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Designing global trade and logistics channels: a focus on the Chinese food and beverage market

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Abstract

Internationalisation ventures entail a close relationship between the trade channel (TC) and the logistics channel (LC), but few studies address simultaneously TC and LC design. This study investigates how TC can influence LC design and explores the role played by related contextual factors. Abductive reasoning is adopted within middle-range purposes, elaborating previous theory with multiple case studies considering European food manufacturers tackling a specific empirical context (i.e. the Chinese food and beverage market).

The study lends contingency theory elements and leverages them to develop nine propositions that can open to further inquiries about the influence of TC on LC design and the impact of the identified contextual factors. Moreover, it proposes the behavioural theory as a theoretical lens to approach LC (and not only TC) design. Lastly, it provides practitioners with insights that can be useful to improve their understanding of the Chinese food and beverage market.

Keywords: Global distribution channel design, Logistics channel, Trade channel, China, Food and beverage market, guanxi, multiple case studies

Paper type: Research paper

1. Introduction

Reduced trade barriers, improved transport solutions, and breakthroughs in information technologies make it possible for companies, even smaller ones, to gain a global scope (Cohen and Lee, 2020). Global market environments, especially in developing and emerging countries, offer today significant opportunities (Lorentz et al., 2013; Spillan et al., 2013), but designing distribution channels on a global scale is highly challenging (Branch, 2009; Prataviera et al., 2020a).

The distribution channel is made up of the trade channel (TC) (i.e. the way to sell to customers) and the logistics channel (LC) (i.e. the way to fulfil customers' demand), and a close relationship between designing TCs to enter a new market and designing LCs to support sales does exist (Dornier et al., 2008; Prataviera et al., 2020b). From a behavioural perspective, which helps describe the commitment of individual companies to foreign markets through a sequence of incremental decisions and a gradual market learning, TC design is generally assumed to lead the internationalisation venture (Johanson and Vahlne, 1977). Nevertheless, the growth in international trade increasingly entails that logistics represents the backbone of the whole internationalisation process (Peterson et al., 2000; Straube et al., 2008; Pemberthy et al., 2019). Heretofore, global distribution channels have usually been examined by studying individual aspects separately (e.g. Melacini et al., 2011), and few contributions jointly analysed TC and LC design (e.g. Marchet et al., 2016), or investigated the influence of contextual factors on TC or LC design (e.g. Zeng and Rossetti, 2003; Lorentz et al., 2013).

In today's context characterised by growing demand in speed and flexibility, aligning LC with TC is paramount when shaping companies' global strategy (Sabri et al., 2017; Harris et al., 2018). On the one hand, logistics is a key enabler for company internationalisation (Marchet et al., 2016). On the other hand, internationalisation contributes to increase in logistics network complexity (Gunasekaran and Ngai, 2004). Consequently, better understanding the close relationship between TC and LC can improve practitioners' decision-making (Dornier et al., 2008). Moreover, a deeper knowledge of the factors affecting the two channels' design can enable companies to determine what scenarios they need to plan for (Cohen and Lee, 2020).

Based on this evolving landscape, the objective of this research is to provide a clearer understanding of the relationship between TC and LC design, to explore how the former can influence the latter and what could be the role played by related contextual factors. Two research questions (RQs) follows:

RQ1: How does TC design influence global LC design?

RQ2: How do contextual factors influence TC and LC design?

To address the identified RQs, multiple-case research was conducted. Given the important role played by country and industry peculiarities in a global landscape (MacCarthy and Atthirawong, 2003), this study focused on a single country and a specific industry. It considered a specific subset of phenomena within a given domain, thus resulting in a middle-range approach (Stank et al., 2017). Taking the perspective of European companies, China and the food and beverage industry were respectively selected to define the empirical context. Over the past 30 years, China turned into the most promising and fast-growing developing nation (Liu, 2014; Giuffrida et al., 2017; Song et al., 2019). Moreover, China has become the world's largest consumer market for food and beverage, thus representing an increasingly attractive option for foreign brands (Balestrini and Gamble, 2006; Wang et al., 2016; Yi and You, 2018). Lastly, distribution channel design is considered to be one of the most critical determinants of business success, and China makes no exception (Jiang and Prater, 2002; Liu, 2014; Yu et al., 2017). The paper is organised as follows. The next section offers a review of the related literature, followed by the adopted methodology. Case descriptions are then presented, followed by research findings and the related discussion. Lastly, conclusions are drawn alongside suggestions for further research.

2. Related literature

2.1. Global distribution: TC and LC design

Global distribution channel design involves the combination of two main elements: TC and LC (Dornier et al., 2008). TC (or entry-mode choice) indicates the way a company enters a new market from a commercial point of view. TC can range from an indirect presence, for example through importers or independent agents, to a direct presence involving sales subsidiaries or even production plants (Johanson and Vahlne, 2009). LC refers to type, size, number, and location of logistics facilities as well as transport modes and level of logistics outsourcing (Meixell and Gargeya, 2005), playing a crucial role to ensure the achievement of corporate objectives (Branch, 2009; Harris et al., 2018).

To analyse how companies behave regarding global TC design, several theories have been proposed (Marchet et al., 2016). From a behavioural perspective, the internationalisation process is based on a sequence of incremental decisions and gradual market learning. The main contribution to the behavioural theory is represented by the Uppsala model (Johanson and Vahlne, 1977; 2009), according to which four progressive TCs can be selected by a parent company to sell products in foreign markets: no regular export activities; export via independent agents; creation of sales subsidiaries; establishment of production facilities. Several empirical studies have supported the Uppsala model, including Marchet et al. (2016). That study specifically focused on finished goods distribution according to a make-to-stock approach, excluding from the research scope the

opportunity to have production establishments in the foreign market. In their perspective, plant location decisions are driven by other factors than global TC design choices, such as low-cost labour availability or proximity to raw material suppliers. Starting manufacturing activities abroad is often considered beyond the logistics scope, as it pertains not only to finished goods distribution, but entails a broader involvement of additional business units and functions (e.g. procurement and purchasing, or manufacturing) (Dornier et al., 2008; Prataviera et al., 2020a).

As concerns global LC design, the literature is characterised by different approaches (Spillan et al., 2013; Rushton et al., 2014). On one side, it may focus on facility location, production/distribution centralisation, or postponement strategies (Cooper, 1993; Ferreira et al., 2018). On the other side, it may refer to finished products only, including all logistics decisions behind international sales (e.g. Straube et al., 2008; Creazza et al., 2010; Prataviera et al., 2020b). In line with the latter approach, five main logistics variables can be related to LC design, as they contribute to shaping it as a whole (Marchet et al., 2016): level of control on logistics flows; logistics network design; type of relationship with logistics service providers (LSPs); inventory planning centralisation level; and transport planning.

When companies approach a new market, the first decision they face concerns the type of market entry (Hu, 2018). Global distribution channel design thus entails first decisions related to setting TC for a foreign market (Johnson and Tellis, 2008). Global TC design affects decisions at any other level and business functions, as those should be aligned sequentially (Straube et al., 2008). Therefore, LC should be designed accordingly (Melacini et al., 2011; Rushton et al., 2014). Nevertheless, despite the significance and the topicality of the problem, the relationship between TC and LC has not been fully investigated so far. In more detail, few studies explored the influence that TC design holds over LC design. For example, according to Marchet et al. (2016) four out of their five logistics variables are related to TC design. Although found in the literature as a relevant element to design global LC, the type of relationship with LSPs did not seem to be influenced. Moreover, behavioural theory is widely considered to describe and explain TC design, but there is a lack of studies that leveraged it to discuss LC design as well. If behavioural theory helps enlighten TC-related decisions, and LC design follows, it might be beneficial to investigate if and how it applies also to the latter.

2.2. The influence of contextual factors on TC and LC

Contingency theory (Lawrence and Lorsch, 1967) argues that no theory or method can be applied in all instances, and companies have to adapt their structures to maintain fit with changing contextual factors (Ellram and Cooper, 2014; Sabri et al., 2017). First, market-related factors (i.e. market knowledge, export volumes, and delivery lead time) should be discussed (Hu, 2018). When market

knowledge and export volumes are low, companies usually do not have a direct presence in the foreign market (Anderson and Coughlan, 1987). As they increase, companies might start to directly manage sales abroad, also increasing their control over LC (Marchet et al., 2016). Moreover, the delivery lead time allowed by customers deeply influences LC design, as stricter lead times force companies to create inventory positions closer to customers (thus affecting logistics network design and inventory planning centralisation level) (Lovell et al., 2005). Conversely, delivery lead times do not affect TC design, as the type of market entry is not driven by the time needed to serve customers but instead by current market knowledge and overall export volumes (Johanson and Vahlne, 2009).

Besides market-related factors, also product-related characteristics can influence distribution channel design (Lorentz et al., 2013). Product characteristics are particularly critical in the food and beverage industry (Ortega et al., 2011; Dani, 2015; Yi and You, 2018), as it offers unique characteristics and requirements (Balestrini and Gamble, 2006; Ferreira and Alcântara, 2015). For example, products' shelf life introduces legal obliges to keep temperature-controlled supply chains (Abukhader and Jonson, 2007; Lorentz et al., 2013; Gallo et al., 2017; Ali et al., 2018). Along with product perishability or rapid delivery requirements, it can heavily affect LC design, including the relationships with LSPs (van Hoek, 1999; Marchet et al., 2018) and the transport mode choice (Harris et al., 2018). This latter is also highly dependent on the product volume density, as the ratio between the product weight and the space occupied can lead towards alternative transport solutions (Zeng and Rossetti, 2003; Creazza et al., 2010). On the other hand, product value density (i.e. the ratio between the product monetary value and its weight) influences both TC and LC design, as higher values push companies to have a stronger commitment to markets and stricter control on logistics flows (Creazza et al., 2010; Rushton et al., 2014). Similarly, the higher is the product vulnerability, the higher should be the control on both TC (by increasing the company's presence abroad) and LC (Lovell et al., 2005; Rushton et al., 2014). Table 1 summarises relevant contextual factors for designing global distribution channels, and whether they influence TC or LC.

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2.3. Doing business in China and distribution channel peculiarities

The Chinese society is a relational society (Spillan et al., 2013) where guanxi (relationships, or connections) play a crucial role in both social and business norms (Park and Luo, 2001; Lo and Chung, 2007). Guanxi can be viewed as "friendship with implications of continued exchange of favours" (Jiang and Prater, 2002), and effective guanxi is even more important for foreign investors to develop adequate market knowledge (Lee and Humphreys, 2007; Hu, 2018).

According to TC design, foreign companies need to face high internal protectionism, aimed at supporting local companies at the expense of competitors (Anderson and Coughlan, 1987; Luo, 2003). Given the hard difficulties in achieving a wholesaling license, most of the companies operated in China on an agency basis, choosing the Chinese counterpart to carry on sales transactions (Lee and Humphreys, 2007; Hu, 2018). However, as companies improved their market knowledge and developed stronger guanxi (Park and Luo, 2001), increasing interest emerged towards establishing authorised trading companies to import goods into China (Zhao et al., 2007; Cai et al., 2010), or creating joint ventures (JV) with local partners (Zhang and Figliozzi, 2010). In both cases, local subsidiaries were intended to play a central role, in light of their high potential as learning centres rather than mere executive branches (Hu, 2018).

According to LC design, government efforts led to developments in Chinese logistics infrastructures (Goh and Ling, 2003; Liu, 2014). Similarly to the trade environment, Chinese logistics environment presents its own peculiarities (Zhao et al., 2007; Min et al., 2014). First, the importance of Free Trade Zones (FTZs) in logistics network design was highlighted (Jiang and Prater, 2002; Lee and Humphreys, 2007), as well as the increasing role played by Taiwan and Hong Kong as logistics "supporters" of Mainland China (Gunasekaran and Ngai, 2004; Liu, 2014; Giuffrida et al., 2017). Then, with reference to the level of control over logistics flows, it is highly related to the type of relationship with LSPs (Jiang and Prater, 2002). Given the high bureaucratic barriers when entering China, foreign companies can rely on local players' guanxi to get access to the market (Park and Luo, 2001; Hu, 2018) and to benefit from local partners' expertise and knowledge of their markets (Bortoluzzi et al., 2015). Lastly, companies can mitigate customs uncertainties by developing collaborative relations with customs agencies, or team up with LSPs that have developed such relationships (Sawhney and Sumukadas, 2005).

3. Methodology

3.1. Research design

This study aims at investigating the relationship between TC and LC design from a behavioural perspective, pursuing theory elaboration purposes (Clifford Defee et al., 2010; Ketokivi and Choi, 2014). A middle-range approach was adopted, facing the problem given a well-defined and limited research domain (Stank et al., 2017), To extend academic knowledge with inductive, qualitative observations of practice, an abductive approach was adopted (Ketokivi and Choi, 2014), and the existing literature was elaborated through multiple case study research (Yin, 2009). Case study research is suitable for empirically investigating a contemporary phenomenon within its real-life context, allowing for the development of in-depth knowledge of the underlying relationships among

variables as well as their evolution over time (Choi and Wacker, 2011). Furthermore, it is particularly appropriate to explore a problem concerning different contingency factors (Clifford Defee et al., 2010). An embedded research design was considered (Yin, 2009), tackling TC, LC, and contextual factors as embedded sub-units within larger units of analysis represented by European food manufacturers with established, commercial initiatives towards the Chinese market.

This empirical context was defined in light of the important role played by country and industry peculiarities in a global landscape (MacCarthy and Atthirawong, 2003). In line with similar studies (e.g. Hu, 2018), the Chinese food and beverage industry was selected because of its increasing relevance for European companies (Balestrini and Gamble, 2006; Spillan et al., 2013; Wang et al., 2016). More in detail, in 2017 China was the second most common destination for goods exported outside the EU (10.5 % of the European total); between 2008 and 2017 China also registered the highest growth rate among the main EU trading partners, as exports to China almost trebled (+192%) (European Commission, 2018). Moreover, between 2012 and 2017 the highest growth rate for extra-EU exports was registered for the food and beverage industry (+22.9%), whereas the growth rate for EU food and beverage exports to China was even higher (+131%) (European Commission, 2018).

Case selection was based on a theoretical sampling and was carried out in two steps, driven by the opportunity to gain accessibility to the type of phenomenon of interest and to study it with potential for new insights (Voss et al., 2002). First, a list of European food companies operating in China was identified through trade press articles and discussions with practitioners. These companies were approached through contacts activated by two Italian universities, to determine the possibilities to make further inquiries. From this larger sample, a limited number of companies was identified, aiming at collecting information that best supports the development of knowledge, therefore driven by both the availability of the companies and the inclusion of representative or typical cases (Yin, 2009). As suggested by Eisenhardt (1989), a suitable number of cases should be between four and ten. Five food manufacturing companies were selected with different characteristics in terms of TC and LC design, and of the contextual factors identified in the literature. They were assumed to be representative of a wider population (Yin, 2009), as they possessed specific traits that made them appropriate to address the RQs underpinning the study (Voss et al., 2002). Specifically, the selected cases were set within the boundaries defined by the research purpose (Miles and Huberman, 1994), representing polar types as they were characterised by different TC and LC setups, as well as different company size, export volumes, and market knowledge (Voss et al., 2002). Since one case highlighted an evolution in the company's choices, it was subdivided into two cases (cases A1 and A2). Table 2 provides an overview of cases' characteristics with respect to relevant contextual factors. As regards TC and LC design, the abductive approach adopted led to elaborate previous constructs (Ketokivi and Choi, 2014).

Therefore, the related theoretical variations in the chosen cases are exhibited in Table 5, under the "Findings" section.

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Given the possible four progressive stages to design TCs proposed in the Uppsala model (Johanson and Vahlne, 1977), the present research excluded the opportunity to set foreign production facilities, in line with Marchet et al. (2016). This assumption was driven by the high reputation of European food and beverage products, which involves strict requirements in terms of products' origin (Balestrini and Gamble, 2006).

3.2. Data collection

For each case, interviews were carried out since they represent essential sources of case study information, allowing the reconstruction of events and providing perceived causal inferences (Yin, 2009; Hu, 2018). To ensure a strategic vision about global distribution channel design, interviewees were senior logistics or export managers. Interviews were characterised by a focused approach (Yin, 2009), to allow for exploring the answers deemed most useful for a better understanding of the phenomenon. Every interview was based on a list of open questions (provided in Appendix A) that became more and more detailed with the progression of the work. Questions were first proposed generically, then providing additional information taken from the literature to facilitate interviewees' answers and link them to the extant literature (Voss et al., 2002). For example, contextual factors were not immediately shared with the interviewees, leaving them the freedom to propose the ones they deemed relevant. Later, the ones highlighted in the academic literature were introduced. Each interview lasted approximately 120 minutes, and instruments (recorder and written notes) were used to consolidate the collected information. Due to the sensitive nature of the topic, confidentiality was guaranteed to interviewees and, therefore, neither company nor individuals will be revealed.

Internal validity was supported by using variables derived from the literature and then triangulating data collected through either interviews or secondary sources (Ellram, 1996). Data triangulation was an integral part of the process, and multiple sources including industry reports, news articles, and other available public documents were consulted to corroborate evidence and improve the study's construct validity (Eisenhardt, 1989). Once the data was collected, the draft of notes and the final documentation of each case were sent back to the interviewees to check the level of validity and accuracy between the data collected and their ideas for the final approval, thus increasing the study's reliability (Yin, 2009). In addition, a law consultancy firm based in Shanghai was involved to get a

deeper knowledge of the laws directly tackling the food trade and safety in China. Lastly, searching for patterns through cross-case analyses helped increase the external validity of the results (Ellram, 1996). Overall, interviews and secondary data were collected from June 2016 to December 2017.

3.3. Data analysis

The data analysis process followed the ladder of analytical abstraction (Kembro and Selviaridis, 2015). Intending to explore and understand global distribution channel design, the first step in the analysis was to code the collected data, as it is central to effective case research (Voss et al., 2002). Coherently with the abductive approach adopted, former theory and empirical data were examined simultaneously and in a balanced manner (Ketokivi and Choi, 2014). Therefore, a provisional start list of coding categories was created from the literature on TC or LC design (e.g. Melacini et al., 2011; Marchet et al., 2016). Examples of coding categories included: internationalisation choices (e.g. direct or indirect channels), logistics variables (e.g. network design choices, level of control on logistics flows), and contextual factors (e.g. market knowledge). However, research on global distribution channel design has mainly focused on either TC or LC, while other relevant coding categories may exist on a distribution channel level. Therefore, the data from the case studies were analysed in several ways by iteratively applying open and axial coding to develop relevant variables (Ellram, 1996). Variables were updated after each interview, continuously comparing the new information with that previously collected, and reformulating them whenever more meaningful insights emerged (Voss et al., 2002; Yin, 2009). As previously introduced, using variables derived from the literature and then triangulating data collected through interviews or secondary sources improved the study's internal and construct validity (Ellram, 1996). Also, by interpreting contextual idiosyncrasies as empirical elaborations of more general categories, a sense of generality was established and the duality criterion proposed by Ketokivi and Choi (2014) was met.

First, TC and LC descriptions and related available options were updated according to research results, as explained in Tables 4 and 5. One example of a variable that was developed during the data analysis is the decision centralisation level about LC design, which was enlarged with respect to a pure logistics perspective to consider also the influence of TC. Once TC and LC variables were operationalised, related characterisation in the different cases was summarised (Table 5). It increased the depth of understanding required for cross-case analysis (Voss et al., 2002), and it also allowed to look for explanation and causality (Miles and Huberman, 1994). By writing up memos with pattern codes after each interview round, it was also possible to "look for recurring phrases or common threads in informants' accounts" (Miles and Huberman, 1994, p. 70). An example of such a common thread was the interviewees' perception of difficulties related to defining the control on logistics flows

by either the parent companies or the subsidiaries abroad. As common threads emerged from a sub-sample of the entire dataset, they were compared with the rest of the already transcribed interviews. Also, insights from conducted interviews were brought up in the remaining interviews to receive additional comments to confirm or contest any common thread.

Lastly, data were put together in new ways to regroup and link categories into each other in a different manner (Voss et al., 2002). Pairs of variables were picked, looking for similarities and differences (Miles and Huberman, 1994); then, the same process was repeated with pairs of cases (Voss et al., 2002). Some considerations arose, related to the influence played by TC on LC variables. Such influence was assessed in a relative manner along a three-point scale (i.e. "low", "medium", "high") (Table 6), starting from interviewees' answers and then elaborating through a qualitative cross-case analysis in line with former contributions (e.g. Marchet et al., 2016). Then, contextual factors came into play, and a new array was developed (Table 7) summarising findings related to the different cases according to TC and LC variables operationalisation developed in Tables 4 and 5. The above-mentioned approach that looked for similarities and differences first considering pairs of variables and factors, and then pairs of cases, was adopted. In this way, it was possible to introduce additional statements related to the influence of contextual factors on TC and LC variables (Table 8). Relative measures were developed, as previously explained.

4. Cases descriptions

In line with the literature, case studies confirmed that China is characterised by a peculiar legal and commercial environment that deserves to be explained in advance. To better illustrate cases' results, an overview of Chinese customs and regulations about the food and beverage market is thus proposed. The General Administration of Customs (GAC) is a ministry-level organisation that controls all imports and exports through 600 customs houses or offices and nearly 4,000 customs clearance control stations. Focusing on the food and beverage industry, the China Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) is the most important authority. Except for licenses and duties, which are managed by GAC, AQSIQ is responsible for controlling the food safety of products entering and leaving China. It is forbidden to import food products that do not meet the requirements of Chinese food safety laws, regulations, and standards. Foreign companies are fully responsible for the compliance of their products with Chinese laws, including labels and instructions that must be written in Chinese. The registration of foreign producers is abolished (which entails a products' ban) when fake data is provided for registration or imported products cause serious food security accidents.

4.1. Case A1

Company A first established a consulting company, that is, a Chinese form of society aimed at providing documents translation and legal information collection. As concerns LC, company A completely relied on a big LSP, characterised by strong expertise in wine transport. It was in charge of the main sea-freight line-haul and of unloading goods, storing them, and clearing them to customs authorities. More in detail, goods were undocked and trucked to a temperature-controlled warehouse in an FTZ. Here, three activities took place simultaneously: customs clearance, AQSIQ controls, and labelling. Once the goods were cleared, they moved to a traditional (i.e. non-bonded) warehouse for storage, still at controlled temperature. This configuration was characterised by high lead time length and variability, mainly due to how the LSP agreed to carry out customs clearance and AQSIQ controls. Although the two activities could be concurrently run, it was decided to wait for AQSIQ controls before clearing goods.

4.2. Case A2

As market knowledge increased, Company A transformed the consulting company into a trading company, which was allowed for directly selling products to Chinese customers. Moreover, it was possible to establish deeper relationships with the involved stakeholders, as well as holding owned stock in China. Overall, Company A was not satisfied with customs clearance management. Thanks to improved market knowledge, Company A decided to spot a new broker who granted faster customs clearance. This choice led to re-design the LC. Road transport and temperature-controlled storage after customs clearance were still entrusted to the former LSP, but the sea-freight line-haul was operated by a new LSP. Lastly, a new independent broker was in charge of customs clearance, who directly reported to Company A: this allowed for reducing customs lead time to 10 days.

4.3. Case B

Company B established a trading company with an importing license in Hong Kong, rather than in Mainland China. Every month, Company B shipped up to three 40’ containers by vessel from Italy to Hong Kong port. Here, containers were undocked and trucked to the Shenzhen border, where customs authorities inspected the cargo and attached documentation, before clearing the goods. At the border, goods were also examined by AQSIQ. Afterwards, they were transferred to a temperature-controlled traditional warehouse in China, to be labelled and to wait for AQSIQ approval. Finally, goods were sorted to local distributors. Each logistics operation was performed by different LSPs. On one side, LSPs for sea-freight and last-mile delivery were chosen time by time according to fares and availability. On the other side, port handling, road transport from Hong Kong port to the Chinese

border and then to the Chinese warehouse, and customs clearance were arranged by a local broker, with whom Company B has been developing a strong relationship.

4.4. Case C

Company C created a trading company and decided to entrust the whole logistics process to a single LSP, which in turn relied on a local broker with strong guanxi to perform customs clearance. Given the high-value density of its products, and their high perishability, only airfreight transport was performed (regardless of the shipped quantity). When goods were unloaded from airplanes, they were immediately trucked to a warehouse in an FTZ, characterised by controlled temperature and refrigerated areas (required for ice-creams and chocolate). In this high-controlled environment, Company C could wait for customs clearance procedures (including the execution of AQSIQ controls and labelling operations) without affecting products' perishability. Once the goods were cleared, they were transported by refrigerated trucks to a small refrigerated storage facility out of the FTZ.

4.5. Case D

Company D opened a Chinese branch to collect orders from China, create forecasts, and coordinate with its Dutch parent company about quantities to be produced and then distributed to the Chinese market. It fully outsourced logistics operations to a single LSP. Around 1,000 tons/year were shipped from Europe to China through sea-freight refrigerated containers. Goods were unloaded by vessels and moved to a temperature-controlled warehouse in an FTZ, where AQSIQ examinations were carried out as well as customs clearance procedures. Goods were kept in the FTZ until both AQSIQ and customs clearance operations were completed. Afterwards, goods were shipped to local distributors.

4.6. Case E

Company E was characterised by a very low knowledge about the Chinese market, procedures, and laws, as well as a lack of logistics capabilities. It started distributing in China after being contacted by the European agent of a large Export Trade Company, transferring to it the title to the goods in Europe and completely trusting it as a player with strong capabilities related to frozen and chilled food and beverage management. Company E did not have any visibility or control over the global distribution channel. The independent intermediary arranged transport (both line-haul and road transport), warehousing, and handling of goods, relying on its LSP. Furthermore, it coped with AQSIQ authorities and handled customs clearance operations and labelling activities.

5. Findings

The Uppsala model proposed four stages to design global TCs (Johanson and Vahlne, 1977); as previously introduced, this study considered three possible alternatives for TC design, in line with Marchet et al. (2016). Marchet et al. (2016) also summarised previous literature, formalising five main variables that can be instrumental to characterise LC design. The empirical context offered additional insights and some differences emerged. TC alternatives and LC variables were thus adapted according to cases' outcomes, as shown in Table 3 and Table 4, respectively. On the one hand, TC alternatives were updated to cope with Chinese peculiarities. As highlighted by Company A's export manager, "entering the Chinese market is far from being easy; however, once you choose to create a local branch in China, you can choose either a Consulting or a Trading Company. Despite the procedures related to a Consulting Company are easier to cope with, a Trading Company allows for directly selling products to Chinese as well as having the opportunity to develop stronger guanxi". On the other hand, some LC variables were modified to better relate with companies' experience. For example, "inventory planning centralisation level" proposed by Marchet et al. (2016) was elaborated into "decision centralisation level". As claimed by Company B's logistics manager, "when you have local branches abroad, defining and allocating responsibilities to either the parent company or the branches is extremely important. With specific reference to China, which is characterised by complex customs clearance operations, this kind of decision includes inventory planning but necessarily involves also transport issues, due to the high interdependencies in place between inventories and transport. These decisions are then operationalised through the Incoterms rule definition, driven by the willingness of the parent company to get more or less involved".

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Table 5 summarises TC alternatives and LC variables in the case study analysis, according to the updated definitions.

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Some considerations can be drawn concerning single variables characterisation. Regarding the decision centralisation level, when companies change TC by increasing foreign commitment, they can also change branches' autonomy. According to cases, it could be either centralised, coordinated, or decentralised. In case A2, the foreign sales subsidiary made all decisions about which products

import and when (decentralised approach). On the other hand, Company E fully relied on independent intermediaries, and decisions were centrally taken by the parent company. Company E could hence be considered as an example of "centralised approach", although it had no control over global distribution, neither TC nor LC. Companies in cases A1, B, C, and D were characterised by an intermediate or coordinated approach.

According to the level of control on logistics flows, it was strictly related to creating or not a foreign branch, which also encompassed the visibility on the flows. It could be low, medium, or high. Case E did not entail any physical presence abroad, with a very low level of control on the logistics flows. Instead, an owned branch allowed for high visibility and level of control (cases A2, B, and C). The other cases (A1, D) could be located in the medium range.

As for the type of relationship with LSPs, none of the interviewed companies performed in-house logistics activities. Some recurrent patterns emerged, in line with the framework proposed by Straube et al. (2008). Cases A1, C, and D were categorised under the One-Stop-Shop relationship, whereas cases A2 and B as segmented outsourcing. Case E cannot be categorised as either of the two solutions since the company did not manage global distribution at all.

As concerns logistics network design, three alternatives were considered: direct shipment, one-echelon network, or two-echelon network, in line with Marchet et al. (2016). The two-echelon network was adopted by companies in cases A1, A2, C, and E, while the one-echelon configuration was chosen by companies in cases B and D. All cases were characterised by transiting through FTZ: due to government incentives, the FTZ solution was cheaper than detention and demurrage costs paid to shipping companies in port/airport facilities. After completing customs clearance procedures, goods were transferred to non-bonded warehouses (cases A1, A2, C, E), at controlled temperature (if needed), where holding costs are lower. Company B and D did not rely on additional facilities, directly serving customers (mainly distributors) from FTZ warehouses (one-echelon network). Also, company B network was characterised by transiting through Hong Kong (HK) port.

Lastly, Transport mode could be either sea-freight or airfreight. Cases A1, A2, B, D, and E were characterised by sea-freight. Conversely, Company C preferred airfreight to carry its luxury products. Both transport modes were characterised by the use of specific containers to keep controlled temperature. No relevant influence by TC design choice emerged.

6. Discussion

6.1. The influence of TC on LC design

As highlighted in the literature, companies first set TC to serve a foreign market, then design LC variables to support the chosen TC (Straube et al., 2008). LC variables first proposed by Marchet et

al. (2016) were updated, and the specific influence of TC design on these variables was investigated. A summary of the influence of TC design on the identified LC variables based on the case study analysis is provided in Table 6.

-Place_Table_6_here-

TC design heavily influenced the level of control on logistics flows as well as the decision centralisation level. When serving the market through an independent intermediary, the level of control on logistics flows is low and it allows only a centralised approach for decision-making. The incidence on the other LC variables is low, as the company is not managing global distribution. When market commitment increases and an owned intermediary is established, the control over logistics flows increases. Companies usually choose a single LSP to perform a door-to-door service and can start to decentralise some decisions (e.g. those related to forecasts management or demand planning) (Marchet et al., 2018). However, TC influence on logistics network design was quite limited, because transiting through an FTZ (Jiang and Prater, 2002) seemed driven by other contextual factors (e.g. market knowledge, or product vulnerability). Lastly, the creation of a sales subsidiary entailed the highest level of control on logistics flows and the adoption of segmented outsourcing when coping with LSPs. Decision centralisation level can also increase, although only case A2 showed a decentralised approach (where market knowledge was the highest). As concerns the owned intermediary, the influence over LC design was medium (going for a two-echelon passing through an FTZ seemed driven by other factors). A partial exception was represented by case B: establishing the subsidiary in Hong Kong influenced network design, involving a solution characterised by crossing the Hong Kong port rather than one in Mainland China. Then, in line with Marchet et al. (2016), companies recognised that strategic collaboration with LSPs is a key component of any logistics strategy when approaching foreign markets. Contrarily to Marchet et al. (2016), it also emerged that TC design highly influenced the type of relationship with LSPs. Segmented outsourcing characterised all cases where a sales subsidiary was established (cases A2, B, and C), and TC evolution enabled a switch in the type of logistics outsourcing between cases A1 and A2. Only in case D this influence was medium, as the choice was more driven by other factors than TC design.

In addition, Marchet et al. (2016) claimed that companies adopt different Incoterms rules to modify the level of control on logistics flows. However, in this research, some contradictory evidence about the relevance of the Incoterms in the decisional process emerged. Indeed, the level of control depended on TC design (if any branch had been established in the foreign territory) and on the decision centralisation level, which ultimately affected Incoterms rule choices.

Based on the above data and discussion, the following propositions are argued:

P1: TC design highly influences the level of control on logistics flows, decision centralisation level, and the type of relationship with LSPs.
P2: TC design shows a medium influence over logistics network design, while transport mode choice is not affected.

6.2. The influence of contextual factors on TC and LC design

The literature review offered several factors that may affect either TC design or LC design. The importance and relevance of the above-mentioned contextual factors were investigated through the interviews, and Table 7 summarises case study findings concerning the influence those factors might play.

-Place_Table_7_here-

Case study analysis confirmed the importance of market knowledge as a fundamental variable to design TC, in line with the behavioural theory propounded by the Uppsala Model (e.g. Johanson and Vahlne, 1977) and other contributions related to the same empirical context (Jiang and Prater, 2002; Hu, 2018). A low level of knowledge (about customs procedures, available brokers, and market requirements) led to a low-commitment solution (Independent Intermediary), while an increase of the knowledge might allow for an evolution of the setting. In contrast with former studies (e.g. Hu, 2018) case study analysis revealed that companies were not targeting the Chinese food and beverage market by establishing joint ventures with local actors. The crucial role played by market knowledge when designing TC was highlighted about LC design as well, with specific reference to the development of adequate guanxi (Jiang and Prater, 2002; Lo and Chung, 2007; Liu, 2014). On one side, higher market knowledge made parent companies increasingly delegate to foreign branches, also to cope with customs clearance and other issues related to import. On the other side, it led companies to choose Incoterms rules that entailed responsibilities' allocation to the European parent companies. Furthermore, market knowledge highly affected the type of relationship with LSPs, enabling the adoption of segmented outsourcing (Straube et al., 2008). The type of relationship with LSPs was also influenced by TC design, and the following proposition is formulated:

P3: Market knowledge highly influences TC design and the type of relationship with LSPs. Also, there is a direct influence of TC design on the type of relationship to be established with LSPs.

In addition to the crucial role played by market knowledge when designing the TC, case study analysis offered insights about the role played by other contextual factors (Lawrence and Lorsch, 1967) on designing TC or LC. Export volumes (Lovell et al., 2005) and product value density (Creazza et al., 2010; Rushton et al., 2014) showed to be important for TC design and some LC variables (e.g. transport mode choice, which in turn did not show any relationship with TC). Those factors could bolster solutions characterised by higher commitment and control on logistics flows when flows or product value increase. Delivery lead time and product vulnerability (Lorentz et al., 2013; Yi and You, 2018) had a significant influence on LC variables as the level of control on logistics flows and logistics network design. Companies could thus be recommended to keep higher control on logistics flows when deemed critical, aligning network design coherently (Gallo et al., 2017). A minor role was played by product volume density (Zeng and Rossetti, 2003) or product shelf-life (van Hoek, 1999), which significantly affected only transport mode choice. Table 8 synthetises the influence played by each contextual factor above either TC or LC variables, according to research findings.

-Place_Table_8_here-

Building upon the collected data, and the related discussion, the following propositions are then argued:

P4: Export volumes significantly influence TC design and transport mode choice, to pursue adequate control of commercial initiatives abroad and achieve transport efficiency.
P5: Product value density has a strong impact on the level of control on logistics flows, type of relationship with LSPs, and transport mode choice. It leads to choosing transport modes that maximise transport efficiency and LSPs able to guarantee an appropriate execution of logistics activities.
P6: Delivery lead time has an impact on logistics network design and transport mode choice, as the need for speed requires specific solutions.
P7: Vulnerability affects logistics network design and level of control on logistics flows. Companies claim for respecting specific temperature requirements when handling perishable goods worldwide.

Overall, market knowledge emerged as an important factor not only to design TC (Johanson and Vahlne, 1977), but also to shape the logistics variables related to LC design. Also, two additional elements raised from the field: customs clearance complexity and fiscal issues (both direct and

indirect taxes, or duties), which affect TC design (e.g. opening a subsidiary in Hong Kong) as well as on LC variables (leading e.g. to logistics network design involving transit through FTZs). Consequently, two further propositions are introduced:

P8: The behavioural theory can act as a theoretical lens to investigate not only TC design but also LC design.
P9: Cross-border issues, related to customs clearance procedures and duties to be paid upon import, can play an important role when designing TC and LC.

7. Conclusions

Global market environments, especially in developing and emerging countries, offer significant business opportunities for European companies (Lorentz et al., 2013; Spillan et al., 2013), but important challenges could emerge (Cohen and Lee, 2020). This study is willing to offer a contribution related to investigating how TC design may influence LC design and, then, the role played by contextual factors on either TC or LC. An abductive approach was adopted with mid-range purposes, elaborating former theory by conducting multiple case studies in a specific empirical context (i.e. the Chinese food and beverage market).

First, this study confirmed that TC design significantly affects LC variables. Second, the key role played by market knowledge to shape both TC and LC was detected (Johanson and Vahlne, 1977; Marchet et al., 2016). Indeed, developing strong relationships (guanxi) or to create business connections with players characterised by strong guanxi was highlighted as one of the major determinants of business success in China (Jiang and Prater, 2002; Lee and Humphreys, 2007). Furthermore, the study highlighted that the need to have deep market knowledge (and well-developed guanxi) is often accompanied by the need to store goods in a "safe" place where waiting for customs clearance without compromising goods quality. Lastly, in addition to those contextual factors already investigated in the literature, stronger attention should be devoted towards customs clearance operations and other cross-border issues (e.g. duties payment).

This research offers both academic and practical implications. From an academic viewpoint, it lends contingency theory elements and leverages them within a middle-range theory approach to develop nine propositions that can open to further inquiries about the influence of TC on LC design, and the role played by related contextual factors. In addition, it proposes that behavioural theory might represent an appropriate theoretical lens to approach LC design, as market knowledge highly affected the logistics variables characterisation.

As regards practical relevance, the study aims at offering a contribution valuable for supply chain professionals to develop feasible solutions for the existing problems (Stentoft and Rajkumar, 2018). It provides a practical investigation about how TC design influences LC design in a relevant empirical context, specifically focusing on five logistics variables developed starting from the literature. With growing market commitment, the level of control on logistics flows could rise as well. Then, as market knowledge could also increase, a higher decision decentralisation level might follow. This research can thus support practitioners when managing transitions from one TC or LC to another, and to better understand the interdependencies existing between the two channels. Further, as contextual factors might rapidly evolve, they might develop ideas useful for their business situation, improving logistics and supply chain capabilities needed to successfully manage current challenges.

Building upon the limitations of the present study, avenues for future research can be recommended. First, keeping invariant the empirical context, further research could investigate global distribution channels enlarging the companies' sample, introducing a longitudinal perspective (as partially shown by cases A1 and A2), or increasing the number of contextual factors included in the analysis. Second, a different empirical context (country and/or industry) could be investigated, to test whether this study's findings might give rise to a broader generalisation. Third, the study can open up future research directions related to studying the possible mediating role of the identified contextual factors, and to further explore LC design from a behavioural perspective. Fourth, as TC highly influences LC variables, a promising research area is represented by the investigation of the interdependencies among LC variables themselves. Lastly, existing academic contributions might be developed through the explicit inclusion of cross-border issues, to explore how they can affect TC or LC design. With increasing protectionist laws and the erection of trade barriers between nations (including China), the relevance of customs clearance operations and related tariffs and duties is expected to grow significantly.

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Contextual factors		References	Description	TC	LC
Market-related	Market knowledge	Johanson and Vahlne (1977); Park and Luo (2001); Jiang and Prater (2002); Lo and Chung (2007); Luo et al. (2014); Marchet et al. (2016); Hu (2018)	Gradual acquisition, integration, and use of knowledge about foreign markets and operations by a company. Since the internationalisation process is based on a sequence of incremental decisions and gradual market learning, it influences the commitment to foreign markets.	x	x
	Export volumes	Zeng and Rossetti (2003); Lovell et al. (2005); Harris et al. (2018)*	Monthly number of TEU shipped towards a market abroad.	x	x
	Delivery lead time	Lovell et al. (2005); Lorentz et al. (2013)*; Gallo et al. (2017)*	The time that customers are willing to wait for the product (before opting for the closest substitute available, if any)		x
Product-related	Shelf life	van Hoek (1999); Abukhader and Jonson, (2007)*; Dani (2015)*; Ferreira and Alcântara (2015)*; Yi and You (2018)*	The available time before goods cannot be legally sold anymore on a market.		x
	Product volume density	Zeng and Rossetti (2003); Creazza et al. (2010); Rushton et al. (2014)	Also referred to as "volume to weight ratio", it is the ratio between the product weight and the space occupied. Depending on its value, companies could choose different transport modes.		x
	Product value density	Balestrini and Gamble (2006)*; Creazza et al. (2010); Rushton et al. (2014)	Also expressed as "value to weight ratio", it is calculated by dividing the product's monetary value by its weight. Different values can lead to different configurations, concerning transport mode as well as network design.	x	x
	Vulnerability	Lovell et al. (2005); Lorentz et al. (2013); Rushton et al., (2014); Dani (2015)*	This variable combines different characteristics of the product on the basis of the final impact on the handling, transport, and storage.	x	x

Table 1 – Contextual factors taken from the literature and related influence on TC or LC (* refers to contributions specifically related to the food and beverage industry)

Cases' characteristics	**Case A1**	**Case A2**	**Case B**	**Case C**	**Case D**	**Case E**
Year of establishment	1986	1986	1979	1995	2008	1967
Country	Italy	Italy	Italy	Belgium	Holland	Italy
Type of products	Wine	Wine	Sweets, candies	Chocolate, ice-creams	Dairy products	Frozen products
Chinese market entry year	2011	2016	2013	2016	2014	2016
Company size (OECD, 2005)	Medium	Medium	Small	Small	Large	Medium
Market knowledge	Medium	High	High	High	Medium	Low
Export volumes	Low	Medium	Medium	Medium	High	Low
Delivery lead time	Short	Short	Long	Short	Long	Long
Shelf life	Long	Long	Long	Short	Short	Long
Product volume density	High	High	Low	Low	Medium	High
Product value density	Medium	Medium	Low	High	Low	Low
Vulnerability	Medium	Medium	Medium	High	High	Medium

Table 2 – Cases' characteristics summary

TC alternatives - Johanson and Vahlne (1977)	TC alternatives - Marchet et al. (2016)	TC alternatives - Case study findings	TC alternatives' description
No regular export activities	Early stage: export via independent agent or distributors	Independent Intermediary	The firm sells its products to an intermediary. It takes care of all the activities for exporting and also retains the profit resulting from the sale (case E). All the risks are transferred to the intermediary before leaving the home country. No fixed costs and full reversibility make this option interesting for companies willing to only explore the foreign market. The main drawback of this alternative is the lack of control on the goods flow, along with the impossibility to develop further knowledge about the market.
Export via independent agents	Intermediate stage: export via sales subsidiary	Owned Intermediary (Consulting Company)	The firm opens a local branch acting as a consulting company between the HQ and the local customers (cases A1, D). Even if the goods are directly sent to the customers, the branch arranges the shipments and manages after-sale support. It allows for gaining knowledge about the market and the local operations. Nevertheless, while keeping a higher level of control on the flow of goods, the branch cannot hold its own stock on the market because of local regulations.
Creation of sales subsidiaries	Advanced stage: export via company own stores	Sales Subsidiary (Trading Company)	The firm establishes a trading company with the purchase of an Import License. Consequently, the local branch can be the importer of record and can directly sell the products on the market (cases A2, B, C). Moreover, it enables the branch to hold local inventory. This alternative entails a high level of commitment to the market, with higher fixed costs and bearing more risks than the previous alternatives. Nevertheless, it enables the company to get the deepest knowledge and control about the market, the brand, and the products. Case B is characterised by a particular situation since the company opened a trading company in Hong Kong, rather than in Mainland China.
Establishment of production facilities	Not considered	Not considered	/

Table 3 – TC alternatives (with respect to previous literature contributions)

LC variables - Marchet et al. (2016)	LC variables - Case study findings	Logistics variables' description
Inventory planning centralisation level	Decision centralisation level	It describes the degree of centralisation of logistics decisions, related to both inventories or transport. It includes decisions that can be made by the parent companies or autonomously by the subsidiaries. Building on Melacini et al. (2011) and Marchet et al. (2016), the scope was enlarged to not focus only on the inventory planning viewpoint.
Level of control on logistics flows	Level of control on logistics flows	It refers to the level of control over international logistics, including the extent to which companies can actively influence and change it. According to Marchet et al. (2016), it is mainly driven by the chosen Incoterms rule.
Type of relationship with LSPs	Type of relationship with LSPs	It identifies the type of relationship to be established with international and local LSPs (Straube et al., 2008).
Logistics network design	Logistics network design	It identifies the number, location, and capacities of warehouses (Creazza et al., 2010; Marchet et al., 2016).
Transport planning	Transport mode	It refers to how the goods are moved from the country of origin to the destination market, focusing on the chosen transport mode for the main international line-haul. Differently from Marchet et al. (2016), it does not exclusively refer to transport planning (which is included in the "decision centralisation level").

Table 4 – LC variables (adapted from Marchet et al., 2016)

	Case A1	Case A2	Case B	Case C	Case D	Case E
Trade channel design	Owned intermediary	Sales subsidiary	Sales subsidiary	Sales subsidiary	Owned intermediary	Independent intermediary
Decision centralisation level	Coordinated	Decentralised	Coordinated	Coordinated	Coordinated	Centralised
Level of control on logistics flows	Medium	High	High	High	Medium	Low
Type of relationship with LSPs	One-Stop-Shop	Segmented outsourcing	Segmented outsourcing	Segmented outsourcing	One-Stop-Shop	n.a.
Logistics network design	Two-echelon network (FTZ)	Two-echelon network (FTZ)	One-echelon network (HK)	Two-echelon network (FTZ)	One-echelon network (FTZ)	Two-echelon network (FTZ)
Transport mode	Sea-freight	Sea-freight	Sea-freight	Airfreight	Sea-freight	Sea-freight

Table 5 – TC and LC variables characterisation in the study (*n.a. = "not available"*)

Logistics variables	**Case A1**	**Case A2**	**Case B**	**Case C**	**Case D**	**Case E**
Decision centralisation level	High	High	High	High	High	High
Level of control on logistics flows	High	High	High	High	High	High
Type of relationship with LSPs	High	High	High	High	Medium	n.a.
Logistics network design	Medium	Medium	High	Medium	Medium	Low
Transport mode	NS	NS	NS	NS	NS	NS

Table 6 – Synthesis of the influence of TC on logistics variables based on case study analysis (*NS = "not significant"; n.a. = "not available"*)

Contextual factors		TC related	LC related				
		Trade channel design	**Decision centralisation level**	**Level of control on logistics flows**	**Type of relationship with LSP**	**Logistics network design**	**Transport mode**
Market-related	Market knowledge	Independent intermediaries were suitable when market knowledge was low, and laws, regulations, and customs procedures were partially or totally unknown (case E). As knowledge increased, companies opted for alternatives with higher commitment (cases A1, D). However, a high level of market knowledge was required to successfully set up a sales subsidiary (cases A2, B, C).	Increasing knowledge of the foreign subsidiaries pushed European headquarters to increasingly delegate (case A2, B). Companies preferred to avoid European companies having to deal with local complexities, leaving that local branches (either owned intermediaries or sales subsidiaries) managed customs clearance and other issues (cases A2, B).	With low market knowledge, companies chose EXW as Incoterms rule, mainly because they did business with independent intermediaries (case E). Although EXW was also used by other companies, characterised by higher market knowledge, it has been increasingly replaced by the CIF rule.	Market knowledge was a fundamental enabler of segmented outsourcing, to have capabilities to find the right partner to develop appropriate guanxi. Nevertheless, as per case A2, this approach might increase the coordination complexity with all the involved players.	-	-
	Export volumes	A low and uncertain level of demand was considered insufficient to justify a direct commitment, thus leading to independent intermediaries (case E)	-	As volumes increased, a stricter control was recommended (cases A1, A2, B).	Increasing volumes (as well as increasing knowledge) allowed Company A for changing LSPs.	-	Export volumes (i.e. monthly quantity to be shipped) were considered the most important factor in cases A1, A2, B, D, and E, which adopted sea-freight.
	Delivery lead time	-	-	Strict delivery lead time requirements entailed keeping high control on logistics flows, to prevent companies from supply disruptions (cases B, C).	The selection of a different broker to arrange customs clearance procedures allowed company A for reducing both lead times average and variability, improving delivery lead time performances.	Companies created one-echelon (case B, D) or even two-echelon networks (cases A1, A2, C), to be able to serve the market according to customers' requirements.	Company C used airfreight because the required delivery lead time was extremely short.

(continues…)

Product-related	Shelf life	-	-	-	-	-	Company C used airfreight because of the very short shelf life of its frozen luxury goods.
	Product volume	-	-	-	-	-	Given product volume density, sea-freight was considered the best solution (cases A1, A2, B, D, and E).
	Product value density	To take care of the brand image, related to high-value density products, a solution characterised by high commitment was adopted (case C).	When product value density was relevant, companies preferred to keep decisions centralised. Then, as knowledge increased, higher freedom was granted to subsidiaries (cases A1 and A2).	High product value density required careful control over logistics flows (cases B, C).	High product value density lead company C to carefully evaluate and select LSPs to whom outsource logistics activities.	High product value density, associated with moderate export volumes, might lead to LCL shipments which require the creation of a warehouse abroad (case C).	Company C shipped its high-value products by air because it needed to preserve products' quality level and the freshness since they directly influenced the luxury brand image of the company.
	Vulnerability	-	-	Due to high vulnerability, it was required to keep high control on logistics flows (cases C, D). Hence, it was highlighted the opportunity to pass through a temperature-controlled warehouse in an FTZ.	Choosing the right LSP might allow companies for storing goods in a safe environment while waiting for customs clearance, as well as sampling and testing from AQSIQ (cases A1, A2, D).	While waiting for customs approval, goods might be stored in port/airport logistics facilities at controlled temperatures. This could create some problems, especially for frozen/chilled goods, which may be exposed to bad weather conditions for days without any control (cases C, D, E). Hence, the opportunity to pass through an FTZ where keeping higher control over goods became valuable.	The short lead times offered by air freight solution (case C) entailed the minimisation of the risks of perishability and degradation, thanks to the use of temperature-controlled handling units. Overall, all the companies decided to use refrigerated containers when shipping by sea, which guaranteed sufficient performance.

Table 7 – Overview of the influence of contextual factors on the identified TC and LC variables

	Trade channel design	Decision centralisation level	Level of control on logistics flows	Type of relationship with LSP	Logistics network design	Transport mode
Market knowledge	High	High	High	High	High	Low
Export volumes	High	Low	Medium	Medium	Low	High
Delivery lead time	Low	Low	Medium	Medium	High	High
Shelf life	Low	Low	Low	Low	Low	Medium
Product volume density	Low	Low	Low	Low	Low	Medium
Product value density	Medium	Medium	High	High	Medium	High
Vulnerability	Low	Low	High	Medium	High	Medium

Table 8 – Synthesis of the influence of contextual factors on TC and LC variables

Appendix A – List of open questions for the interviews

1. Where is your company's headquarters located?
2. Which types of products does your company sell?
3. When did your company first approach the Chinese market?
4. Why did your company choose to sell in China?
5. Which types of products does your company sell in China?
6. Which is the average selling price of your products in China?
7. How strong is your company's brand in China?
8. How would you define your company's knowledge of the Chinese competitive environment? Why?
9. How does your company currently operate in China? Which trade channel is used?
10. Which are the available options? How and why would you deem these options different?
11. Have you experienced any change/evolution since you started selling in China? If yes, why?
12. Does your company directly manage international distribution towards China? Which Incoterms rule does your company usually adopt?
13. How did your company design its logistics network to distribute to China? How many distribution tiers? How many logistics facilities? Where are they located?
14. Do your company's logistics operations involve any Free Trade Zone (FTZ)? If yes, why?
15. Do you think that directly managing logistics operations is a competitive advantage, when distributing food and beverage products to China?
16. Are logistics operations outsourced to LSPs? If yes, how is the relationship arranged? How many LSPs does your company make business with, when exporting towards China?
17. If your company established a local branch in China, how would you define its autonomy in making decisions? For example: is the parent company, or the subsidiary, in charge of managing inventories?
18. How does your company manage international transport towards China? Which transport mode? Any specific requirement (e.g. controlled temperature)? How long does it usually take to supply goods from Europe to China? Is your supply chain subject to any vulnerability issue (e.g. temperature)?
19. How does trade channel design (how to sell to customers) influence logistics channel design (how to fulfil customers' demand)? Concerning the elements raised in the previous questions (from 11 to 18), how would you rank the influence of trade channel design on logistics channel design along a three-point scale ("low", "medium", "high)?
20. How important is market knowledge when doing business in China? Which any other element should be considered when designing trade and logistics channel to distribute from Europe to China, with specific refer to the food and beverage industry (e.g. export volumes, delivery lead time, product shelf life, product volume density, product value density, vulnerability)? Do you think they might influence trade channel or logistics channel design? If yes, how? Do you think some might be more relevant than others? Please provide an answer by ranking the influence of contextual factors along a three-point scale ("low", "medium", "high").