Exploring the roles of lead organisations in spreading sustainability standards throughout food supply chains in an emerging economy

Received 14 May 2020
Revised 29 September 2020
26 November 2020
Accepted 30 December 2020

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Abstract

Purpose – This paper investigates how food supply chains (SCs) introduce sustainability standards (i.e. organic and/or Fair Trade labels). The authors combined the concepts of power and dependence with types of governance mechanisms to analyse for-profit and cooperative organisations. The authors explored nuances of how lead organisations are spreading sustainability standards.

Design/methodology/approach – Four cashew nut and honey SCs were investigated as case studies in Brazil, with data gathered through 15 interviews, secondary data and field visits. Data were examined through a content analysis process following a combined deductive and inductive approach.

Findings – Sustainability is spread driven by market pressure, mainly through the diffusion of technical information, either by lead organisations enablers or inter-organisational relations. The authors found that the type and structure of organisations impact the source of power (mediated or non-mediated) and level of mutual dependence between buyer and supplier. For instance, suppliers that hold a strategic position use direct governance mechanisms, which, in turn, lessens the power imbalance in regard to the lead organisation. The authors found in the analysis, a close relation between governance mechanisms and the spread of sustainability, which is ultimately based on strong SC relationships.

Practical implications – By recognising their role and the contingencies in spreading sustainability standards along the SC, managers of lead organisations can better design their relationships as well as create strategies to increase their supply chain sustainability (SCS) performance.

Originality/value – This paper contributes to the underexplored issue of how sustainability standards are spread throughout SCs in Latin America. Also, it shows how different types of SC rely on governance mechanisms that foster SCS.

Keywords Spreading sustainability standard, Governance mechanism, Power relationship, Mutual dependence, Latin America, Case study research

Paper type Research paper

1. Introduction

Latin America is recognised as a diverse and multicultural region, with different climates and geographical features (Tanco *et al.*, 2018). The region is becoming a significant player in the global economy (Ruiz-Torres *et al.*, 2012), despite major economic and political changes occurring on the local level (Carneiro and Brenes, 2014). Such changes affect different areas and create a variety of problems concerning, for example, supply chain management (SCM) issues (e.g. management), infrastructure (e.g. isolated and rural solutions), workforce and

This reserch project was funded by the National Council for Scientific and Technological Development (Brazil), Grant number 426155/2018-1.

The International Journal of Logistics Management

0957-4093
DOI 10.1108/IJLM-05-2020-0201

market instability, among others (Blanco and Paiva, 2014; Tanco *et al.*, 2015). Indeed, the region is characterised by high degrees of income and wealth inequality, which affects sustainable growth and social inclusion (Tanco *et al.*, 2018). Still, the interest in sustainability is growing in several Latin American countries, including Brazil (Jabbour and Jabbour, 2014; Silva *et al.*, 2017). In this research, we have focused on Brazil since it is, economically spoken, one of the most important countries on the Latin American continent (IMF, 2019; Jabbour *et al.*, 2015). For example, in 2018 Brazil had a GDP of US$2,321 billion, while Mexico, as second biggest economy in Latin America, had a GDP of US$1,313 billion (CEPAL, 2020). In addition, Brazil ranks as 8th biggest economy in the world (IMF, 2019).

Sustainability and SCM are becoming increasingly more connected in research and business practices worldwide (Carter *et al.*, 2019; Dubey *et al.*, 2017; Koberg and Longoni, 2019). The link between these research fields has become especially obvious in emerging economies (Bubicz *et al.*, 2019; Jia *et al.*, 2018), which includes Latin American countries. Despite the growing number of publications on sustainability and SCM from Latin American scholars and journals (Fritz and Silva, 2018; Ruiz-Torres *et al.*, 2012; Tanco *et al.*, 2018), a substantial need for further research focussing on the specificities of such initiatives in the Latin American context still exists. Such research should apply empirical designs with data collected in Latin America (Tanco *et al.*, 2018). Studies about how sustainability is spread in the region are lacking as well (Gimenez and Tachizawa, 2012), which further reflects the need for new research. We aim to mitigate these gaps by exploring how sustainability standards are spread throughout Brazilian supply chains (SCs) and by investigating which SC relationships and dynamics foster the implementation of organic and/or Fair Trade labels.

Supply chain sustainability (SCS) has been defined in multiple ways (see, e.g. Ahi and Searcy, 2013; Touboulic and Walker, 2015), reflecting the lack of consensus about the meaning of this concept (Gold and Schleper, 2017) and the need for more conceptualisation work upon which the research community can draw (Pagell and Schevchenko, 2014). For instance, since SCS in Latin America is affected by the set of problems created by economic and political changes as noted previously, different perceptions on what sustainability in SCs actually means might emerge locally related to the specific contexts, limited knowledge and/or available resources of those local areas (Paulraj *et al.*, 2017). Sustainability is often defined as adequately interlinking the various dimensions of the triple bottom line (TBL) (i.e. social, economic and environmental) (Dyllick and Hockerts, 2002). However, we postulate that this definition should be explicitly linked to local needs of various stakeholders. Thus, SCS should consider sustainability under a broader perspective (i.e. TBL+), which includes at least two other dimensions, the institutional and the cultural one (Fritz and Silva, 2018).

When spreading sustainability throughout an SC, actors, practices and context specificities must be considered (Touboulic and McCarthy, 2020). Thus, context-based studies are required in order to uncover the meaning of SCS so that managerial action can be taken to achieve it (Carbone *et al.*, 2012; Silvestre, 2015). For instance, it is necessary to specifically consider food security requirements and needs in order to construct sustainable food SCs, going beyond only general social and environmental elements (Cagliano *et al.*, 2016). One option for creating sustainability within SCs is by introducing standards that relate to management systems that facilitate behaviour changes and provide guidance to every SC member (Castka and Balzarova, 2008). Lead organisations (i.e. enterprises acting as focal companies) are often seen as responsible to push such an introduction. Yet little is known on spreading and diffusion sustainability standards in the Latin American context; thus, this study aims to answer the following research question: *how do lead organisations initiate spreading of sustainability standards in food supply chains in Brazil?*

By means of the resource dependence theory (RDT) (Pfeffer and Salancik, 1978), we analyse the introduction of an organic or Fair Trade label – aligned with heightened sustainability requirements. We investigate under which conditions organisations may shift suppliers from a

commodity supplier status towards becoming strategic suppliers (Pagell *et al.*, 2010) by reducing power imbalances and deliberately increasing mutual dependence (Casciaro and Piskorki, 2005). In this sense, we used governance mechanisms to understand the relationship between lead organisations and their suppliers in accordance with the political and technical context in the Northeast region of Brazil. To this end, similar to Silva *et al.* (2020), we employed a case study strategy encompassing two SC types: for-profit and cooperative organisations. We believe that researching these types can reveal different power relationships, inter-organisational influences and social control processes (e.g. Hillman *et al.*, 2009; Pfeffer and Salancik, 1978). The analysis presented in this paper facilitates new insights to understand the practice of sustainability in SCs, which reach beyond Latin America as they address a global interest. This paper is based on real-world problems and aims at developing debates from real case studies. We use six sections to explain our research and demonstrate our contribution.

2. Extending sustainability to SC members

The SCS literature has continuously addressed the question of how to manage for and measure sustainability outcomes (Schaltegger and Burritt, 2014; Wu *et al.*, 2017). Such a perspective requires performance indicators and operational actions to be developed by companies and SCs (e.g. Hong *et al.*, 2020; Ramirez *et al.*, 2020). However, according to Touboulic and Walker (2015, p. 21), "future research efforts could seek to develop our understanding of the implementation process of [sustainable supply chain management] SSCM by framing it as transformation/change in organisational practice". This requires analysing what is happening beyond the outcome dimension. As such, we decided to focus on two interrelated processes – spreading and governance – for enhancing sustainability performance throughout SCs. In our research, both processes reflect how sustainability is applied and managed through standards/labels.

Sustainability spreading in SCs depends on the governance mechanisms in place in each relationship. In this paper we conceive sustainability spreading as the process in which lead organisations (e.g. for-profit focal companies) request changes in their SCs not only concerning sustainability standards implementation, but also on how their SC members are engaged to jointly develop these changes. This process of spreading sustainability requires a strong SC relationship, which generates compliance and commitment among SC members (Roy *et al.*, 2018; Ramirez *et al.*, 2020). Although spreading and diffusion are often seen as complementary, they do have different meanings. Diffusion rather refers to the dissemination of information for the overarching aim of spreading sustainability. It may occur through concepts, ideas, technical information, practices, behaviours and strategies moving from sources to adopters (Carmagnac *et al.*, 2019). In this sense, the process means of spreading sustainability involves recognising what kind of information is diffused throughout the SC.

The previous literature has barely differentiated between the concepts of sustainability diffusion and spreading along SCs (see, e.g. Gold *et al.*, 2020), although we believe they should be used differently. Spreading sustainability refers to what Carbone *et al.* (2012) define as three types of SCS diffusion: (1) non-market stakeholder pressure, when third-party organisations influence the diffusion process (e.g. non-governmental organisations and regulatory bodies support SCS introduction); (2) market stakeholder pressure and the internal company perspective, when companies rely on internal enablers for change (e.g. focal company managers drive the introduction of SCS) and (3) market stakeholder pressure at the inter-organisational level, when the diffusion process emerges from the relationship connections (e.g. different SC members foster the introduction of SCS). Spreading is a complex, dynamic and non-linear process, and it is not limited to the focal company point of view (Carmagnac *et al.*, 2019).

Spreading sustainability throughout SCs is closely linked to the issue of governance for sustainability. Sustainability governance refers to "those practices used by firms to manage

relationships with their suppliers with the aim of improving their sustainability performance" (Gimenez and Tachizawa, 2012, p. 532). Governance relates to the process of implementing sustainability, extending beyond mere outcomes and considering a close relation among SC members. It involves both internal and external functions based on specific practices and initiatives, such as SC collaboration and network relationships (Formentini and Taticchi, 2016; Vurro *et al.*, 2009). The relationships among SC members have been found to be decisive to improve the sustainability performance. Sustainability governance follows two types of mechanisms: (1) direct governance through supplier assessment (e.g. evaluating through company visits) and SC collaboration (e.g. providing some training or other support) (Gimenez and Tachizawa, 2012; Lund-Thomsen and Lindgreen, 2014) and (2) indirect governance through certifications (Koberg and Longoni, 2019). These mechanisms represent how lead organisations develop their relationships with SC partners and facilitate the value added throughout the SC by following management issues.

Governance may, thus, enable the implementation of sustainability standards in SCs (Gimenez and Tachizawa, 2012; Jia *et al.*, 2018), but political, technical and cultural context factors may work as barriers to that implementation (Carbone *et al.*, 2012; Morais, 2017; Silva *et al.*, 2017; Silvestre, 2015). For instance, in Latin America, where a few SC players hold high shares of market power, the interests of the remaining SC actors may be marginalised (Mancini, 2013), which affects the attainment of sustainability. Power and distance between companies influence the relationships between SC members (Koberg and Longoni, 2019; Tachizawa and Wong, 2014), while governance mechanisms may help to balance power, thus facilitating sustainability spreading along SCs. To better connect sustainability spreading and governance we ground our research on the RDT.

3. Resource dependency theory

RDT explains and predicts strategies and behaviours of companies and other organisations within their specific contexts, which in our case is the SC relationship. Access to valuable external resources, in particular, determines a company's success or failure (Pfeffer and Salancik, 1978). According to the RDT, a company gains power over other organisations if it owns or controls resources that are in high demand, for example, due to their value or scarcity or the lack of suitable substitutes. Following this logic, companies strive to mitigate their own dependencies on external resources, while developing and reinforcing control over resources that are crucial to others (Hillman *et al.*, 2009). The RDT as a theoretical lens provides explanations for different phenomena, such as mergers and acquisitions, supplier-buyer relationships, composition and size of boards of directors, corporate lobbying or manager succession (Hilmann *et al.*, 2009; Pfeffer, 1976).

In the academic field of SCS, the RDT enjoys considerable popularity as a theoretical perspective (Touboulic and Walker, 2015), being applied in various studies (e.g. Carmagnac *et al.*, 2019; Esfahbodi *et al.*, 2016; León-Bravo *et al.*, 2017; Tachizawa and Wong, 2014; Zacharia *et al.*, 2019). The resource dependence perspective as seminally introduced by Pfeffer and Salancik (1978) has been attracting criticism and has been conceptually modified as a result. One important advancement was proposed by Casciaro and Piskorki (2005); the authors highlighted the insufficient conceptual consistency of the RDT, making it an appealing metaphor rather than a sound basis for empirical research. In their aim to disentangle the convoluted construct of interdependence, Casciaro and Piskorki (2005) reformulated the RDT by distinguishing between interdependence caused by power imbalance and that caused by mutual dependence, although both must be considered simultaneously in order to portray comprehensively the power-dependence pattern of a dyad.

The construct of power imbalance determines the power differential between two actors (French and Raven, 1959). There are different sources of power, which can be defined as

mediated and non-mediated (Maloni and Benton, 2000; Schleper *et al.*, 2017). As highlighted by Maloni and Benton (2000), mediated power is related to reward and coercive legally legitimate powers; non-mediated power refers to expert, referent and traditional legitimate powers. We highlight that power imbalances alone do not create supplier exploitation (Schleper *et al.*, 2017); other elements based on the supply network, such as trust and the nature of power, are also involved (Meqdadi *et al.*, 2017). The construct of mutual dependence is the sum of dependency of both parties (mutually) within a dyadic relationship. This means that dyadic relationships are characterised by their degree of power imbalance (from balanced relationships to highly imbalanced ones) and their degree of mutual dependence (Casciaro and Piskorki, 2005). Company strategies and changes may modify both dimensions in the environment and transform the nature of these relationships.

Aligned to these considerations, however, without referring to the RDT, Pagell *et al.* (2010), for example, found in the area of SCS that (lead) buying companies that engage in making their SCs more sustainable may, indeed, transform the buyer-supplier relationship from a commodity supply situation (featuring high power imbalance and moderate mutual dependence) towards a strategic supply situation (featuring no power imbalance and high mutual dependence) (see Figure 1). This transformation towards strategic SC partnerships is initiated by the focal company – through governance mechanisms and aims at diffusing sustainability standards throughout its SC – from a starting situation of a high power imbalance. In such cases, Casciaro and Piskorki (2005) suggested that the likelihood of constraint absorption operations (i.e. passing the control over crucial resources to the dependent actor) is low, which merits attention.

As depicted in the illustration, the novel buyer-supplier relationship should emerge to extend sustainability performance and increase the balance throughout the SC. This implies both lower degrees of power imbalance and higher mutual dependence. Since a power imbalance can affect the degree and quality of a supplier's engagement with sustainability (Touboulic *et al.*, 2014), it is necessary to analyse how the supplier is approached by the focal company (i.e. commodity–vast pool of suppliers and strategic–restricted pool of suppliers) (Pagell *et al.*, 2010) as well as how the sources of power are being used in order to identify elements, such as cooperation and trust, inside relationships (Meqdadi *et al.*, 2017). In our case, we used mediated and non-mediated power approaches (Maloni and Benton, 2000) to understand SCS. Our analytical framework also highlights that SCS relies on a novel type of

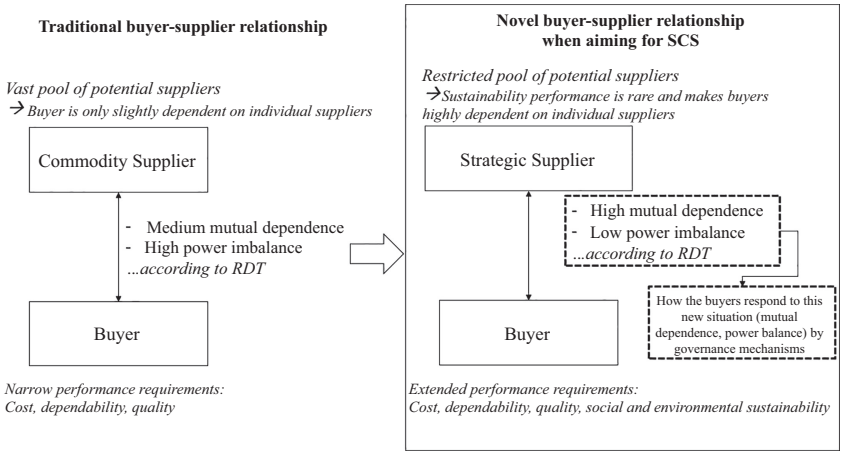

Figure 1.
Evolving buyer-supplier relationship for SCS

relationship. Thus, in order to better understand how sustainability is spread via direct and indirect governance mechanisms, we conducted a qualitative research study of the food SC.

4. Research method

To identify how lead organisations spread sustainability standards in their SCs, this research applied a qualitative case study research design (Yin, 2014). To this end, case studies on four SCs that recently introduced organic/Fair Trade labelling were carried out in two different agri-food SCs, namely, honey and cashew nut. We selected the case study research strategy since it is useful for illuminating how local characteristics and specificities contribute to the emergence of certain phenomena, including SCS. In addition, we use case studies because Latin America is a challenging setting to conduct empirical research (Martínez and Kalliny, 2012), which includes unsatisfactory response rates of survey research designs.

We selected honey and cashew nut SCs because of their contribution to the social and economic development of Brazil, especially in the Northeast region, which is the poorest region of the country. To put the case study into context, according to Castro (2012), the agri-food sector is essential for the economic development of the Northeast region of Brazil, including for job creation, but it faces a number of severe sustainability challenges (Gold *et al.*, 2017). Food products represent the most important goods for exportation in the region. However, the region has been experiencing climate changes and their impact over the past several years, including a huge drought that has affected the agri-food industry (Azevedo *et al.*, 2018). For example, many companies in the cashew nut sector recently ceased production (Silva *et al.*, 2018).

With this in mind, we developed our study. The first step was to conduct exploratory research based on secondary data to understand the dynamics behind both the honey and cashew nut SCs. Using this information, we decided to include two SC types into our research – for-profit and cooperative organisations – since such diversity is representative of the local economy. Statistics show, for instance, that between 2010 and 2019 the number of cooperatives grew by 62% in Brazil (OCB, 2019), which indicates increasing importance of this SC type locally. Once the for-profit type is often part of researches, we believe that it is also necessary to identify specific characteristics from those cooperatives. In this Northeast region of Brazil, cooperative production represents the primary model for generates income and work for familiar agriculture.

4.1 Data gathering

We followed a structured case study research process as proposed by Stuart *et al.* (2002). Guided by our research question, the exploratory stage of analysis based on the secondary data was relevant to create the research protocol based on governance and spreading for SCS. It was also necessary to identify and get acquainted with the main participants in the research and expressions and jargons used locally. For example, members of the producers' cooperatives featured low levels of education and formal knowledge. Data were gathered in two waves: from September to December 2017 and from September to December 2019, covering at least two different tiers of both honey and cashew nut SCs (see Table 1). In this context, two technical assistance institutions (i.e. EMBRAPA and SEBRAE) were integrated in our sample to address local characteristics and sustainability management issues. Several data collection techniques were used, such as semi-structured interviews, secondary data (i.e. internal documents, local newspaper) and observations during the field visits. The use of multiple sources is important to ensure data triangulation (Denzin, 1978; Yin, 2014) and, thus, increase the internal validity of the findings.

In sum, data from more than eight hours of interviews were collected. The interviews were conducted in Portuguese, recorded and transcribed. In order to guarantee the correct

SC	Case	Location	SC level	Interviewee	Code	Length of interview
Cashew nut	1	Ceará	Buyer	Quality manager	LO1	45 min
			Supplier	Farmer 1	SUP1.1	30 min
			Supplier	Farmer 2	SUP1.2	25 min
	2	Piauí	Buyer	President	LO2	30 min
			Supplier	Producer 1	SUP2.1	25 min
			Supplier	Producer 2	SUP2.2	30 min
	–	Ceará	Technical assistance	EMBRAPA* manager	EMB1	45 min
			Technical assistance	EMBRAPA* Consultant	EMB2	45 min
Honey	3	Piauí	Buyer	Quality manager	LO3	32 min
			Supplier	Farmer's manager	SUP3.1	28 min
	4	Piauí	Buyer	Manager	LO4	35 min
			Supplier	Producer 1	SUP4.1	25 min
			Supplier	Producer 2	SUP4.2	25 min
Both	–	Piauí	Technical assistance	SEBRAE** manager	SEB1	40 min
			Technical assistance	SEBRAE** consultant	SEB2	40 min

Note(s): *Empresa Brasileira de Pesquisa Agropecuária (in English, Brazilian agricultural research corporation) **Serviço Brasileiro de Apoio às Micro e Pequenas Empresas (in English, Brazilian service to support micro and small enterprises)

Table 1.
Interviews information

translation for the quotations used in our analysis, a double check was carried out by different authors. The observations were conducted during the field visits (altogether 15 visits) and were reported via written field notes recorded in a research log book. Observations were useful to gain insights into the existence of different governance, power and dependence elements, for example, through informal conversations during field visits. Some of the participants were more comfortable sharing particular elements of the relationship outside the formal environment of research. For these participants, the first contact and the post-interview times were essential to identify nuances on how sustainability was spread, which helped to interpret the interview transcripts.

4.2 Data analysis

Data were examined using a qualitative content analysis (Duriau *et al.*, 2007); in a first step, our data were matched with our analytical framework (Figure 1) in order to identify connections and differences. After this preliminary procedure of pattern matching, we analysed our deductively derived analytic categories, covering organisational distance (based on the type of supplier), direct and indirect governance mechanisms, power relationships, mutual dependence and relationships between buyers and suppliers. This step of the analysis was based on the reading of all documents to explore, through key quotations, information about each analytical category. The analysis was performed for each case first, and a double check was used to ensure that all elements were addressed in the in-case analysis. For instance, the supplier classification, the governance mechanisms (direct and indirect) and type of power (mediated and non-mediated) were defined according to the literature. In contrast, mutual dependence was found through the analysis of governance mechanisms and power. A cross-case analysis was developed to compare the cases and shed light on the research question (Eisenhardt and Graebner, 2007). Notes created during the observations were used to validate the analysis and to clarify some aspects that were not clear during the interview analysis.

Throughout the research process, we addressed the criteria for research quality, namely, dependability, credibility and transferability. First, the research protocol and interview guide increased the reliability and dependability of our data base (Yin, 2014). Second, data triangulation, using different data collection techniques, contributed to the internal validity and credibility (Yin, 2014); data triangulation also helped in the consideration of alternative interpretations of our data and determining the most convincing interpretation of our case studies. Concerning transferability, we recognise that due to the specific context of the cases studied cannot be easily generalised to other SCs from other countries; however, we can create strong arguments for allowing for the theoretical abstraction and, hence, a certain degree of generalisation of the findings. In addition, ethical issues were considered during data gathering and dissemination.

5. Findings

This section presents the main results of the empirical research. We applied our analytical framework (see Figure 2), relating power and mutual dependence to the way SC are governed and sustainability standards spread, in order to highlight particularities of our case studies. We assume that power and mutual dependence of the lead organisations are interconnected with the sustainability spreading type (e.g. Fair Trade and organic) as well as the governance mechanism. We found that locally technical assistance institutions (i.e. SEBRAE and EMBRAPA) are constantly used to manage how sustainability is implemented. The technical assistance is delivered by governmental institutions that improve technical knowledge for the SC. While SEBRAE provides managerial support to small and micro companies, EMBRAPA is responsible to afford agrarian technical advice. Both represent main governmental institutions for fostering the development of agriculture in the country.

Figure 2 highlights two central connections that need to be considered when investigating how sustainability is / can be spread throughout SCs. First, the classification of the specific buyer-supplier relationship is important; that is, the buyer's perception of a supplier in a range from commodity to strategic suppliers will influence on how sustainability can be spread and what governance mechanisms are used. Second, the specific constellation of power and mutual dependence are important contingency factors that impact on governance and sustainability standards implementation. We found that for Brazilian food SCs that the traditional relationship between buyer and primary producers is characterised by high power differences (at the detriment of producers). In our analysis, we first identified the buyer's perception of a supplier in a range from commodity to strategic supplier, and the (information) diffusion method used concerning standards (i.e. in-case analysis). Subsequently, in a cross-case analysis, we gained an understanding of the connection between governance and sustainability spreading for the specific setting of power and mutual dependence.

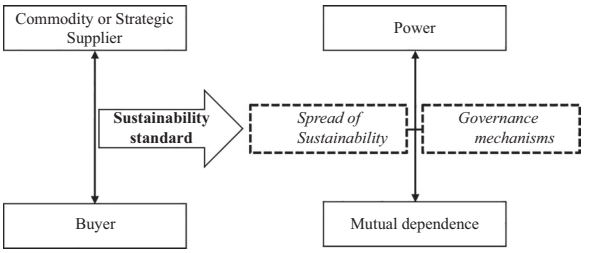

Figure 2.
Analytical framework

5.1 In-case analysis

A common strategy of companies in Northeast Brazilian cashew nut and honey SCs is to increase their market. One strategy for this is the introduction of organic and/or Fair Trade labelling, which goes hand in hand with ensuring higher sustainability standards throughout the SC. During our research we found that organic production is currently more closely related to the for-profit SCs, and Fair Trade is more closely related to the cooperative SCs.

Case 1 - Cashew nut SC with organic label:

This case involved SC members related to the production and processing of cashew nuts. The lead organisation maintained a prominent position in the market and worked with a vertical integration strategy in the states of Ceará and Piauí. The case comprised two suppliers of cashew nuts. The organic and other certifications (e.g. ISO 9000 and ISO 22000) were essential for selling their products to the external market and improving the SC internal procedures, which included perceiving the suppliers as strategic suppliers. Being a medium-sized and family-owned company, the lead organisation had always been under management and ownership control of the founder. However, since his death and with no heir, the company experienced changes, such as ceasing production marketing of a few by-products. Sustainability focus was on an environmental dimension, diffused through technical information and practices to guarantee the organic certification, which was important to serving particular market segments. In terms of governance, the buyer relied on supplier assessment of vertically integrated farmers and centralised the suppliers in their own farms, representing hierarchical governance.

Case 2 - Cashew nut SC with Fair Trade label:

This case comprised a set of cooperatives; the lead organisation was the central cooperative that dealt with several small cooperatives (i.e. suppliers) represented by 90 families. The central cooperative was created through the cooperation of several stakeholders, such as government institutions, financial institutions, civil society, customers and farmers. Our analysis shows that suppliers were predominantly perceived as commodity suppliers, since there were low levels of interaction between the two segments in developing joint actions for sustainability. Because of internal conflicts, mismanagement and corruption by some cooperative members, the cooperative suffered significant financial losses over the years. Governance in this case was indirect, since the certification was the only guide for SC members to maintain their activities through technical information. Sustainability efforts need to ensure environmental protection and income return for the cooperative members, in general; however, the economic factor is essential for guaranteeing business continuity and that the other sustainability dimensions can be addressed as well. In fact, financial reasons were the driving force behind the decision to get a Fair Trade certification in 2011. Today, this certification permits the cooperative to export 60% of its production to another Fair Trade cooperative in Italy.

Case 3 - Honey SC with organic label:

This case was composed of the focal company that produces and processes organic honey and the main local raw material supplier. The focal company maintained its own bee honey production farms and had suppliers registered in Piauí and Ceará states. In their farms, all the honey produced received organic certification. However, the honey produced by registered farmers did not have organic certification. As the quality manager put it: "*We need to maintain the organic and non-organic honey; we have a market for both products*". In the management process, the company maintained strategic control of honey extraction and processing. That happened through a SC integration strategy and a direct governance mechanism based on

supplier assessment. Sustainability was followed because of market pressure through technical information diffusion and change of behaviours. The lead organisation was export-oriented, focussing on sustainability that allowed continuity of business operations. This involved the preservation of nature, on which the survival of bees depends.

Case 4 - Honey SC with Fair Trade label:

This company was developed through the lead organisation (a cooperative) and beekeepers. The production, which is organised by small cooperatives (i.e. strategic suppliers), exports 90% of its honey as Fair Trade certified, as well as organic food and verified non-genetically modified (non-GMO) products. The cooperative was founded as a result of a partnership between various stakeholders, such as government institutions, financial institutions, civil society, customers and farmers, to develop the region socially and economically. According to producer 1, "*in the past, what we produced was barely enough to eat; today every producer in our cooperative has a motorbike or car, and their children are either in schools or graduated from universities*". Collaboration is the central governance mechanism in this case, i.e. direct governance is pursued. Sustainability is essential for honey production; preservation of nature as well as social and economic aspects is important for empowering and uplifting families. Sustainability spreading occurs because of market pressure through technical information diffusion, practices and behaviours.

5.2 Cross-case analysis

Despite idiosyncracies in each case, the cross-case analysis revealed common patterns that required buyers to have specific approaches for interacting with their suppliers. We found that Case 2 was the only one involving suppliers as commodities. That demonstrates that even though a sustainability performance requirement existed within the relationship, the buyer-supplier relationship maintained its traditional characteristic without high integration between both SC players. In that case, we identified a high power imbalance and medium level of mutual dependence. In contrast, the other three cases presented strategic suppliers. By understanding supplier classifications and the method of sustainability diffusion (see section 5.1), it was possible to identify the power relationship related to that spreading. The type of power relationship relies on the existing governance mechanism and supports the understanding of mutual dependence. Table 2 summarises the findings in all the cases.

5.2.1 Governance mechanisms. After understanding the foundations of sustainability spreading, we found both types of governance mechanisms being applied, but direct governance was the main type used in three of our cases. The cases featured different degrees of effort on the part of the lead organisations to spread sustainability in their SCs. Since sustainability governance and spreading are closely interconnected processes (cf. Carmagnac *et al.*, 2019), we understand that the lower the degree to which the process of sustainability spreading is employed, the lower the use of direct governance mechanisms. In our cases, for example, Case 2 was based only on technical information diffusion and was the only one in which indirect governance was employed, with emphasis only on certification requirements without other diffusion methods. In that case, the relationship among multiple stakeholders relied on indirect governance because of a weak information exchange impacting changes (i.e. low sustainability spreading).

As can be seen in Table 2, our data indicate that the cases followed different structures of governance mechanisms towards sustainability. Although all four companies implemented the certification process because of market pressures, it happened in different ways (from internal enablers and inter-organisational relations). According to the pressures placed on the companies, different actions were used to spread sustainability (cf. Carbone *et al.*, 2012). One example is internal enablers, which refers to a top management commitment to develop

Case	Governance mechanisms			Power relationship		
	Direct	Indirect	Key quotations	Mediated	Non-mediated	Key quotations
Case 1	x	–	"All the requirements and working processes are realised in conformity with the top management that passed for the management and then for the producers". (SUP1.1)	Coercive	–	"All the requirements and working processes are realised in conformity with the company that passed for the management and then for the producers". (SUP1.1)
Case 2	–	X	"The attendance for the Fair Trade requirements is essential for the success of our business; if we lose the Fair Trade certification, we need to close our activities". (LO2) "All the cooperative members that were non-conformers in the process of the certification, they are out of the central cooperative. Today, the cooperative members need to attend the Fair Trade requirements to survive. The internal market does not give a financial return". (SUP2.1)	–	Referent	"The cooperative members that fit the selection criteria of the Fair Trade norms were removed from the cooperative". (LO2)
Case 3	x	–	"all the processes are passed through top management during the regular meetings". (SUP3.1) "are passed through the values of sustainability; this is the compromise of the company and our business". (LO3)	Coercive	–	"The company repasses all the production procedures to the workers". (LO3)
Case 4	x	–	"All the information is shared during regular meetings with all the cooperative members. . . . If something occurs in the production, we pass it to the Central Unit, and the decisions are realised in mutual accordance". (LO4)	Reward	–	"Initially, we had eight cooperatives logged. The cooperatives that met the selection criteria of the quality and production have been removed from the central cooperative. Today, we have just five cooperatives logged". (LO4)

Source(s): Research Data (2019)

Table 2. Cross-case analysis on sustainability spreading

actions towards sustainability (see Silva *et al.*, 2020). In Cases 1 and 3, focal companies decided to develop SC integration, which ensured that sustainability was developed in the relationship. Conversely, the main issue for Case 4 was the inter-organisational relationship,

which is based on the cooperative value used to manage the SC. In these cases, even though there were market pressures, the central motivation to develop changes were not the same. Moreover, despite the market pressure, Case 2 developed indirect governance since it had a different supplier source.

The other three cases produced findings aligned with what has been presented in the literature (e.g. Gimenez and Tachizawa, 2012; Koberg and Longoni, 2019) related to the direct governance mechanism promoting better sustainability outcomes. Based on this analysis, we found that sustainability is mainly spreaded through market pressure, for example, to tap certain foreign market segments; however, we also discovered that close relations with third-party SC members (e.g. SEBRAE) are prerequisites to spreading sustainability according to local culture and traditions. SEBRAE is an important institution facilitating sustainability spreading, as it provides consulting support to the producers, mostly related to management and the meaning of cooperativism. The analysis revealed the crucial role of technical information as a method of sustainability diffusion in the course of complying with certification standards, even though other methods were required for direct governance.

Concerning the support of third-party organisations, in Case 1, for instance, the lead organisation defined all requirements and auditing criteria itself based on the guidelines of the organisation called ECOSERT (a certification body for sustainable development). According to Farmer 2, that happens because "[. . .] only the nuts of this company's farms have the organic standard [in the region], so we had to fit [ourselves] into the organic". The same approach was developed by the company in Case 3, when the lead organisation defined the criteria and audited the suppliers. Both cases demonstrated the use of suppliers' assessments, which interacted with the SEBRAE institution. The influence of third parties was also observed in Case 4, but with a different approach. Since the cooperativism was central in this case, we found that the direct governance mechanism was influenced by the relation with SEBRAE and EMBRAPA. The same was found in Case 2 that maintained the cooperativism perspective as well.

5.2.2 Power relationships and mutual dependence. To understand the power category presented in our framework, we analysed the sources of power. Those sources were different in Cases 1 and 3 compared with Case 4; although all three were categorised as mediated sources, they had different roots. In Cases 1 and 3, we observed a coercive power, clearly represented by the vertical integration that is closely related to the transformation of suppliers into a strategic status. That is aligned also with the direct governance mechanism of supplier assessment. In Case 4 we observed that the source of mediated power was reward, where the lead organisation spreaded sustainability to the suppliers based on collaborative actions, which more actively involves third parties. The reward was established by the Fair Trade dynamic, where the buyer organisation incentivises suppliers to comply with sustainability criteria. In Cases 3 and 4, the low levels at which internal markets were absorbing honey production impacting sustainability spreading since the international market pushed for full conformity with procedures; however, in case 4 the situation was more specific due to the different connections among SC members.

In Case 2, the high degree of power imbalance is represented by a non-mediated referent power related to an indirect governance mechanism. This was developed through partnerships with suppliers as well as with the local institutions SEBRAE and EMATER – who provided managerial and technical support. With the help of these third parties, Case 2 sought to transform the mindset and related behaviours of small cashew producers based on information sharing, which sometimes was not effective because several producers were not engaged, as presented by SUP2.1: "[. . .] *even the others that are not yet providing [products to the cooperative] are receiving aid and the same [support] as the rest of the cooperative. And we're still helping many people even who are not in the cooperative*". This source of referent power forms medium mutual dependent relationships, which may be related to the position of

the supplier as a commodity, which demonstrates a lack of trust and a lack of close integration.

In general, for Cases 1, 3 and 4, the Fair Trade or organic certification forced the buyer companies to assert mediated power on their suppliers, since success or failure of these business depended on the certifications. For the coercive power, we identified punishments established by buyers, which were imposed through the implementation of standards, while for reward power the main issue was the value shared with suppliers. Through these methods, sustainability outcomes were directly linked with awareness that was proposed by organic and Fair Trade standards, which relied on the diffusion process. Differently, in Case 2, the small farmers (suppliers) recognised the importance of the buyer organisation as a trade partner, that is, a reference. The small farmers acted individually in maintaining the standards and requirements of the Fair Trade norms. Although they shared a transactional relationship, since Case 2 was based on a cooperative, some level of unity was necessary to apply for governmental funds and projects. These findings demonstrate clear differences in the cooperative and for-profit formats, which affect sustainability spreading, the governance mechanism and the source of power. These results ratify the analytical framework presented in this paper according to which, when moving from a traditional SC to SCS, the better method is to create strategic buyer-supplier relationships through lower power imbalance and high mutual dependence.

6. Discussion

By applying the RDT definitions of power and dependence, we explained how sustainability was spread in four different cases in Brazil. By its connection with governance mechanisms, we found that the method for diffusing sustainability depends on the type of governance (direct or indirect) as well as the type of power (mediated or non-mediated) in the relationship. These findings ratify the contributions presented by Carmagnac *et al.* (2019) and Tachizawa and Wong (2014) in terms of links between SC actors. In practice, we found that direct governance mechanisms and mediated power are closely connected, which engages suppliers within sustainability spreading (Gimenez and Tachizawa, 2012; Meqdadi *et al.*, 2017). Also, we found that even based on market stakeholder pressures (cf. Carbone *et al.*, 2012), the sustainability spreading was developed with the support of third parties. The role of third parties in supporting the sustainability adoption by different SC players has received attention in the literature recently (e.g. Seuring *et al.*, 2019; Silva *et al.*, 2018).

Our analytical framework demonstrates that to understand how sustainability is spread, it is relevant to understand the buyer's perception of a supplier in a range from commodity to strategic suppliers (Pagell *et al.*, 2010). We contribute to the literature by presenting a new approach for using the RDT to analyse SCS. Similar to Schleper's *et al.* (2017) discussions, we found that lowering degrees of power imbalance and heightening mutual dependence should be seen as the main target for companies aiming for sustainability, since these conditions facilitate the development of strategic (commodity) suppliers that focus on sustainability performance (cf. Candelo *et al.*, 2018; Ramirez *et al.*, 2020). The use of direct governance mechanisms (assessment of and collaboration with suppliers) was found in three of our cases as the main way to extend sustainability to suppliers (Gimenez and Tachizawa, 2012; Lund-Thomsen and Lindgreen, 2014). This finding is in accordance with Koberg and Longoni (2019), who claimed that sustainability outcomes in global SCs are rarely related to indirect governance mechanisms (e.g. certification).

Collaboration seems to have a unique position in our discussion, since even though the focus is on creating strategic (commodity) suppliers, it does not need to be developed out of partnership. According to Chen *et al.* (2017), collaboration involves information sharing, strategic alliance, performance and cost reduction. Collaboration became essential for SC integration, especially within buyer-supplier relationships (Kanyoma *et al.*, 2018;

Ralston *et al.*, 2017; Roy *et al.*, 2018). In our research, we found that the cooperative requires more collaborative behaviours of its members, which happens through daily practices. For instance, trust is the basis of their relationships, which differs from for-profit companies that opted for vertical integration. This ratifies the existence of differences between SC types (i.e. for-profit and cooperative organisations) in SCS, which represents one of our main findings. Vertical collaboration and importance of partnerships, including those with third parties, were pointed out by Leon-Bravo *et al.* (2017) regarding food SC in Italy. SC members that follow a model of collaboration develop relationships that leverage a combination of formal and informal governance mechanisms (Touboulic *et al.*, 2014). That became clear from the interviews since the enablers that extended sustainability in both SC types were different.

Similar to what was presented by Jia *et al.* (2018) for SCS in emerging economies, our sample demonstrates that in Latin America, some barriers are related to lack of knowledge and awareness, social barriers and corruption, as was identified in different cases, mainly Case 2. One issue that is important to highlight as different is the political support (Tanco *et al.*, 2018), which was used to create and support the operations of Cases 2 and 4, but was discontinued by the change of government priorities. That is one of the main differences between both SC types studied (cf. Silva *et al.*, 2020). We contribute to the literature by presenting how to connect governance mechanisms and sources of power and we provide new insights into SCS from a Latin American perspective, which is relevant due to the research focus on Europe and North America concerning sustainability extension throughout SCs (Gimenez and Tachizawa, 2012). Thus, our paper adds an original approach to understanding these topics.

Currently, a trend exists in sustainability practices to focus on the economic and environmental dimensions of organic production, which is aligned with the debate by Cagliano *et al.* (2016) regarding which elements are necessary to develop food SCS. Social sustainability was more evident in cooperative SCs, which are directly related to the Fair Trade standard. That ratifies the findings of Azevedo *et al.* (2018), who claimed that the social dimension is the most relevant in that region. However, during the research it was possible to find other elements that corroborated with Fritz and Silva's (2018) discussion about TBL+. Our findings indicate that high levels of support from third parties and a strong connection among the cases with the governmental structure have influence in SCS, since the involvement of institutions emerged as a relevant SCS issue based on power and management issues among SC players (Silvestre, 2015).

In this context, when routines and behaviours have changed due to the adoption of the certification scheme, we find connections with the cultural dimension since the small suppliers started to develop new actions when producing the product following sustainability standards. These results show that, by moving the emphasis beyond the traditional TBL approach, we find novel nuances with regard to SCs and their multiple dynamic relationships embedded in multi-level structures. The investigation into "economic, moral, political, cultural and socio-psychological aspects of supply chains and their interactions with society and nature" has been classified from a philosophy of knowledge perspective as SCM research at its "protective belt", calling for theoretic and methodological openness (Gold, 2014, p. 5). In addition, more recently, the concept of "panarchy" has been introduced into the SCM discourse for conceptualising SCs as open, social-ecological systems that are dynamically interlinked through adaptive cycles with other levels such as the political-economic level and the planetary level (Wieland, 2020).

7. Conclusions, limitations and further research

Based on the empirical results, the central answer to the research question is that the spreading of sustainability standards throughout the SC is directly connected with the type

of governance mechanism assumed by the company. We found that direct governance appears to be better suited for spreading sustainability between buyers and supplier, while indirect governance is less effective. It is worth pointing out that the governance mechanism follows strictly the sustainability rules required by the organic and Fair Trade labels. Our paper contributes to knowledge on how sustainability standards are diffused throughout SCs (e.g., Castka and Balzarova, 2008) in a Latin American country and follows the call by Tachizawa and Wong (2014) to specifically investigate related contingency factors, such as power relationships and distance between business partners. On the practice side, it guides managers in their efforts to spread (more) sustainable practices towards their supply base.

This paper makes two main *theoretical contributions*. First, we found that the RDT can facilitate understanding of how sustainability standards are spread from lead organisations to SC members. Our research indicates that the lead organisation's type (i.e. cooperative or for-profit) influences how power and mutual relationships are developed in a SC, including relationships with third parties. For example, for-profit lead organisations assume a more top-down approach based on coercive power, while cooperative lead organisations show greater flexibility in interacting with and governing their suppliers. This attitude impacts directly the quality of mutual relationship between buyers and suppliers, which is shaped in a dynamic manner by further elements (e.g. trust). Second, our research reinforces the role of third parties as non-traditional SC members (Rodríguez *et al.*, 2016) in guiding companies in terms of SC integration and collaboration, since they can devise strategies for effectively spreading sustainability in their SC. It resonates with the ongoing conceptual discussion of when and how to shift suppliers from commodity to strategic suppliers. These contributions demonstrate that the buyer-supplier relationship cannot be limited to such a relation but must embrace a multitude of stakeholders in the supply network.

Managerial implications emerged from this research, since it demonstrates that through recognising power and dependence relationships with SC members, lead organisations can take effective action to move their suppliers from commodity supplier status to a strategic position, which can contribute to improving their sustainability outcomes. We also highlighted that the connection with third parties is a powerful way to achieve SCS, which may be more specific to a Latin America context. We also found *policy implications*. Policymakers may use this information to develop policies to support both cooperative and for-profit organisations as well as to continue to strengthen the local institutions that are used to disseminating technical and managerial information. These actions may strengthen the connections between SC members in regard to defining relationships and also market strategies, which relate to standards and are closely integrated with exporting production.

As a limitation, due to specificities in the research setting the findings can barely be generalised to other SCs in different contexts. We concentrated our analysis on power and governance and, thus, have not investigated sustainability spreading in all its aspects and comprising all its elements. We also did not focus on analysing the sustainability benefits and consequences of the spreading process, which is a fruitful avenue for follow-up research. Future studies may advance such discussions by investigating in further detail the different patterns of sustainability spreading and diffusion and how they are connected to power regimes, governance mechanisms and network structures. Finally, future research may investigate how different forms of power can influence the level of engagement and reduce the distance among SC members and include third parties so as to create a business ecosystem that supports transition towards sustainable business practices.

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