (CANABA, 2013). These distributors are often vertically integrated and own plantations in the country. However, they also source from independent farmers. Contracts with independent farmers are negotiated for a set period of time (usually yearly) and prices are fixed for the duration of the contract. Relationships with independent farmers are often long-term, with some independent farmers having supplied the same distributor for decades. Distributors also handle all of the logistics necessary for the fruit to reach its final destination. The manager of producer B explained "*[selling to a retailer] was hard because we needed much more documentation, logistics, everything that used to be managed by the distributor*". Distributors thus hold market access and supply chain knowledge resources. Regarding SSCM practices, all distributors adopt evaluation of their suppliers. Distributors are engaged with the MSI, as exemplified by Distributor A that is a founding member. Distributors also play an important role in the producer association.

North American and European retailers increasingly sourcing directly from farmers in Costa Rica. These retailers offer improved prices to producers, and thus hold important financial resources. Yet selling directly to a retailer requires that the producer be knowledgeable about the logistics needed for the product to de delivered in good conditions. Retailers are also knowledgeable regarding end consumer demands for sustainability.

Other actors

Non-profit actors are also active in the network. The producer association, established in 1973, has as its mission is the development of the banana industry in Costa Rica. This association is funded by exporters who contribute 5 cents for every case exported to the producer association. The producer association engages in significant research and development efforts and advises producers on technical issues related to production. Recently, the producer association obtained recognition of appellation of origin for Costa Rican bananas from the European Union. The producer association is thus an important holder of technical knowledge resources in the network.

NGOs are also present, acting as certifiers and activists in the network. We identified certification as an important resource held by NGOs. Finally, the World Banana Forum (WBF), a MSI, is active in the network. The WBF provides a platform for network stakeholders to interact and work together towards improving production practices and sustainability in the network.

Brokerage

Based on our analysis of the data, we mapped the different actors in the supply network and the connections between them. Figure 1 presents the banana supply network.

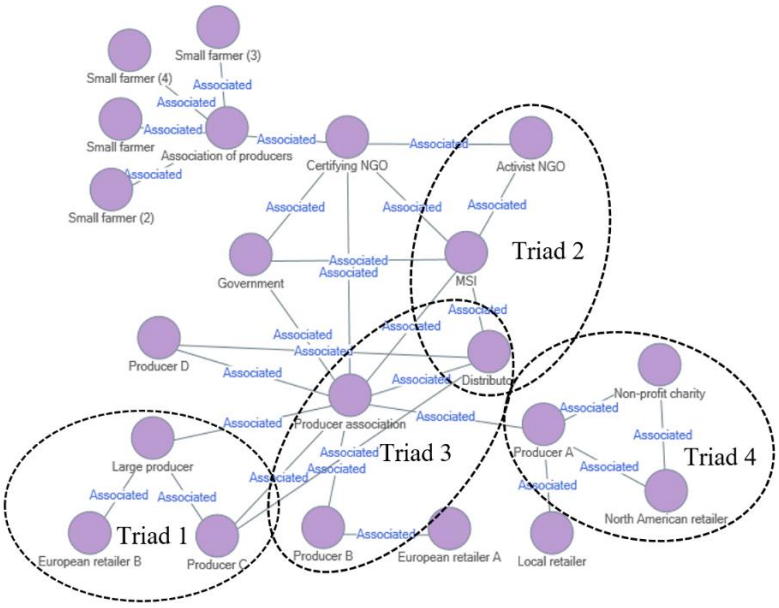

Figure 1- The fresh banana supply network

To gain an understanding of brokerage at the network level, we isolate four specific triads where brokerage was identified. This procedure is consistent with Choi and Wu's (Choi and Wu, 2009a, p. 263) suggestion that the triad "captures the basic essence of a network and allows us to study the

behavior of a network". Prior supply network research has also employed this procedure (e.g. Choi and Wu, 2009b; Pathak et al., 2014). Table 2 summarizes our findings in terms of SSCM practices adopted, resources exchanged and brokerage in each triad.

Table 2- Instances of brokerage

Triad (alter-broker-alter)	**Brokerage behaviors**	**Resource exchanged**	**SSCM practices adopted**
Producer-Producer-Retailer	Advocacy	Market access	Land management, resource conservation, social practices, certification
NGO-MSI-Distributor	Neutrality	Knowledge resources	Land management, resource conservation, social practices
Producer-Producer Association-Distributor	Selfishness	None	None
Producer-nonprofit charity-retailer	Advocacy	Market access	Land management, resource conservation, certification

Triad 1 is composed by producer C, a large producer and a European retailer. In this instance, the resource exchanged was market access, and advocacy was the behavior that characterized the brokerage. The large producer engaged in brokerage by using a pre-existing relationship with the retailer to advocate for the producer C. The manager of producer C explained "*they [the larger independent producer] supported us a lot. What do I mean by support? They had been selling to [the retailer] for years, and they advised us on how to package the fruit, how to harvest differently to improve yields. And they told us, listen, we're going to try to get you some volume. And that was how we stared [selling to the retailer]*". In this case, advocacy was used for introducing two parties, which then led to improved economic sustainability in the triad as both producers continued to sell directly to the retailer.

Triad 2 is composed by an activist NGO, the MSI and a distributor. In this triad the MSI engages in brokerage to advance sustainability initiatives in the network. The resource exchanged was knowledge, and the behavior that characterizes the brokerage was neutrality. A working group manager from the MSI described how the MSI must "*stay neutral*" during discussions, given the often conflicting objectives of the NGO and the distributor. In this case, neutrality was useful for inducing negotiations and facilitating the flow of information between parties, which aided the development of projects aimed at improving environmental and social outcomes in the triad.

Triad 3 is composed by producer B, the producer association and a distributor. The mission of the producer association is to contribute to the development of the local industry. However, the manager of producer B perceives that "*lately, the reason for having [the producer association] has been distorted. The reason is not for them to grow and become a big deal, no. The reason is for them to support local producers. Maybe due to the consolidation the interests of producers are now the interests of large producers, but for us small producers, the support they could provide in terms of technical things or lobbying, it is not given*". In this instance, the producer association behaves selfishly by pushing its own interests ahead of the interests of producers, threatening economic sustainability in the triad.

Triad 4 is composed by producer A, an non-profit charity and a retailer. Similar to the instance described in triad 1, the non-profit organization advocacy was used by the non-profit organization

to introduce the retailer and the producer. After the meeting, a business relationship was established between the producer and the retailer, which improved economic sustainability in the triad. Differently from the brokerage instance described in triad 1, however, once the relationship between the producer and the retailer was established, the broker played no further role in the triad.

Conclusion

We find that neutrality, advocacy and selfishness characterize brokerage in the supply network. Instances of brokerage are also characterized by introducing two parties, making two parties negotiate and facilitating the flow of information. While some instances of brokerage improve sustainable outcomes in the network, others threaten network sustainability.

We contribute to theory and to practice. Our key theoretical contribution lies in exploring the relationship between behaviors and actions that characterize brokerage in supply networks and adoption of sustainable business practices by actors that lack internal financial and knowledge resources. We extend previous research that has focused on buyer-supplier dyads by taking a network perspective that considers a wide range of actors including economic actors, such as distributors, retailers and suppliers, and non-economic actors, such as NGOs and producer associations. We contribute to practice by providing managers of small and medium organizations new insights regarding ways of accessing financial and knowledge resources that reside in their supply networks to achieve sustainable outcomes.

References

Adobor, H. and McMullen, R. S. (2014) 'Strategic purchasing and supplier partnerships-The role of a third party organization', *Journal of Purchasing and Supply Management*. Elsevier, 20(4), pp. 263–272.

Alvarez, G., Pilbeam, C. and Wilding, R. (2010) 'Nestlé Nespresso AAA sustainable quality program: an investigation into the governance dynamics in a multi-stakeholder supply chain network', *Supply Chain Management: An International Journal*, 15(2), pp. 165–182.

Ayuso, S., Roca, M. and Colomé, R. (2013) 'SMEs as "transmitters" of CSR requirements in the supply chain', *Supply Chain Management: An International Journal*, 18(5), pp. 497–508.

Baxter, P. and Jack, S. (2008) 'Qualitative Case Study Methodology: Study Design and Implementation for Novice Researchers', *The Qualitative Report*, 13(4), pp. 544–559.

Bellamy, M. A., Ghosh, S. and Hora, M. (2014) 'The influence of supply network structure on firm innovation', *Journal of Operations Management*, 32(6), pp. 357–373.

Borgatti, S. P. and Li, X. (2009) 'On social network analysis in a supply chain context', *Journal of Supply Chain Management*, 45(2), pp. 5–22.

Burt, R. S. (2000) 'The network structure of social capital', *Research in Organizational Behavior*, 22, pp. 345-423.

Canaba (2013). Retreived from http://www.canabacr.com/companias_propio_ind.html

Carnovale, S., Yeniyurt, S. and Rogers, D. S. (2017) 'Network connectedness in vertical and horizontal manufacturing joint venture formations: A power perspective', *Journal of Purchasing and Supply Management*, 23(2), pp. 67–81.

Carter, C. R. and Rogers, D. S. (2008) 'A framework of sustainable supply chain management: moving toward new theory', *International Journal of Physical Distribution & Logistic Management*, 38(5), pp. 360–387.

Choi, T. and Linton, T. (2011) 'Don't Let Your Supply Chain Control Your Business', *Harvard Business Review*, pp. 2–7.

Choi, T. Y. and Wu, Z. (2009a) 'Taking the leap from dyads to triads: Buyer-supplier relationships in supply networks', *Journal of Purchasing and Supply Management*, 15(4), pp. 263–266.

Choi, T. Y. and Wu, Z. (2009b) 'Triads in Supply Networks: Theorizing Buyer - Supplier - Supplier Relationships', *Journal of Supply Chain Management*, 45(1), pp. 8–25.

Collins, E., Lawrence, S., Pavlovich, K. and Ryan, C. (2007) 'Business networks and the uptake of sustainability practices: the case of New Zealand', *Journal of Cleaner Production*, 15(8–9), pp. 729–740.

Eisenhardt, K. M. (1989) 'Building Theories from Case Study Research.', *Academy of Management Review*, 14(4),

pp. 532–550.
Elkington, J. (1998) *Cannibals with Forks: the Triple Bottom Line of 21st Century Business, Conscientious Commerce*.
FAO (2018). Retrieved from http://www.fao.org/world-banana-forum/about-the-foro/es/.
Gimenez, C., Sierra, V. and Rodon, J. (2012) 'Sustainable operations: Their impact on the triple bottom line', *International Journal of Production Economics*, 140(1), pp. 149–159.
Gimenez, C. and Tachizawa, E. M. (2012) 'Extending sustainability to suppliers: a systematic literature review', *Supply Chain Management: An International Journal*, 17(5), pp. 531–543.
Gold, S., Seuring, S. and Beske, P. (2010) 'Sustainable supply chain management and inter-organizational resources: a literature review', *Corporate Social Responsibility and Environmental Management*, 17(4), pp. 230–245.
Golicic, S. L. and Smith, C. D. (2013) 'A Meta-Analysis of Environmentally Sustainable Supply Chain Management Practices and Firm Performance', *Journal of Supply Chain Management*, 49(2), pp. 78–95.
Lee, S.Y. and Klassen, R. D. (2008) 'Drivers and Enablers That Foster Environmental Management Capabilities in Small- and Medium-Sized Suppliers in Supply Chains', *Production and Operations Management*, 17(6), pp. 573–586.
Obstfeld, D. (2005) 'Social Networks, the Tertius Iungens Orientation, and Involvement in Innovation', *Administrative Science Quarterly*, 50(1), pp. 100–130.
Obstfeld, D., Borgatti, S. P. and Davis, J. (2014) 'Brokerage as a Process: Decoupling Third Party Action from Social Network Structure', *Research in the Sociology of Organizations*, 40, pp. 135–159.
Pagell, M. and Wu, Z. (2009) 'Building a more complete theory of sustainable supply chain management using case studies of 10 exemplars', *Journal of Supply Chain Management*, 45(2), pp. 37–56.
Pathak, S. D., Wu, Z. and Johnston, D. (2014) 'Toward a structural view of co-opetition in supply networks', *Journal of Operations Management*, 32(5), pp. 254–267.
Pullman, M. E., Maloni, M. J. and Carter, C. R. (2009) 'Food for thought: Social versus environmental sustainability practices and performance outcomes', *Journal of Supply Chain Management*, 45(4), pp. 38–54.
Renting, H., Marsden, T. K. and Banks, J. (2003) 'Understanding alternative food networks: Exploring the role of short food supply chains in rural development', *Environment and Planning A*, 35(3), pp. 393–411.
Rodríguez, J. A., Giménez, C., Arenas, D. and Pagell, M. (2016) 'NGOS' initiatives to enhance social sustainability in the supply chain: Poverty alleviation through supplier development programs', *Journal of Supply Chain Management*, 52(3), pp. 83–108.
Roth, A. V., Tsay, A. A., Pullman, M. E. and Gray, J. V. (2008) 'Unraveling the food supply chain: Strategic insights from China and the 2007 recalls', *Journal of Supply Chain Management*, 44(1), pp. 22–39.
Sarkis, J., Gonzalez-Torre, P. and Adenso-Diaz, B. (2010) 'Stakeholder pressure and the adoption of environmental practices: The mediating effect of training', *Journal of Operations Management*, 28(2), pp. 163–176.
Saunders, L. W., Tate, W. L., Zsidisin, G. A. and Miemczyk, J. (2017) 'The Influence of Network Exchange Brokers on Sustainable Initiatives in Organizational Networks', *Journal of Business Ethics*, pp. 1–20.
Schoenherr, T., Narasimhan, R. and Bandyopadhyay, P. P. (2015) 'The assurance of food safety in supply chains via relational networking', *International Journal of Operations & Production Management*, 35(12), pp. 1662–1687.
Seuring, S. and Muller, M. (2008) 'From a literature review to a conceptual framework for sustainable supply chain management', *Journal of Cleaner Production*, 16(15), pp. 1699–1710.
Tachizawa, E. M. and Wong, C. Y. (2014) 'Towards a theory of multi-tier sustainable supply chains: a systematic literature review', *Supply Chain Management: An International Journal*, 19(5–6), pp. 643–663.
Tate, W. L., Ellram, L. M. and Gölgeci, I. (2013) 'Diffusion of environmental business practices: A network approach', *Journal of Purchasing and Supply Management*. Elsevier, 19(4), pp. 264–275.
Voss, C., Tsikriktsis, N. and Frohlich, M. (2002) 'Case research in operations management', *International Journal of Operations & Production Management*, 22(2), pp. 195–219.
Wilhelm, M., Blome, C., Bhakoo, V. and Paulraj, A. (2016) 'Sustainability in multi-tier supply chains:Understanding the double agency role of the first-tier supplier', *Journal of Operations Management*, 41, pp. 42–60.
Yawar, S. A. and Seuring, S. (2015) 'Management of Social Issues in Supply Chains: A Literature Review Exploring Social Issues, Actions and Performance Outcomes', *Journal of Business Ethics*, pp. 1–23.
Yin, R. K. (2009) *Case Study Research: Design and Methods, Essential guide to qualitative methods in organizational research*. Edited by L. Bickman and D. J. Rog. Sage Publications.