“Strategies to entry the Chinese Food and Beverage market: evidence from European SMEs and development of a model”

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Abstract

China became the world’s largest consumer market for Food and Beverage, making it an increasingly attractive option for foreign brands. Considering only European food exports toward China, in the last 5 years they grew by 176%. Today’s dramatically reduced trade barriers, improved transportation and telecommunications links, and breakthroughs in information technologies now make it possible for smaller companies to gain a global scope. Even if engaging international markets is directly related to the company’s strategic choice, the selection of the best alternative to pursue is biased by the unique feature of the destination country. Especially for SMEs that want to exploit growth opportunities far away from their country it is important to relate strategic choices with more tactical and operative ones.

To service global markets, logistics networks become far more expensive and far more complex. Linked closely to the globalization of business is the increase in the complexity of supply chain management. Globalization almost certainly leads to greater complexity, that provides some significant implications for logistics operations. These include:

- extended supply lead times and its variability;
- different product/market requirements;
- duties/laws constraints to the flows;
- multiple actors involved;
- enhanced risks;

(Melacini 2015, Chopra and Meindl 2004)

Additionally, compared to large businesses, SMEs face at grassroots level higher risk when it comes to operationalize in-house the strategy. As long as the scale becomes smaller, the financial and infrastructural investments required have a higher impact on the company funding capability. Everything included, there is an interest for small companies in providing alternatives that do not only relate to high strategical level, but also face the tactical and operative contextualization of a real case.

In the past, the international logistics strategies have been examined by studying individual aspects separately. Only in the recent years, researchers started to give a structured inclusive description of the variables determining the global expansion of the companies. However, these articles are focused on the bigger scale of the multinational corporations and aim at comprehensive and generalizable high level strategies, neglecting the relevant role of small medium enterprises in the global market and their specific needs. Therefore, this study provides a focused drill down on European SMEs that want to engage the Chinese Food and Beverage Market.

By starting from a deep review of the academic literature, the main factors that could potentially impact on the internationalization logistics process are identified. Indeed, according to Rushton et al.
(2014), it is possible to identify a list of key areas representing the major logistics components of distribution valid for most companies, namely: transport (e.g., mode of transport and load planning), warehousing (e.g., number and size of distribution depots), inventory (e.g., stock level), packaging (e.g., type of unit load) and information (e.g., order processing).

Indeed, the logistics costs directly derives from these activities.

Chopra (2003) identified 4 logistics cost categories involved in the distribution.

- Inventories
- Transportation
- Facilities and handling
- Information

While remaining strictly focused on the traditional logistics factors, it is still possible to provide an early general identification of the drivers for the logistics configuration choice. Following the analysis method proposed by Lovell et al. (2005), the key parameters can only be identified after a detailed analysis of the fundamental distribution cost trade-offs that relate to these factors. Therefore, the main tradeoffs are: facility, transport and inventory costs; through-put and number of inventory holding locations; transport mode and inventory costs; and demand variability, service level (in terms of product availability) and lead-time (Lovell et al., 2005).

Another factor to be considered when planning for logistics is the product itself. Indeed, the physical characteristics of a product, any specific packaging requirements and the type of unit load are all important factors in the trade-off with other elements of distribution. This is because distribution and logistics is directly concerned with physical flow, movement and storage. Four main categories were identified: volume to weight ratio; value to weight ratio; substitutability; and high-risk products (Rushton et al. 2014).

Food and Beverage have a significant impact on the logistics route selection in distribution choice. This is mainly due to the unique features and requirements that this product typology entail. When dealing with food, it is extremely important to have temperature-controlled supply chains, since temperature monitoring and recording is a legal requirement for the food sector. The complexity of the food distribution will be based on the type of product, the available modes of transport between farm and fork, legal requirements and so on. Indeed, the logistics of perishable food products and fresh produce is a complex task, especially when international supply chain are considered: the task is to keep the food fresh throughout the journey without losing valuable shelf life (Dani, 2015).

The changing nature of logistics and the supply chain, particularly the move by many companies towards global operations, had an obvious impact on the relative importance of the different modes of
freight transport. Long-distance modes of transport have thus become much more important to the development of efficient logistics operations that have a global perspective. Thus, the need to understand the relative merits of sea freight as against air freight is crucial as well as to appreciate the many different facets of transport modal choice for international logistics (Rushton et al., 2014).

Assuming a more economical perspective and on the basis of the existing literature, it is possible to identify 2 logistics macro-options that a company can use to sell its products on a new foreign market. The first macro-option calls for a physical, and so also tax, representative in the destination market. It can be referred also as “equity” approach, and it point out all the possible options concerning a physical presence of company owned properties in the foreign market. The second considers as an entry option the use of brokering agents, local distributors and importers, that make a profit for taking care of the company sales on the new market. Also referred to as “non-equity” option, it includes all the alternatives where the exporting company seek the help of other actors for distributing the goods in the final market, and so relying on third parties structures (Marchet et al., 2016).

<table>
<thead>
<tr>
<th>Asset View</th>
<th>Equity</th>
<th>Non Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Exports</td>
<td>Indirect Exports</td>
<td></td>
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</table>

**Figure 1: Trading View and Asset View approaches in comparisons**

A number of influential theories have been propounded to analyze how firms behave regarding international expansion. According to Marchet et al. (2016), there is a behavioural theory that fits the objective of the research, where the internationalisation process evolution is based on a sequence of incremental decisions and a gradual market learning: the Uppsala Model. The basic assumption of the Uppsala Model is that market knowledge and market commitment affects both the commitment decisions and the way current decisions are performed—and this, in turn, changes market knowledge and commitment. The amount of knowledge of foreign markets and operations is influenced by the amount of commitments of resources in foreign markets, and vice versa (Johanson & Vahlne, 1977). According to the Uppsala model and other contributions (e.g., Johanson and Wiedersheim-Paul, 1975), four progressive stages can be selected by a company to sell products in foreign markets over time: no regular
export activities, export via independent agents, creation of sales subsidiary, and production establishments.

![Image of a diagram showing stages of internationalization]

**Figure 2: Uppsala model process, adaptation from the theory.**

The geographic and commercial environment is obviously an important issue when designing a supply chain. It is difficult to generalise about the geographic environment, moreover it was difficult to retrieve data from the literature specifically tailored on the Chinese system. Therefore, it was performed a deep on-field research pursued along 1 year while studying in Shanghai for the Double Master Degree exchange program. It is provided a complete overview of Chinese Customs and regulation in order to have a clear understanding of the regulatory environment, including the structure of related government authorities. During the analysis, a specific drill down of the peculiarities and regulations that concern the import of food and beverage goods is performed.

Then, as suggested by previous researches, case studies are derived from unstructured interviews held locally with European SMEs currently operating in China. Merging this source of information with the existing literature review, it was possible to identify the relevant factors and to explain the interactions between them. Worth mentioning is relevance of the relationships with the Logistics Service Providers for the internationalization of the interviewed companies. Moreover, the empirical evidence drives to the conclusion that the internationalization stages of the Uppsala Model (Johanson and Vahlne, 1977) can be pertinently applied to the specific case of the SMEs, even though with some modifications.

Indeed, there is a relation between internationalization phase, relationship with LSP and the company knowledge level. A matrix model is drawn to illustrates the relationship between them and facilitate its understandability. The revised phases are Independent Intermediaries, Owned Intermediaries, and Sales Subsidiary, whereas the identified key relationships with LSP are Segmented Outsourcing, and One-Stop-Shop.
The empirical evidences from the Chinese market show that the knowledge plays a fundamental role in the early phase of the internationalization of SMEs. Consistently with the Uppsala Model, the knowledge is, at the same time, enhanced by and enables the configuration chosen. The couple of relationship with LSP and Internationalization Phase affect and is affected by the knowledge. They mutually interact with each other. Moreover, the disposition of the case studies in the matrix offers more insights on the way the knowledge impact on the configuration choice. It can be noticed that the case studies are arranged following increasing levels of knowledge. In addition, the selected couples are consistent between each other, whereas an internationalization phase entailing low knowledge is paired with a relationship with LSP that calls for a comparable level of the latter.

By interviewing also other experienced actors indirectly involved (e.g. freight forwarders, distributors, legal consultants) it was possible to broaden the empirical evidence base from the field and test the goodness and correctness of the model. In addition, beside the structured conclusions that was possible to draw from the information and the insights collected both from the field and the literature, there is a number of subjects that still are worthy to be mentioned, discussed and organized to facilitate future studies.
Stepping back from the environmental context and from the strict boundaries of the research, but always focusing on the SMEs, it is proposed a tentative framework trying to explain the overall complex system behind the selection of the logistics configuration and all the interactions between each of the small units of study. It was chosen to split the logistics configuration in smaller discreet unit of analysis that were further categorized in dependent, independent, environmental and mediator decision variables. Then, the relationship between them was further investigated with the aim of explaining the functioning of the system so constituted. The result is summed by the visual framework below.

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Dependent Variables</th>
<th>Environmental Variables</th>
</tr>
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<tbody>
<tr>
<td>• Flow Level</td>
<td>• Logistics Flows Control Level</td>
<td>• Lead Time required by the market</td>
</tr>
<tr>
<td>• Shelf Life</td>
<td>• Relationship with LSP and Local actors</td>
<td></td>
</tr>
<tr>
<td>• Company Size</td>
<td>• Logistics Network Configuration</td>
<td></td>
</tr>
<tr>
<td>• Volume Density</td>
<td>• Decisions Centralisation Level</td>
<td><strong>Mediator</strong></td>
</tr>
<tr>
<td>• Value Density</td>
<td>• Transportation Mode</td>
<td>• Internationalization Phase</td>
</tr>
<tr>
<td>• Vulnerability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Knowledge of the Market and the Customers*</td>
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Table 1: Variables break down by typology

From the information collected during the interviews and the academic literature review, a series of operative advices are collected to ease the entry of a SME in the Chinese Food and Beverage Market.

First, the empirical evidences along with interviews with experienced freight forwarders determined that the Logistics Network Configuration of SMEs importing F&B in the Chinese market is given rather than a variable. Especially for companies that rely on segmented outsourcing as relationship with LSP,
it is important to choose wisely the logistics network configuration. Even if they do not have direct ownership of the asset, the choice of selecting the actor from which to buy the logistics services (e.g. warehousing, transportation, brokering) is as important as what network to set up. It is therefore suggested to opt for the following solution:

- Warehouse in FTZ, if necessary with controlled temperature, where to transfer the goods after the arrival at the port/airport;
- Unbonded warehouse, if necessary with controlled temperature, where to transfer the goods after the customs clearance;

Secondly, the interviews with both companies and freight forwarders allowed a deeper operative point of view on what are the drivers that lead the selection of the transportation mode. In general, sea freight is seen as the base case, the benchmark solution. Air freight will be adopted in particular cases only. Empirical evidences show that the selection drivers are unrelated to the entry configuration pursued, and quite homogenous between the companies. They depend only on the following drivers: Flow, Lead time, Value density/Perishability/Risk level.

One of the operative decision that considerably impact the supply chain configuration is the physical entry point in a foreign country. Since the literature does not treat this part specifically tailored on the Chinese market, it was necessary to pursue an on-field research also for this element. Choosing Shanghai as the main entry point is more convenient, less expensive and complex, and both the customer service level as well as the transportation cost will benefit from this decision. It is preferable not only from a fiscal, legal as well as cost perspective, but also operational one.

Finally, the interviewed companies see the term of trade choice more as a method to mitigate the complexity of doing business at an international level than to enhance their control on the logistics flow. This is in line with the tendency of a resource constrained SME to focus on other parts of the business and outsource not-core activities (Fujita, 1995; Coviello and McAuley, 1999; Knight, 2000; Hollenstein, 2005). In view of the above, two trends can be identified within the companies currently engaging the Chinese market; the first concerns about the homogeneity of the selected term of trade, related to the willingness of the SMEs to decrease the overall complexity of the business. The second highlights the diffused practice of using the relationships with logistics service providers as control lever on the logistics flows. Therefore, it is advisable for a SME entering the Chinese market, to focus more on fine tuning the relationships with LSP, gaining knowledge of the involved actors and bound strong relationships with them. If this activity is effectively carried on, the selection of the correct INCOTERM becomes a secondary choice and a trade-off between the pros and cons should be pursued: as long as the selected term of trade does not increase the complexity of the business, then it represents a viable solution.
Ringraziamenti

In prima istanza voglio ringraziare il mio relatore, nonché professore ordinario presso il Politecnico di Milano, Marco Melacini per avermi concesso la possibilità e la libertà necessaria per portare avanti questa ricerca dall’altra parte del mondo. Ringrazio Lorenzo Prataviera per il supporto 24/7, la pazienza e la disponibilità dimostratemi: senza di te non sarei mai riuscito a completare questa ricerca in tempo per concludere il mio ciclo di studi. Ringrazio il Politecnico di Milano per l’ottima formazione ricevuta e per avermi insegnato ad operare con metodo e disciplina in ogni cosa che faccio. Immancabilmente, ringrazio anche i miei compagni di università con cui ho passato 4 anni incredibili, imparando insieme a fare gioco di squadra, a lavorare in gruppo e a supportarci a vicenda nelle situazioni, e preparando gli esami, più difficili.

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Durante la fase delle interviste ho avuto modo di entrare in contatto con una svariata moltitudine di aziende che mi hanno aiutato (chi più, chi meno) a fare ricerca sul campo e a raccogliere dati. In questo senso, vorrei ringraziare soprattutto chi ha trovato tempo per una o più interviste; purtroppo non posso menzionare i vostri nomi per motivi di riservatezza, ma spero che leggendo questo scritto riuscite a riconoscere le nostre lunghe conversazioni, e successivi scambi di email e telefonate: questo lavoro è anche merito vostro.
Shanghai non è stato solo studio, lavoro, ricerca ma anche scoperta e, perché no, divertimento. Perciò ringrazio tutte i miei compagni di università, amici e compagni di viaggio: avete reso questa esperienza indimenticabile. Ringrazio particolarmente Michele e Marco che, nonostante in tempi diversi e condividendo differenti esperienze, posso ritenere essere entrati definitivamente in quel gruppo di amici che rimangono per tutta la vita: grazie di tutto.

Voglio riservare uno spazio speciale a Sara: sei una persona speciale e, nonostante abbiamo preso scelte diverse, ringrazio per ogni singolo momento speso insieme e per avermi supportato (o sopportato?) durante i mesi conclusivi.

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Se vi siete sentiti chiamati in causa leggendo queste parole, sapiate che questa tesi è dedicata a tutti voi.
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1 Introduction

Since the reform and opening-up in China, especially since the turn of the century, China’s economy has grown rapidly. During 2000–2015, China’s GDP has increased from 1205 trillion $ to 10866 trillion $, with an average annual increase of 9.54% (World Bank, 2016). Currently, China is the second largest economy in the world behind the United States, and its degree of opening-up substantially improved over the years. The total volume of imports reflects this fact: it increased from the 225090 millions $ in 2000 to the 1,96 trillion $ in 2015. The same trend can be also seen in food imports, grown from the 5122 million $ in 2000 to 52029 million $ in 2015 (National Bureau of Statistics of China, 2016).

In the last decade, China is facing both a demographical and cultural change due to the prosperity that pushed the nation, as a whole, reaching middle income status. Higher incomes have caused changes in dietary patterns, including increases in consumption of meat, dairy products and processed food and in the frequency of eating outside the home (Garnett and Wilkes, 2014). In addition, Chinese people are willing to purchase products of nonlocal origin due to the symbolic benefits (such as modernity, prestige, and associations with foreign lifestyles) they attached to them (Zhou and Hui, 2003). This trend is predicted to keep growing in the next years. In fact, high-income consumers’ willingness to pay for premium foods may boost food imports. As consumers gain enough discretionary income to pay premium prices, they may increase their purchases of imported or branded food items (Gale and Huang, 2007). This has led to a dramatic growth in demand for European food products (e.g. wine and beer) in this largest East Asian country recently (Alinna, 2013; Lu, 2014; Balestrini and Gamble, 2006). In the end, China become the world’s largest consumer market for food and beverage products, making it an increasingly attractive option for foreign brands and specifically causing a shift in Chinese consumers’ behaviour (EU SME Centre, 2015).

Europe owns plenty of local and traditional food resources, an essential part of the European culture and culinary heritage (Guerrero et al., 2009). Each European country has traditional eating cultures and habits related with specific local food products, especially in the southern parts of Europe with a wider variety of local food resources (Jordana, 2000). China is becoming more and more interested in the culinary heritage of Europe, as data from WTO demonstrate: in 5 years, the European food exports toward China grew by 176%, passing from the 3.570,07 million US$ of 2010 to the 9.870,11 million US$ of 2015 (World Trade Organization, 2016).

The rise of mainland Chinese food markets will provide, at the same time, an unlimited “new world” for European local food producers to expand the market share of their products, as well as a huge logistic
challenge. In fact, the European food industry is mainly composed of small and medium sized enterprises, and they still face the challenge to maintain or expand their market share in an extremely competitive globalization era (Banterle et al., 2009; Guerrero et al., 2009).

Nevertheless, especially in the recent years, it is possible to observe a shift in the international competitive panorama. In the nineteenth and twentieth centuries, scale was often critical to success in international trade. Firms needed to be big in order to create integrated production systems, build global distribution networks, and cover the relatively high transport, communications and border costs associated with international trade. But as the world economy enters the twenty-first century, a number of important changes are diminishing the advantages of scale in international trade, with the result that smaller, nimbler “micro-multinationals” are also beginning to succeed in a global marketplace once overwhelmingly dominated by big multinationals. Today’s dramatically reduced trade barriers, improved transportation and telecommunications links, and breakthroughs in information technologies now make it possible for smaller companies (even for boutique winemakers) to gain the global reach and market presence of larger companies at a significantly lower cost (World Trade Organization, 2016).

The internationalisation process was widely covered by practitioners. Starting from a classic economic point of view, the factors that impact on this decision has received a considerable attention by previous contributions, and different theories have been developed to explain the reasons behind company internationalisation, such as the internalisation theory by Buckley and Casson, the transaction cost theory by Hennart, and the eclectic paradigm of Dunning in 1980 (Marchet et al., 2016).

From a behavioural perspective, the incremental growth suggested by the Uppsala Model (Johanson and Vahlne, 1977), and other contributions (e.g., Johanson and Wiedersheim-Paul, 1975), is regarded as the base for the development of more operational model by practitioners (e.g. Marchet et al., 2016). According to this model, the internationalisation process evolution is based on a sequence of incremental decisions and a gradual market learning. However, theories of internationalization are just tools that help SMEs to formulate strategies to internationalize. The SMEs also need to consider country-specific and operative issues such as entry modes, resources, in order to internationalize successfully (Masum and Fernandez, 2008). Indeed, as pointed out by several studies (e.g. Masum and Fernandez, 2008), it would be interesting to investigate the internationalization process of SMEs in different industries and countries separately. Moreover, it is suggested to categorize SMEs and then study their internationalization process to see if the theory can describe and explain the behaviour of particular groups of SMEs. It is also recommended face to face in depth interviews for further research which enables an interviewer to acquire more data in a reliable way.

Therefore, following the direction and the methodology suggested by previous studies, the first research question is proposed:
With reference to the European SMEs in the Food and Beverage industry that want to engage in the Chinese market:

**RQ1 WHAT ARE THE MAIN STAGES IN INTERNATIONALIZATION PROCESS? IS THE UPP-SALA MODEL STILL APPLICABLE FOR SMEs?**

The international logistics strategies have been examined by studying individual aspects separately, such as high level logistics strategies for entering new markets (e.g., Straube et al., 2008) and supply chain planning centralisation for multinational companies (e.g., Jonsson et al., 2013; Melacini et al., 2011). A recent research sheds light on how companies align over time their international logistics strategy with the internationalisation choices (Marchet et al., 2016). This latter contribution aimed at giving a structured and hierarchical description of the company international logistics strategy building variables.

Among the key variables defining the international logistics strategy, the literature (e.g., Abrahamsson et al., 2003; Straube et al., 2008; Tracey et al., 2005) consistently refers to the type of relationship with LSP. Besides, the role and impact of LSP can be different based on the internationalisation choice (e.g., Straube et al., 2008). When a company operates in different markets all over the world, it is crucial to identify properly the suitable relationship to be established with the local suppliers, especially when they provide strategic services such as logistics activities (Li et al., 2012). This is significant especially in the early stage of the internationalisation process when LSP can have a direct impact (i.e., positive or negative) on the company successful entry into the new market (Sandberg and Abrahamsson, 2011).

This is even more important as long as SMEs are concerned. They are typically regarded as resource-constrained, lacking the market power, knowledge and resources to operate viably in international markets (Fujita, 1995; Coviello and McAuley, 1999; Knight, 2000; Hollenstein, 2005).

As shown by Straube et al. (2008) and the World Trade Organization (2016), the SMEs overcome this unfavourable position by relying heavily on LSP services. Indeed, SMEs often lack international freight shipment experiences, and their cargos are usually smaller and of more irregular frequency. This implies that fixed trade costs, including logistics costs, often make up a greater share of the unit cost of their goods when compared to rivals exporting larger volumes. In other words, logistics tend to cost more for SMEs than for large enterprises if the activity if performed in-house. In order to reduce logistics costs, SMEs tend to outsource logistics functions (transport, warehousing, inventory management, freight forwarding, etc.) to specialized providers, i.e. providers of “third-party logistics” (3PL). Partnerships with 3PL providers not only allow firms to focus on their core business; it also means access to advanced logistics services and supply chain management. (World Trade Organization, 2016).
Marchet et al. (2016) directly tackled this point in their research. However, there was no evidence of the importance of the “relationship with LSP” factor in the internationalization process. This is probably due to the size of the companies involved. In fact, they focused mainly on MNCs.

For SMEs it is important to create relationships not only with LSP. The World Trade Report shows that, besides direct export activities, SMEs may connect indirectly to global markets. They can use the services of domestic or local intermediaries such as agents or distributors to help market their products in foreign countries and reach new markets. Therefore, a second research question is provided in order to definitely shed lights on this issue:

**RQ2** IS THE SETTING OF RELATIONSHIPS WITH SERVICE PROVIDERS (BOTH TRADING COMPANIES AND LSP) CONSTANT DURING THE INTERNATIONALIZATION PROCESS OF SMEs?

As the scope of the SMEs becomes more global, the firms should take successively more aspects into account when designing, managing, and improving the global distribution network. Consequently, the design of such networks becomes critical for the competitiveness of the firms (Cheng et al., 2011).

Indeed, there is a close relationship between company internationalisation choices and logistics processes. On the one hand, logistics is a key enabler for company internationalisation. On the other hand, internationalisation contributes to increase logistics network complexity. A number of factors creating further complexity do exist. First, business objectives (e.g., in terms of commitment to growth and market penetration) and factors that impact on logistics performance (e.g., infrastructures and logistics market) vary over time and are country-related. Second, the logistics strategy is composed of different variables involving both tactical (e.g., inventory management) and strategic decisions (e.g., network design) that are critical to set up and have interdependencies (e.g., Schmidt and Wilhelm, 2000).

When an international distribution point of view is concerned, there are several issues to be considered besides the usual ones that come into play in the domestic operations; indeed, the customs have a prominent role in applying laws, defining and collecting VATs and duties, and controlling both imported and exported goods (Nicali e Favale, 1997; Bhatnagar e Viswanathan, 2000; Sawhey e Sumukadas, 2005).

Even if engaging international markets is directly related to the company’s strategic choice, the selection of the best alternative to pursue is biased by the unique feature of the country of destination. Especially for SMEs that want to exploit growth opportunities far away from their country of origin, maybe for the first time, it is important to relate strategic choices with more tactical and operative ones.
The operationalization of a company’s strategy cannot be pursued by a top-down approach solely; the field always gives relevant feedback on its applicability in a real situation. These feedbacks must be considered and then change the strategy according to them. Gathering information about regulations, new bureaucratic procedures, and export opportunities in the destination market is costly, especially for SMEs engaging remote countries with a high cultural distance (World Trade Organization, 2016). This means that, whereas large businesses can operationalize in-house the strategy without facing particular risks, SMEs see this activity as risky, requiring financial and infrastructural investments. Consequently, it is interesting for small companies the provision of alternatives that do not only relate to high strategical level, but also face the tactical and operative contextualization of a real case. The magnitude of relevance of the Chinese food imports from Europe along with the peculiarities related to food supply chain, justify the focus of this research. Due to the specific operational factors and practical elements considered, the transferability of the results towards different contexts is limited. However, the scale of the phenomenon and the interest surrounding the treated topic make this research significant and worth to be carried on.

First of all, it is meaningful to deepen the research on the implications related to legal issue of importing food, especially after the introduction of “The Food Safety Law of the People’s Republic of China” in February 28, 2009, by the Seventh session of the China’s national people’s congress (NPC) standing committee (Chu et al., 2011).

However, laws, strict quality controls, and certifications are not the only differentiating factor that come into play when food logistic is concerned. It is possible to say that Food Supply Chain can be treated separately from the others. It is not new the concept of segmenting the supply chain. The diversity between the wide range of products and markets served by the supply chains should be recognized and treated very carefully since “one size does not fit all”. Many factors have been described within the literature as influencing supply chain selection, and product or customer segmentation. In particular, the food supply chain shows unique features and characteristics that lead to a separate treatment (Fuller et al. 1993, Fisher 1997, Lovell et al. 2005).

Handling characteristics, shelf life, demand variability, lead-time and geo-commercial environment are heterogeneous drivers that must be considered when developing a food based logistic network and choosing the best logistic configuration, especially when a global supply chain is considered (MacCarthy & Atthirawong, 2003; Christopher et al., 2006; Branch, 2009; Henkow & Norman, 2011; Seppala et al., 2014; Bernal Turnes & Ernst, 2015; Fernandes et al., 2015). Considering all these factors, there is a third research question that is worthwhile to be addressed:
RQ3  What are the main peculiarities of entering the Chinese food and beverage market? What are the main activities to reduce the vulnerability of the supply chain during the internationalization process?

The scope of the analysis focuses on the distribution process of finished goods managed according to a make-to-stock (MTS) approach and it does not include the study of the internationalisation process of companies with production establishments in the foreign market. Indeed, for instance, the decisions on plant location are also related to other factors different from the evolution of the international sales process, such as the search for lower-cost manufacturing locations or the proximity to raw material suppliers (Marchet et al., 2016).

In the end, the point of view will be the one of a typical European SME in the Food and Beverage industry who wants to understand the most suitable logistics route to enter the Chinese market, including in the choice not only the traditional logistics variables, but also other factors and sub-factors that may influence the decisions. As long as the scope becomes global, these new elements should be considered since they can significantly impact on the competitiveness of the company in the new market (MacCarthy and Atthirawong, 2003).
2 Research Methodology

The aim of this chapter is to provide a structured and organized view of the methodology used to conduct the research. Moreover, it will explain how it was possible to answer the three Research Questions.

The research followed phases:

1. **Initial analysis of the context**: The incipit of the research was pursued through a general overview of the Chinese market situation, trying to identify first the trends and the interesting topics. The use of the word “context” was preferred since scientific articles were not the only source of information; data were retrieved also through local sources such as newspapers, news, informal conversations with practitioners and so on. In parallel, a broad analysis of the existing literature was carried on to verify the existence of theoretical knowledge regarding the identified noteworthy points. Thank to this exploratory investigation it was possible to identify the Food and Beverage imports from European SMEs to China as a significant subject. The scale and the proportion of the phenomenon is enough to justify a separated and focused treatment.
2. **Research questions formulation**: during the second phase, a more detailed investigation of the existing literature was carried on, keeping in mind the focus of the research. As a result, several models were identified in the literature describing the internationalization process. Indeed, researchers often refer to the Uppsala Model in describing the phases of internationalization. RQ1 investigates the applicability of the model and the phases adopted in the treated context of analysis. Practitioners mentioned the importance of the relationship with service providers especially during the early stage of entrance in a foreign market, especially for SMEs. However, opposed evidences came out from the literature. Therefore, RQ2 aims at shedding lights on this issue. The specific characteristics of the food logistics, along with the complexity and the relevance of the Chinese market, heavily impact on the SC performances. As long as the point of view of a European SME operating in the F&B industry and entering the Chinese market, RQ3 intends to provide practical operative advices.

3. **Possible driving factors and framework identification**: in preparation of the field interviews and considering the research scope, the academic literature was explored again to find out the potential drivers of the selection of the company internationalization logistics configuration. Besides the traditional logistics factors, other aspects were identified as significantly affecting the configuration choice. A vertical drill down in each factor area was then carried on. This phase was fundamental to identify the critical issue to be addressed during the interviews. Indeed, a list of topics was created. Since this analysis was carried on before meeting the companies, the academic literature was broadly investigated to detect all the relevant factors. As the interviews were carried on in the next phases, it was possible to funnel the topics, eliminating the not relevant ones. This process was iterated during the time as long as more empirical evidences were collected, leading to creation of a framework in which categorize the companies for comparison purpose.

4. **On field interviews and case study development**: the answer to the research questions has relied on a multiple case study method that seeks to understand the complex relationships among multiple variables and their dynamics. The essence of a case study is that it tries to shed lights on a decision or set of decisions: why they were taken, how they were implemented, and with what result. Moreover, it investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident. This method has proven to be the most appropriate means to address how and why questions regarding a set of facts (Eisenhardt, 1989; Yin, 2003). At the early beginning, the companies selected for the research were actually European SMEs engaging the Chinese market importing F&B in the country. Afterwards, thanks to a deeper understanding of the actors
involved in the current logistics routes configuration pursued by the companies, new interviews were carried on with freight forwarders and trading agencies to have more insights and a complete understanding of their role in the configurations. In addition, they provided multiple detailed examples of several companies perfectly fitting with the subject of the research. They also specified the profile, operations, special requirements, and the current logistics settings of these companies, as well as the reasons behind their choices. Therefore, thanks to this new contribution it was possible to extend the number of the case studies. The information was gathered through personal, in-depth, semi-structured interviews with members of the management teams of the companies’ local branches, including key company officials in charge of international business development, as well as subsidiaries’ general managers in order to obtain a general and reliable view of subsidiaries’ development and implementation processes. Other contributions were provided by experienced senior logistics specialists of the Chinese, Italian and Dutch branches of the selected freight forwarding companies. Indeed, airfreight, seafreight, and import specialists were interviewed as well as local business development managers in order to collect several examples on the base of which increase the number of the case studies. Similarly, due to their relevance in the SMEs current logistics, trading agencies logistics representatives were contacted; they also contributed to enlarge the case studies base. Besides the interviews, it is worthwhile to mention the meeting with legal consultants as well as the visit to China Customs in the Waigaoqiao Free Trade Zone and to Shanghai Yangshan International Deep Water Port. Although they didn’t provide additional case studies, they were fundamental to have a complete knowledge about import and port operations, customs clearance process, legal requirements, certifications, and, more in general, all the lacking information in the academic literature concerning the subject of the research. Cases were selected in order to maximize the heterogeneity in terms of size, product type, strategies and globalization processes analyzing empirical data (Yin, 2003).

5. **Development of the model:** thanks to the references in the academic literature, the on field interviews, and the case study development, it was possible to organize the interviewed companies in a framework. Between all the existing possible configurations, the field gave back only a limited number. Simultaneously with the identification of the alternatives, a detailed analysis of the interviews allowed the detection of, first of all, the relevant drivers of choice when a SME internationalize, and, secondly, the relationship between the drivers and the internationalization phase. Combining together the outcomes, a qualitative matrix model was drawn where, level of knowledge, type of relationship with LSP, and internationalization strategy/phase were linked together.
6. **Collection of the operative advices**: complementing the model proposed in part 5, a list of operative advices was collected and reported. Some of the factors impacting on the internationalization logistics strategy were filtered by the on-field interviews because not considered as relevant. Others were actually seen as relevant by the companies; however, they were not differential between the cases. For instance, the logistics network configuration was practically the same adopted by the companies. Concerning other factors (e.g. international transporation mode) there was no evidence they were related to the specific internationalization strategy pursued. Altogether, these empirical evidences were collected and formalized in list to complement the model.

Indeed, the practicality and the ease of use are two strong points that ensure the usefulness of the model, especially from the point of view of a SME with zero or very little experience with the import of F&B in China.
3 Academic Literature Review

This part will provide an extensive coverage of all the topics related to the internationalization of the companies, especially from the logistics distribution perspective. First of all, the traditional logistics factors are identified, involving all the main costs related to make a distribution network working. Indeed, inventory, transportation, warehousing, and information costs are investigated.

Secondly, a comprehensive list of the main factors and tradeoff to consider when selecting the distribution setting is provided. Due to the scope of the research, it is decided to draw more attention to the product and the geo-commercial factors. In the latter section, there is the detailed treatment of the China’s Food Safety Law.

Afterwards, the implication and peculiarities of a supply chain that deals with food is treated, focusing more on the logistics of perishables.

The fourth main section of the academic literature entails the description of the main international transportation mode. Even though multiple options are available, only the most used mode are further detailed. In this part, bearing in mind the limited capabilities of the SMEs, it is decided to provide an exhaustive presentation of the most often used international terms of sale. In addition, the international transportation planning and strategy part is complemented with the literature about the available options and actors involved when the transportation is outsourced.

Then, a general overview of the physical representative (i.e. the branch of the company) that can be set in the foreign market. Specifically tackling the SMEs low resources, it is also provided as an entry option the use of brokering agents, local distributors and importers. Concerning the latter point, a drill down on trade opportunities is performed, exploring direct and indirect exports options.

Finally, a more economical perspective is assumed. Indeed, the influential theories that analyze how firms behave regarding international expansion are treated, with a specific focus on the Uppsala Model.

3.1 Traditional Logistics Factors

Logistics management is that part of supply chain management that plans, implements, and controls the efficient and effective forward and reverse flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customers’ requirements (CSCMP, 2012).

Distribution refers to the steps taken to move and store a product from the supplier stage to a customer stage in the supply chain. Distribution occurs between every pair of stages in the supply chain.
Raw materials and components are moved from suppliers to manufacturers, whereas finished products are moved from the manufacturer to the end consumer. Distribution is a key driver of the overall profitability of a firm because it affects both the supply chain cost and the customer value directly.

The process of designing a distribution network, like every aspect of the logistics, must refer to the logistics strategy, that in turn must refer to the high-level corporate strategy. Basically, the two main areas of motivation to enter foreign markets are to tap either growth potentials or cost saving potentials. Thereby, it is interesting that the growth aspect is valued as much more important than cost reduction. Going global strengthens the companies’ market position as they leverage global opportunities. In opposition to frequent statements in public media, global cost pressures that make firms shift their production overseas - causing unemployment in developed economies - play a rather minor role in the current internationalisation behaviour of companies. In the first place, internationalisation means leveraging global expansion market opportunities (Straube et al., 2008).

Nevertheless, to service global markets, logistics networks become, necessarily, far more expensive and far more complex. Linked closely to the globalization of business is the increase in the complexity of supply chain management. As already indicated, globalization almost certainly leads to greater complexity, that provides some significant implications for logistics operations. These include:

- extended supply lead times and its variability;
- different product/market requirements;
- duties/laws constraints to the flows;
- multiple actors involved;
- enhanced risks;

(Melacini 2015, Chopra and Meindl 2004)

In turn, all of these elements actively participate in a general increase of the logistics cost. Knowing that and although the research does not intend to provide a quantitative model, it is undoubtedly important to consider the logistics costs in the selection of the right configuration.

The total logistics concept (TLC) aims to treat the many different elements that come under the broad category of distribution and logistics as one single integrated system. It is a recognition that the interrelationships between different elements, need to be considered within the context of the broader supply chain (Chopra, 2003).

In the academic literature, there are several contributions that focus on the identification of the costs involved in the selection of the right distribution settings.

According to Rushton et al. (2014), it is possible to identify a list of key areas representing the major logistics components of distribution valid for most companies, namely: transport (e.g., mode of
transport and load planning), warehousing (e.g., number and size of distribution depots), inventory (e.g., stock level), packaging (e.g., type of unit load) and information (e.g., order processing).

Indeed, the logistics costs directly derives from these activities.

Chopra (2003) identified 4 logistics cost categories involved in the distribution.

- Inventories
- Transportation
- Facilities and handling
- Information

A detailed explanation of the above mentioned costs is now provided.

### 3.1.1 Inventory costs

Inventory exists in the supply chain because of a mismatch between supply and demand. There are three main types of inventory that should be carefully considered in the distribution phase, as well as in every logistics activity: cycle stocks, safety stocks, in-transit stocks.

#### 3.1.1.1 Cycle stocks

An important role that inventory plays in the supply chain is to increase the amount of demand that can be satisfied by having the product ready and available when the customer wants it. Indeed, the order cycle time, the time that elapses from when a buyer places an order with a seller until the buyer receives the order, is the main driver in this case. Normally, the shorter the order cycle time is, the more inventory that must be held by the seller and the less inventory that must be held by the buyer, and vice versa. Another significant role that inventory plays is to reduce cost by exploiting economies of scale that may exist during distribution. In fact, transportation firms usually offer rate or price discounts for shipping larger quantities (Chopra, 2003).

#### 3.1.1.2 Safety stocks

All organizations are faced with uncertainty. Organizations accumulate safety stock to buffer themselves against stockouts. On the demand or customer side, there is usually uncertainty in how much customers will buy and when they will buy it. Forecasting demand is a common approach to resolving demand uncertainty, but it is never completely accurate. Uncertainty can also arise from transportation providers in terms of receiving reliable delivery.
3.1.1.3 In-Transit stocks

The time associated with transportation means that even while goods are in motion, an inventory cost is associated with the time period. The longer the time period, the higher the cost. The time period for in-transit inventory should be evaluated in terms of the appropriate trade-offs. Indeed, the various transportation modes available for shipping freight have different transit time lengths, transit time variability, and damage rates. The rates or prices charged by carriers in the different modes reflect these differences in service. For example, air freight service is usually the fastest and often the most reliable, but the price charged for this service is considerably higher than that charged by motor carriers, railroads, or ocean carriers. However, air freight should result in less inventory in transit.

Whatever is the type of stocks accumulated, there is always a cost associated with their carrying. The inventory carrying costs are those costs that are incurred by inventory at rest and waiting to be used. From a finished goods inventory perspective, inventory carrying costs represent those costs associated with manufacturing and moving inventory from a plant to a distribution centre to await an order. There are four major components of inventory carrying cost: capital cost, storage space cost, inventory service cost, and inventory risk cost.

3.1.1.4 Capital cost

Sometimes called the interest or opportunity cost, this cost type focuses on the cost of capital tied up in inventory and the resulting lost opportunity from investing that capital elsewhere. For example, all organizations borrow money from external sources to fund operations, and borrowed money has a cost associated with it. If an organization decides to use this money to buy raw materials, build manufacturing plants, and hire labor to produce finished products for storage, then this inventory carries this “borrowed money” cost while sitting waiting to be sold. As such, capital tied up in inventory still requires dividend or interest payments to the funding source. The opportunity cost of this inventory is the return on capital the organization might have realized if it had invested in another opportunity rather than in raw materials, plants, and labor.

3.1.1.5 Storage Space Cost

Storage space cost includes handling costs associated with moving products into and out of inventory as well as storage costs such as rent, heating, and lighting. Storage space costs are relevant to the extent that they either increase or decrease as inventory levels rise or fall. Thus, organizations should include variable, rather than fixed, expenses when estimating space costs as well as capital costs. This can be illustrated by contrasting the use of public warehousing versus private warehousing. When an
organization uses public warehousing, almost all handling and storage costs vary directly with the level of stored inventory. As a result, these variable costs are relevant to decisions regarding inventory. When an organization uses private warehousing, however, many storage space costs (such as depreciation on the building) are fixed and are not relevant to inventory carrying costs. However, the opposite might be the case in the use of private warehousing where the organization is allocating all costs to products based on their activity levels. As such, each product would be allocated a portion of the fixed costs in the inventory carrying cost calculation.

### 3.1.1.6 Inventory Service Cost

Another component of inventory carrying cost includes insurance and taxes. Depending on the product value and type, the risk of loss or damage might require high insurance premiums. Also, many states impose a tax on inventory value, sometimes on a monthly basis.

### 3.1.1.7 Inventory Risk Cost

The final major component of inventory carrying cost reflects the very real possibility that inventory dollar value might decline for reasons beyond an organization’s control. This situation can occur, for instance, with fresh fruits and vegetables when quality deteriorates or the price falls over time. Manufactured products might face similar risks, although typically not to the same degree. A box of breakfast cereal has a relatively long shelf life with little risk of depreciating in value over a reasonable amount of time. Any calculation of inventory risk costs should include the costs associated with obsolescence, damage, pilferage, and other risks to stored products. The extent to which inventoried items are subject to such risks will affect the inventory value and thus the carrying cost.


### 3.1.2 Transportation cost

If inventory is the lifeblood of supply chains, then transportation is the pumping heart that moves products throughout the system. Effective product movement is essential for the success of a company (Coyle et al., 2009). Transportation refers to the movement of product from one location to another as it makes its way from the beginning of a supply chain to the customer. In addition, it is an important supply chain driver because products are rarely produced and consumed in the same location. Moreover, it is a significant component of the costs incurred by most supply chains.

Supply chains use a combination of the following modes of transportation:
• Air
• Package carriers
• Truck
• Rail
• Water
• Pipeline
• Intermodal

(Chopra and Meindl, 2004)

However, concerning the research purposes, only Air, Water, Truck, Rail and Intermodal could be selected. Only Air and Water will be detailed since intercontinental transportation involves mainly either sea or air transportation. Moreover, Truck, Rail and Intermodal transportation are governed by the same logic used in the national transportation, therefore they do not require additional explanation (Melacini, 2015). Later in the literature review, a detailed chapter regarding the international transportation will treat the argument. Here, a general picture of what are the costs involved is reported.

Besides the most intuitive reasons why goods transportation is associated with a cost, it is interesting analysing the challenges that all the actors, and not only the companies, are facing. These challenges, indeed, have a high impact on the final costs and its variability over time.

To understand transportation in a supply chain, it is important to consider the perspectives of all parties. A carrier makes investment decisions regarding the transportation equipment (locomotives, trucks, airplanes, etc.) and then makes operating decisions to try to maximize the return from these assets. A shipper, in contrast, uses transportation to minimize the total cost (transportation, inventory, information, sourcing, and facility) while providing an appropriate level of responsiveness to the customer. The effectiveness of carriers is influenced by infrastructure such as ports, roads, waterways, and airports (Chopra and Meindl, 2004).

Another challenge regards the demand side. Indeed, growing demand for smaller, more frequent deliveries will limit opportunities to move product in economical container load quantities. Compression of order cycle times results in higher delivery costs and extended fulfilment operation hours. Also, the desire for real-time shipment visibility requires technological strength.

Transportation capacity constraints pose another challenge to organizations needing to move freight through the supply chain. During peak delivery season, port facilities must grapple with a surge of containers. The outcomes of a capacity crunch include higher freight rates, shipment delays, and difficulty finding new carriers.

Transportation rate variation adds to the complexity of the transportation. Capacity, freight volume, and fuel costs each influence the rates charged by carriers. As volume increases and capacity becomes
constrained, rate increases become a real possibility. Conversely, when freight volume decreases due to an economic slowdown or demand shifts, excess capacity results and rates tend to decrease (Coyle et al., 2009).

3.1.3 Facilities and Handling (warehousing)

Warehousing typically accounts for about 20 to 30 per cent of logistics costs, while the carrying costs for the inventory within them account for a further 20 to 25 per cent. The detailed breakdown of warehouse costs varies by the nature of the operation, but typical figures from past studies of ‘conventional’ warehouse operations are as follows:

- **staff** – 45 to 50 per cent, with half of this often represented by handling activities (order picking and packing);
- **building** – 25 per cent, including rent or depreciation on the building;
- **building services** – 15 per cent, including heat, light, power, building maintenance, insurance and rates;
- **equipment** – 10 to 15 per cent, including rental or depreciation, equipment maintenance and running costs;
- **information technology** – 5 to 10 per cent, including systems and data terminals.


These costs always exist, however their nature (fixed or variable) changes depending on the ownership of the facility. There are three possible solutions:

- **Private facilities**: company operated facilities that are owned or leased from a commercial real estate company. Owning and operating facilities provide the organization with greater control over fulfillment processes and inventory. In order to make a private distribution cost-effective, the facility needs high product throughput, requires stable demand, and should be located in or near a dense market area. Additionally, the organization must have distribution expertise, the resources to build facilities, and the desire to operate them.

- **Public facilities**: the traditional external distribution option. A public warehouse rents out space to individuals or firms needing storage capacity on a short-term, transactional basis. These companies may focus on specific product types—refrigerated goods, household goods, and bulk storage.

- **Contract facilities**: a customized version of public warehousing in which the 3PL provides a combination of distribution services. They dedicate space, labor, and equipment to a client’s specific product needs with the goal of providing integrated, accurate distribution services.
These facilities can address the specialized handling requirements for critical products. The customized nature of contract facilities leads to strong relationships between the 3PLs and its key clients.

These external distribution services should be considered for several reasons. First, contracting for services alleviates capital investment in private distribution facilities. Second, short-term commitments for capacity allow distribution network flexibility. If demand shifts to another region, you simply lease the needed capacity in the new market. Another benefit of outsourcing distribution responsibilities is that you do not have to hire and manage operations personnel. Essentially, distribution becomes a variable cost activity that is run by 3PL experts who can leverage their investments, expertise, and capacity across multiple customers (Coyle et al., 2009).

3.1.4 Information

Information consists of data and analysis concerning facilities, inventory, transportation, costs, prices, and customers throughout the supply chain. Information technology–related expenses are typically included under either operating expense (typically under selling, general, and administrative expense) or assets (Chopra and Meindl, 2004).

The part of the information cost that directly affect the goods is the order processing cost. The costs associated with ordering inventory have both fixed and variable components. The fixed element might refer to the cost of the information system, facilities, and technology available to facilitate order-placement activities. This fixed cost remains constant in relation to the number of orders placed. There are also a number of costs that vary in relation to the number of orders that are placed. Some types of activities that might be responsible for these costs include (1) reviewing inventory stock levels, (2) preparing and processing order requisitions or purchase orders, (3) preparing and processing receiving reports, (4) checking and inspecting stock prior to placement in inventory, and (5) preparing and processing payment (Coyle et al., 2009).

3.2 Identifying key factors driving distribution setting selection

While remaining strictly focused on the traditional logistics factors, it is still possible to provide an early general identification of the drivers for the logistics configuration choice. Following the analysis method proposed by Lovell et al. (2005), the key parameters can only be identified after a detailed analysis of the fundamental distribution cost trade-offs that relate to these factors. The concept of trade-
off analysis is a key feature of the total cost approach to logistics. It has been shown that any change in one of the major elements within a logistics system is likely to have a significant effect on the costs of both the total system and the other elements. Indeed, it is often possible to create total cost savings by making savings in one element, which creates additional costs in another but produces an overall cost benefit (Rushton et al. 2014).

Supply chain costs are wide ranging, however the design of the network concentrates on a number of key related costs which contribute most towards the total cost. The main tradeoffs are: facility, transport and inventory costs; through-put and number of inventory holding locations; transport mode and inventory costs; and demand variability, service level (in terms of product availability) and lead-time (Lovell et al., 2005).

### 3.2.1 Facility, transport and inventory costs

One important interaction that must be considered is the tradeoff between distribution and transportation operations. When a manufacturer ships product directly from its plants to customers, the transportation costs will be very high. Organizations may benefit substantially from the establishment of one or several warehouses to reduce transportation costs. Large shipments can be transported over long distances from plants to distribution facilities via truckload carriers; then the smaller shipments are delivered to regional customers. However, a saturation point can be reached where too many DCs are built and total costs increase. With so many facilities, operating costs will increase and transportation expenses will rise. For example, inbound shipments will become less-than-truckload shipments, which are more expensive than shipping full truckloads (Coyle et al., 2009).
Another key tradeoff must be made between distribution and inventory. Generally, the more DCs and warehouses, the higher the total inventory carrying costs. As facilities are added to a fulfillment system, the amount of inventory will increase in total, but at a decreasing rate. This move toward decentralized inventory inhibits the ability to adopt a risk pooling strategy as each facility must hold additional safety stock (Coyle et al., 2009).

The overall cost effect of using a different number of sites can be explained by such a graph and can be used for facilities location planning. The top line on the graph shows the overall logistics cost in relation to the different number of DCs in the network. It is obtained by adding together the individual cost curves of the key distribution elements that correspond to each number of sites (Rushton et al. 2014).
3.2.2 *Through-put and number of inventory holding locations*

There exists a trade-off between the level of inventory centralisation (i.e. the number of DC’s in the distribution network) and throughput for a product in determining the optimal supply chain design. Vos (1993) suggests that economies of scale justify a more decentralised inventory holding policy.

![Image of Figure 5: Justification of extra inventory holding locations with increasing throughput (Lovell et al., 2005)](image)

Figure 5 shows how an increased number of inventory holding points can be justified with an increased throughput. This relationship is derived on the basis that inventory-carrying cost must remain a fixed proportion of product total cost as throughput increases (Lovell et al., 2005).

3.2.3 *Demand variability, service level (product availability) and lead-time*

In traditional probabilistic models of single point inventory control, the level of safety stock is determined, as a function of the service level required, the level of demand variability, and the lead-time. There are many different ways of defining and interpreting what is meant by service level. Within this context, it can be considered the product availability requirements. This relationship is formally presented by Waters (2003) as:

\[
\text{Safety stock} = Z \cdot \sigma \cdot \sqrt{T + LT}
\]

where \(Z\) is the number of standard deviations from the mean corresponding to the selected service level (product availability), \(\sigma\) the standard deviation of demand of \(T\), \(T\) the review period, \(LT\) the replenishment lead-time, and \(T + LT\) is the total lead-time.

The relationship above shows that an increase in the required product availability or an increase in demand variability will both lead to either additional inventory holding at the decoupling point in the
network or lower lead-times to compensate. This three-way trade-off is an important relationship in selecting the most appropriate supply chain for a given situation. Service (product availability) requirements and demand variability will be factors determined by the market; the lead-times will be that of the selected mode of transport and system response time.

Diversity between products or customers in terms of the service level requirement or demand variability can, therefore, influence the most appropriate supply chain selection (Lovell et al., 2005).

### 3.2.4 Transport lead-time and inventory costs

All transportation decisions made by shippers in a supply chain network need to take into account first of all their impact on inventory costs (Chopra and Meindl, 2004). Selecting a transportation mode is both a planning and an operational decision in a supply chain. The decision regarding carriers with which a company contracts is a planning decision, whereas the choice of transportation mode for a particular shipment is an operational decision. For both decisions, a shipper must balance transportation and inventory costs. Cheaper modes of transport typically have longer lead times and larger minimum shipment quantities, both of which result in higher levels of inventory in the supply chain. Modes that allow for shipping in small quantities lower inventory levels but tend to be more expensive (Chopra and Meindl, 2004; Lovell et al., 2005).

The impact of using different modes of transportation on inventories, response time, and costs in the supply chain is shown in Figure 6. Each transportation mode is ranked along various dimensions, with 1 being the worst and 6 being the best.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Cycle Inventory</th>
<th>Safety Inventory</th>
<th>In-Transit Cost</th>
<th>Transportation Time</th>
<th>Transportation Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rail</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>TL</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>LTL</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Package</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Air</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Water</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>

**Figure 11: Ranking of Transportation Modes in Terms of Supply Chain Performance**

(1: Worst, 6: Best) (Chopra and Meindl, 2004)

In general, for all the transportation mode, the lower the transport lead-time, the higher the associated transport cost.
If higher speed (and more expensive) modes are used, e.g. airfreight rather than surface freight, then there is a reduction in inventory holding. This relationship is used to justify the increasing use of airfreight for global logistics solutions.

Kruger (2002) first identified the fundamental importance of the Product Characteristics for the Global Supply Chain's Configuration. Indeed, the main characteristics of logistics goods are their value, weight, and volume. A product's value on the one hand and its weight and volume on the other hand influence the costs of logistics and determine the efficiency of a logistics process. However, his analysis considers only a narrow point of view of the logistics costs involved: transportation costs and inventory costs. Moreover, since the mathematical nature of his study, other characteristics of goods were considered not relevant in that context: risk criteria as perishability or obsolescence (Kruger, 2002).

In the Lovell’s analysis, a much broader scope was taken. From the understanding of the trade-offs that exist along the supply chain he derived the factors which drive these major costs. These are: throughput level and variability; product size and weight; value and the demand variability/service factor. These four factors can be further reduced to three by combining value with size and weight to form PVD (Lovell et al., 2005).

Nevertheless, the optimal configuration choice does not only depend on the logistics costs, and therefore on the selected drivers, but also on other factors. Indeed, they have an impact on the total costs, however they introduce constraints on which the final configuration must consider and conform. (Melacini, 2015; Lovell et al., 2005). Indeed, the academic literature identify three key choices regarding the final supply chain configuration: transportation mode, intermediate consolidation structures, and the distribution network on the final markets (Kruger, 2002; Zeng, 2003; Zeng and Rossetti, 2003).
Many factors have been described within the literature as influencing supply chain selection and product or customer segmentation. These factors are reported below and grouped as product, market, geographic/commercial environment specific (Lovell et al., 2005).

3.2.5 Product factors

One of the major factors to be considered when planning for logistics is the product itself. The product is, in fact, perceived to be an amalgam of its physical nature, its price, its package and the way in which it is supplied. For the logistics planner, the physical characteristics of the product and package are seen to be of great significance. This is because distribution and logistics is directly concerned with physical flow, movement and storage. The physical characteristics of a product, any specific packaging requirements and the type of unit load are all important factors in the trade-off with other elements of distribution when seeking least-cost systems at given service levels (Rushton et al. 2014).

Christopher and Peck (1999) highlight the increased importance of a supply chain that delivers reliability where products exhibit short life cycles. A number of product factors relate to the physical characteristics of products. The shelf life and the handling characteristics of a product influence the appropriate supply chain selection. For example, products with a short shelf life would lend themselves to networks that hold low levels of inventory and utilise faster transport modes. Differences in the handling characteristics of products can also impact on supply chain costs and, therefore, the most appropriate supply chain selection. For example, differences in the weight of the product, or the level of security or safety requirements can affect the transportation mode for a product, and can also lead to network constraints in the type of operation that can be used (Rushton et al. 2014). There are four main categories: volume to weight ratio; value to weight ratio; substitutability; and high-risk products.

3.2.5.1 Volume to weight ratio

Volume and weight characteristics are commonly associated, and their influence on logistics costs can be significant. A low ratio of volume to weight in a product (such as sheet steel, books, etc) generally means an efficient utilization of the main components of distribution. Thus, a low-volume/high-weight product will fully utilize the weight-constrained capacity of a road transport vehicle. Also, a low-volume/high-weight product will best utilize the handling cost component of storage (most other storage costs are not significantly affected by low volume to weight ratios). The converse, a high volume to weight ratio, tends to be less efficient for distribution. Typical products include paper tissues, crisps, disposable nappies, etc. ese products use up a lot of space, and are costly for both transportation and storage, because most companies measure their logistics costs on a weight basis (cost per tonne)
rather than a volume basis (cost per cubic metre). Thus, overall distribution costs tend to be greater for high-volume as against high-weight products. It can be seen that the total costs of movement and storage tend to increase as the volume to weight ratio increases.

### 3.2.5.2 Value to weight ratio

Product value is also important to the planning of a logistics strategy. High-value products are more able to absorb the associated distribution costs because the distribution element is a relatively low proportion of the overall product cost. Low-value products need to have an inexpensive distribution system because the cost is a large proportion of the overall product cost – and if too high the effect on the total cost of the product might make it non-viable in terms of its price in the marketplace. It is useful to assess the value effect in terms of a weight ratio: the value to weight ratio. Low value to weight ratio products incur relatively high transport unit costs compared with high value to weight products. Storage and inventory holding unit costs of low value to weight ratio products tend to be low in comparison with high-value products because the capital tied up in inventory is much lower for the low-value products. There is a trade-off effect as value to weight ratios increase. In general, high-value items are more likely to be sold direct via a short channel, because the high gross profit margins can more easily cover the higher sales and distribution costs that are usual from short channels. In addition, the security aspects of highly priced items make a short channel much more attractive because there is less opportunity for loss and damaging than with a long channel. Short channels also reduce the requirement for carrying inventory of high value goods and the associated poor use of working capital.

### 3.2.5.3 Substitutability

The degree to which a product can be substituted by another will also affect the choice of distribution system. When customers readily substitute a product with a different brand or type of goods, then it is important that the distribution system is designed to avoid stockouts or to react to replenish stocks in a timely fashion. Typical examples are many food products, where the customer is likely to choose an alternative brand if the need is immediate and the first-choice name is not available. In a distribution system, this can be catered for either through high stock levels or through a high-performance transport mode. Both options are high cost. High stock levels will decrease the likelihood of a stockout, but will raise average stock levels and, thus, costs. The provision of a faster and more dependable transport function will reduce acquisition time and length of stockout, but this increase in service will be at a higher transport cost.
3.2.5.4 High-risk products

The characteristics of some products present a degree of risk associated with their distribution. The need to minimize this risk (sometimes a legal obligation) means that a special distribution system design must be used. As with any form of specialization, there will be a cost incurred.

Perishable goods with particular handling characteristics in many instances require special conditions and equipment for their distribution (e.g. refrigerated storage and transport facilities for frozen and chilled food).

Time-constrained products – almost all foods are time-constrained now that ‘best before’ dates are so common – have implications for distribution information and control systems (e.g. first in first out). There are the classic seasonal examples of Easter eggs and Christmas crackers, which are time-constrained. They need a ‘fast’ or ‘short’ channel (Rushton et al. 2014).

3.2.6 Market factors

The market factors of demand variability and service expectations have an influence on supply chain design (which includes inventory levels and locations). Demand level (throughput) and demand dispersion are also important factors in the design of the physical network, and influence factors such as modes of transport and warehouse size and location where the economies of scale of production or distribution influence supply chain costs (Lovell et al., 2005). Moreover, the physical size of an order clearly has an impact on modal choice, as some modes are more suitable for small orders and others for large ones (Rushton et al. 2014).

3.3 Food supply chain

When it comes to operationalize the strategic choices, it is fundamental to include since the early beginning the characteristics of the products to be handled in the supply chain. Indeed, as it was possible to see until now, food and beverage have a significant impact on the logistics route selection in distribution choice. This is mainly due to the unique features and requirements that this product typology entail. Referring to the supply chain segmentation drivers proposed by (Lovell et al., 2005), product factors, such as:

- life cycle
- shelf life
- handling characteristics
- physical size and weight
• value
• PVD

as well as the geographical and commercial environment factors, in which it is possible to identify:

• Transport mode availability
• Customs/duties/trade areas
• Legislation

are the most important drivers that differentiate the food supply chain from the others. Christopher and Peck (1999) highlight the increased importance of a supply chain that delivers reliability where products exhibit short life cycles. A number of product factors relate to the physical characteristics of products. The shelf life and the handling characteristics of a product influence the appropriate supply chain selection. For example, products with a short shelf life would lend themselves to networks that hold low levels of inventory and utilise faster transport modes. Differences in the handling characteristics of products can also impact on supply chain costs and, therefore, the most appropriate supply chain selection. For example, differences in the weight of the product, or the level of security or safety requirements of the vehicle can affect the type of mode or vehicle choice for a product, and can also lead to network constraints in the type of operation that can be used (Rushton et al., 2014).

Food logistics is the movement of food through the supply chain until it reaches the consumer’s plate. Food will be transported in various type of packaging (not retail packaging with branding) such as containers of boxes, with the aim of holding and protecting the food during the distribution and transit. The operational requirement for such containers are that they should:

- Hold and protect the products against climate and contamination risk throughout the journey;
- Be compatible with the product;
- Be easy to fill, seal and handle;
- Remain securely closed in transit, but open easily when required (eg customs inspection) and reclose securely;
- Carry information for all stages of the supply chain regarding the contents, destination, and how to handle and open the pack (smart containers will have also GPS tracking);
- Be readily disposable or reusable.

When dealing with food, it is extremely important to have temperature-controlled supply chains, since temperature monitoring and recording is a legal requirement for the food sector.

Logistics activities in the food and beverage sector operate across four temperature bands:

- Ambient (eg canned foods, jars of coffee, bags of sugar);
- Fresh produce (fruits and vegetables)
- Chilled (dairy products and ready meals)
Frozen (frozen fresh produce, meals, ice creams, etc.)

A temperature-controlled food supply chain requires products to be maintained in a temperature controlled environment, rather than exposing them to variable ambient temperatures at the various stages of the supply chain. The complexity of the food distribution will be based on the type of product, the available modes of transport between farm and fork, legal requirements and so on. If a food supply chain is dedicated to a narrow range of products, the temperature will be set at the level for that product. If a food supply chain is handling a broad range of products, an optimum temperature or a limited number of different temperature settings are used. The temperature zones will differ according to whether the requirement is for frozen (-25°C; ice cream etc), cold chill (0-1°C; fresh meat, poultry, dairy, fruits etc), medium chill (5°C; cheese etc) or exotic chill (10-15°C; potatoes, eggs, exotic fruit etc). Temperature-controlled warehouses (multi-temperature composite warehouses) and multi-temperature delivery vehicles are available to meet the strict distribution requirements of the food supply chain.

3.3.1 The logistics of perishables

The logistics of perishable food products and fresh produce is a complex task, especially when international supply chain are considered, in which temperature is a very important factor. Perishable products can be transported via air, land or sea. When considering international chains, the default mode of transport that one thinks is air. The task is to keep the food fresh throughout the journey without losing valuable shelf life. Perishables can be of many forms: flowers, fresh fruit and vegetables, ready-to-eat processed meals, ready-to-eat food such as fresh cream cakes, meat and so on. The mode of transport used will depend upon which product is considered and the required speed of delivery. Innovations in food packaging, fruit and vegetable coatings, controlled ripening techniques, radiation and so on have tried to extend the time taken for the food to deteriorate. This also means that if a product now takes more time to deteriorate, the company may decide to use a transport mode that is cheaper (than air) but takes more time to reach the destination. Both air and sea cold-chain logistics have their advantages and disadvantages.

Most food that is moved globally travels by container freight. This includes almost all dry food and some perishables. Air cargo can be sent via two modes – passenger aircraft and cargo services. Fresh fruit and vegetables from Africa or Asia will use passenger aircraft services to deliver the consignment. However, although the services are less expensive, exporters will need to manage their schedules strictly as per the passenger aircraft timetables. Cargo air services are generally tailor made and could provide a better service (at a higher cost); however, again this will depend upon the location or travel and whether the exporting location has regular flights. As packaging technology improves and innovates, it
is possible to ship using refrigerated containers, which provide better consistency of cold chain than using air. The trade-off is that it will take more time for delivery. With air travel, although the time taken for travel will be less, temperature may be more than is the case when travelling by ship in refrigerated containers. There are a number of factors that need to be considered when designing cold chains:

1. Maintaining the seamless cold chain from source to retail – this will also depend upon the type of product being considered.
2. Mode of travel – this should depend upon, among other factors of cost and time, what kind of value the supply chain is seeking to deliver to the consumer.
3. Food safety - the design will need to consider traceability and regulatory requirements of the importing country and the operational issues of hygiene, using the appropriate containers, employee training and so on.
4. The appropriate packaging technology – to match products characteristics in order to reduce exposure and increase shelf life.
5. Technology for real-time monitoring of temperature, movement, location, humidity levels and so on, and using this data for analysis.
6. Effective on-costs, on-time delivery and understanding of the dynamics of the cold chain.

(Dani, 2015)

The longer perishable products take to reach the customer, the more likely the product quality will decrease, which is why perishable products need to be delivered in a timely manner (Hoffman, 2012).

Such products require rapid transportation either because they are urgently required, or because they may otherwise perish or deteriorate when being transported over long distances (Oedekoven, 2010; Shaw, 2011).

### 3.4 International Transportation

The changing nature of logistics and the supply chain, particularly the move by many companies towards global operations, has had an obvious impact on the relative importance of the different modes of freight transport. Long-distance modes of transport have thus become much more important to the development of efficient logistics operations that have a global perspective. Thus, the need to understand the relative merits of sea freight as against air freight is crucial, although for many localized final delivery operations it is still road freight transport that offers the only real option. All of these developments serve to emphasize the need to appreciate the many different facets of transport modal choice for international logistics (Rushton et al., 2014).
Since the focus is the definition of the possible logistic strategies, the most operative aspects related with the design of the maritime flow will be referred to dedicated articles (Zapfel and Wasner, 2002; Lee and Yang, 2003) and so here neglected. Most of the articles consider the problem from a manufacturing company point of view and they often look at the transporation system as a mere connection between origin and destination, not paying enough attention at the transportation structure and its implication over the whole supply chain (Cohen and Lee, 1989; Creazza et al., 2010).

In the early 2000’s the academics started a deeper analysis on the possible logistic network configurations and, for instance, (Zeng, 2003) proposed 3 categories of global transporation: air freight, ship FCL, and ship LCL. Lovell et al. (2005) introduced a taxonomy for the global network design based principally on the good value density, while Cheong et al. (2007) focused on the creation of a consolidation hub, both for sourcing and for distribution (Creazza et al., 2010). On the basis of these sources, Creazza et al. (2010) proposed few possible logistics configurations that, even if they were meant to be applied in a global sourcing problem, could represent a fundamental resource for the scope of this thesis. In fact, these alternatives reflect different ways to carry out an international link, neglecting the aspect related to the ground consolidation or the road transportation, and focusing the attention on the main route.

Following the analysis pursued by the practitioners, only air freight and sea freight will be treated in detail and contextualized to the specific case of food and beverage transportation.

3.4.1 Maritime transportation

Sending cargo by sea is ideal for high-volume cargoes that are not necessarily time sensitive or have long lead times for delivery. However, this mode of transport is slow and fraught with possibilities for delay (Rushton et al., 2014).

Sea-freight entails different modes:

- Containerized, Full Container Load (FCL) / Less-than-full Container Load (LCL)
- Conventional (general cargo)
- Charter Shipping (bulk)
- Roll on (RO)/Roll off (RO) Vessels and LASHING

(UNDP, 2008)

In regards of the scope of this thesis, only the first mode will be treated:

- Full container load (FCL): as the term implies, this refers to a load that will fill a given container. (Rushton) FCL is a “door to door” concept. Containers are sealed at origin and opened at the destination, offering high security and minimum handling.
Less than container load (LCL): is a “Terminal to Terminal” concept. When a shipper does not have enough cargo to load a container to its full capacity, a forwarder running a “consolidated container service” may be contacted and allowed to add, i.e. using one container for several loads originating from various shippers (UNDP, 2008).

Concerning the latter terms, it is worthwhile a brief overview of the ISO containers and their impact on the intermodal transportation, always keeping in mind the central role of the sea vessels.

If intermodal transportation is defined as “the movement of goods in one and the same loading unit or vehicle, which uses successively several modes of transport without handling of the goods themselves in changing modes”, it is possible to state that the ISO containers are the main enablers of this type of transportation.

ISO containers are so called because the ISO has standardized the design of containers to allow for the widest possible use of this equipment around the world. Containers are usually rectilinear boxes constructed of steel. The most common sizes of container available are 20 feet, 40 feet and 45 feet in length. Two acronyms used widely in intermodal circles are TEU and FEU. The initials stand for ‘20-foot equivalent unit’ and ‘40-foot equivalent unit’. They are often used as definitions of cellular container ship capacities. A ship may be described as being able to carry 6,000 TEU. The 20-foot equivalent unit refers to the 20-foot container. Therefore, two 40-foot containers would equal four TEU or two FEU. It is said that as much as 90 per cent of all international shipments are carried inside containers (Rushton et al., 2014).

Making a particular reference to the food supply chain case, there are refrigerated options for the ISO containers available in the market. A refrigerated container or reefer is an intermodal container (shipping container) used in intermodal freight transport that is refrigerated for the transportation of temperature sensitive cargo. While a reefer will have an integral refrigeration unit, they rely on external power, from electrical power points (“reefer points”) at a land based site, a container ship or on quay. Refrigerated containers are capable of controlling temperature ranging from -30C, -40C, -65C up to 30C, 40C (Wikipedia, 2008).

Of the world’s international trade 90 per cent is transported by sea (Rushton et al., 2014). Different cost items are included in the total cost of a maritime shipment. Main cost items are reported below:

- Customs and administrative charges;
- Ship loading (T.H.C. Transport Handling Charge/Terminal Handling Charge);
- Shipment by sea:
  - Freight;
Bunker Adjustment Factor (BAF): BAF is a common surcharge applied to sea-freight rates by shipping lines. It is designed to take account of the variations in the price of marine fuel in different parts of the world. The BAF is changed from time to time.

War Risk Surcharge: this may be applied to any mode of transport in a war zone as well as an area around the actual war zone. It is applied to take account of the increased possibility of incidents that could result in the partial or total loss of the company’s assets.

Repositioning charge: this is a surcharge that is sometimes applied by the shipping line to cover the cost of returning an empty container to a location where it may be loaded with revenue-earning cargo. The cost of handling, shipping and trucking the empty container is a loss to the shipping line. In addition, because an empty container is repositioned by being transported on one of its ships, there is the lost opportunity cost associated with utilizing this space. This type of charge is most likely to be applied where there is an imbalance in trade volumes on a given route.

Currency Adjustment Factor (CAF): CAF is another common surcharge that is applied to take account of any differences in cost incurred by the shipping line due to currency exchange fluctuations for services bought by them in foreign currencies in the execution of their services on the customer’s behalf. All sea-freight rates are generally priced in US $ or euros but local services purchased by the shipping company will be in the local currency of the country in which the goods or services are bought. The surcharge is designed to compensate the shipping line for this and is usually charged as a percentage of the basic freight charge.

Peak Season Surcharge (PSS): PSS is a surcharge that is applied to both air freight and sea-freight originating in the Far East. Due to the rapid growth in exports from countries such as China, and the lag in the provision of commensurate infrastructure to handle this unprecedented growth, backlogs occur at certain times of the year. A shortage of transport carrier capacity and an imbalance in trade flows means that carriers can apply this surcharge, which customers are forced to pay. The surcharge may be a considerable uplift on the normal freight rates.

- Insurance (in case)
- Penalties (in case)
- Demurrage. It is a fee applied to containerized cargo utilized beyond its allocated free time within an ocean terminal, rail ramp or inland container facility
Detention. It is a fee applied to containerized cargo utilized beyond its allocated free time outside of ocean terminal or inland facilities


3.4.2 Air transportation

Also in the air industry it is possible to identify a standardize unit load. ULDs are the shipping containers of the skies. They come in many forms but perform exactly the same purpose as any transport container. They allow cargo to be stowed efficiently and safely while maximizing the use of the available space. Many ULDs are designed to reflect the shape of the aircraft hold and are therefore often specific for use in certain aircraft (Rushton et al., 2014).

Air cargo enables shippers to ship highly perishable products to distant markets that cannot be serviced by highway or ocean transport.

Hence, the air cargo mode is used to ship a diverse range of perishable products such as high-value horticultural products including fruits, vegetables, owners and fresh cut fruits and vegetables. Chilled and frozen meat, dairy products, fish and seafood are also commonly transported by the air cargo mode (Thompson et al., 2004).

One of the biggest advances in the global air cargo industry in recent times has been the development and use of temperature control containers.

Active temperature-controlled containers enable the transportation of commodities, both in the air and on the ground, thereby enhancing the life of temperature-sensitive commodities by preserving the cool chain throughout the complete life cycle of the end-to-end transportation process. These containers work by an active temperature-controlled system based on compressor cooling and electric heating equipment, or alternatively they use a temperature-controlled system based on dry ice refrigeration (Sales, 2013). Importantly, these containers are designed to be compatible on wide-body passenger and freighter aircraft types.

Many refrigerated products often require 2 to 8 C control during their transportation and storage (Williams, 2010). In order to meet this shipping requirement, special temperature-controlled containers (ULDs) have been developed that maintain a constant 2 to 8 C temperature throughout the shipment cycle. These are the most commonly used temperature-controlled containers used in the air cargo industry. There are also other special temperature-controlled containers that support a +15 C to +25 C and >-20 C temperature ranges and these can be deployed for specialised transportation requirements (Sales, 2013).
Unlike sea transport, the air transport industry is only about 100 years old. Due to the very particular requirements associated with the air cargo business it has developed methods of operation that are unique in the world of logistics. These tend to be most noticeable in the field of cargo handling due to the restrictions imposed by the aircraft themselves. The whole area of safety of operation and security from terrorist attacks significantly impacts the business.

All space on aircraft is limited by not only the total volume of space available inside the cargo hold but also by the size of the access doors and payload restrictions. In addition, the shape of the fuselage also presents challenges for the load masters. Another factor relates to the reality that a large volume of air cargo is carried by passenger aircraft and therefore air cargo may be left on the aircraft due to other priorities such as passenger baggage or balancing the loading of the aircraft for safety reasons. Therefore, air freight is generally the most expensive mode of transport that may be used, when costs per tonne are compared for the same journey using different transport modes between origin and destination. This becomes obvious when it is noted that air freight is generally quoted in costs per kilogramme as compared to, for instance, sea-freight costs, which generally refer to tonnage.

Like sea-freight, the main costs are:

- Customs and administrative charges, both at the origin and at the destination. They may include duties and taxes;
- Security screening cost, both at the origin and at the destination if required;
- Origin and destination airport handling charges;
- Shipment by air:
  - Freight;
  - Fuel surcharge;
  - War risk surcharge;
- Insurance (in case): the price is usually based on a small percentage of the declared value, to the insurance company, of the goods;

(Adapted from Rushton et al., 2014)

3.4.3 International transportation planning and strategy

Coyle et al. (2009) underlines that, even if understanding the modal options is an important aspect of transportation management, other vital issues must also be addressed before the freight moves.
3.4.3.1 Terms of sale

Terms of sale clarify the delivery and payment terms agreed upon by a seller and buyer. Wise selection of these terms is critical as the decision determines where the buyer’s responsibilities begin and where the seller’s responsibilities end. They cover issues related to mode and carrier selection, transportation rate negotiation, in-transit freight responsibility, and other key decisions.

International Commercial Terms (Incoterms) are used for international transactions.

International transactions often present greater challenges, and parties to the transaction must understand how these terms of sale influence transportation decision making. Even a relatively straightforward international transaction involves long distances, multiple modes and logistics intermediaries, duties, government inspections, and significant opportunity for damage or delay. Thus, transportation managers must be extremely careful about when and where the title to the goods will change hands (Coyle et al., 2009). A trade term is a short term of three letters that encompasses a catalogue of delivery obligations to be performed by either the seller or the buyer. Thus, traders do not have to include extensive agreements on these obligations in their contracts. At first sight, both parties know who is in charge of, and who bears the risks during and the costs of transport, insurance, documents and formalities (Malfliet, 2011). They are known as Incoterms 2010 (only the most recent update will be used) and there are 11 of these predefined terms. They can be classified into categories based on method of delivery or according to the balance of obligations between seller and buyer.

Referring to the first classification, the first group of seven rules applies regardless of the method of transport, while the second group of four are only applicable to sales that solely involve transportation over water (Rushton et al., 2014; Malfliet, 2011).

<table>
<thead>
<tr>
<th>Mode of transport</th>
<th>Delivery term</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>For all types of transport</td>
<td>EX Works ...</td>
<td>EXW</td>
</tr>
<tr>
<td></td>
<td>Free Carrier ...</td>
<td>FCA</td>
</tr>
<tr>
<td></td>
<td>Carriage Paid To ...</td>
<td>CPT</td>
</tr>
<tr>
<td></td>
<td>Carriage Insurance Paid ...</td>
<td>CIP</td>
</tr>
<tr>
<td></td>
<td>Delivered at Terminal ...</td>
<td>DAT</td>
</tr>
<tr>
<td></td>
<td>Delivered at Place ...</td>
<td>DAP</td>
</tr>
<tr>
<td></td>
<td>Delivered Duty Paid ...</td>
<td>DDP</td>
</tr>
<tr>
<td>For transport by sea and inland waterway</td>
<td>Free Alongside Ship ...</td>
<td>FAS</td>
</tr>
<tr>
<td></td>
<td>Free On Board ...</td>
<td>FOB</td>
</tr>
<tr>
<td></td>
<td>Cost and Freight ...</td>
<td>CFR</td>
</tr>
<tr>
<td></td>
<td>Cost, Insurance, Freight ...</td>
<td>CIF</td>
</tr>
</tbody>
</table>

Table 2: Delivery terms INCOTERMS 2010 by transportation mode (Paliu-Popa, 2012)

Concerning the second classification, four categories can be distinguished:
• E-terms (only EXW): the goods are placed at the disposal of the buyer at the seller’s premises – “come to collect the goods”;
• F-terms: the buyer is responsible for the cost and risk of the main international carriage – goods are “sent from”;  
• C-terms: the seller pays for the main international carriage, but does not bear the risks thereof – goods are “sent to, freight prepaid”;
• D-terms: the seller bears all costs and risks up to the delivery point in the country of destination – goods are “delivered at”.

The Incoterms 2000 were thus divided in departure contracts (E-terms), main carriage unpaid (F-terms), main carriage paid (C-terms) and arrival contracts (D-terms). In a broad sense, E-, F- and C-terms are all departure contracts, because delivery occurs at the agreed place of departure, and only the D-terms are arrival contracts. In Incoterms, the term ‘delivery’ refers to the point when risk passes from the seller to the buyer. Generally, this will also be the point upon which costs pass, even in the C-terms although with an exception for the costs of freight. The latter terms have two ‘critical points’: delivery, and thus passing of risk, occurs in place of departure, whereas carriage to the agreed place of destination is for the account of the seller, but at buyer’s risk (Paliu-Popa, 2012).

<table>
<thead>
<tr>
<th>Departure</th>
<th>Arrival</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category E</strong></td>
<td><strong>Category F</strong></td>
</tr>
<tr>
<td>EXW</td>
<td>FCA</td>
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<tr>
<td>FAS</td>
<td>CIP</td>
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<tr>
<td>FOB</td>
<td>CFR</td>
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</tbody>
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| **Table 3: Classification of the Incoterms 2010 in E, F, C and D-terms (Malfliet, 2011)** |

Following the UNDP selection, in total there are 11 different Incoterms, however only the 8 most commonly used Incoterms are broadly described:

• EXW – ex works (named place of delivery). The seller makes the goods available at its premises. The buyer is responsible for uploading. This term places the maximum obligation on the buyer and minimum obligation on the seller. EXW means that a seller has the goods ready for collection at his or her premises (works, factory, warehouse, plant) on the date agreed upon. The buyer pays all transportation costs and also bears the risks for bringing the goods to their final destination. The seller does not load the goods on collecting vehicles and does not clear them for export. If the seller does load the goods, he does so at the buyer’s risk and cost (Rushton et al., 2014; Malfliet, 2011; Paliu-Popa, 2012). This term should not be used if the buyer
cannot carry out the export formalities, either directly or indirectly, and in such cases the FCA term should be used. Seller must:

- Place the goods “at the disposal of the buyer” at the named place of delivery, at the agreed date or within the period agreed;
- Must give the buyer sufficient notice and advise buyer of the availability of the goods;
- Provide suitable packing (unless otherwise stipulated in contract); and
- Help buyer to procure documents obtainable in the country and which may be required by the buyer.

Buyer must:

- Take delivery as soon as goods are placed at the buyer’s disposal at the agreed time and location;
- Clear the goods for export;
- Bear all risk and cost of goods from the moment they are placed at the buyer’s disposal;
- Bear cost and expense of obtaining documents required for buyer’s own use; and
- Load the goods onto the on-forwarding vehicle at the buyer’s own cost and risk.

(UNDP, 2008)

As the seller is often better placed and equipped to load the goods (and clear them for export when applicable), parties are advised to use “FCA seller’s premises” instead of EXW (Malfliet, 2011).

- FCA – free carrier (named place of delivery). In general, the seller hands over the goods, cleared for export, into the disposal of the first carrier (named by the buyer) at the named place. The buyer pays for carriage to the named point of delivery, and risk passes when the goods are handed over to the first carrier. (Rushton) However, under “FCA seller’s premises”, the seller delivers by loading the goods on the collecting vehicle, provided by the buyer. Now the shipper on the waybill will be the seller. Under “FCA other place”, the seller delivers the goods at the agreed place, on the seller’s means of transport, ready for unloading. The shipper on the waybill should be the buyer. In both cases, it the seller is responsible to clear the goods for export (when applicable). The buyer organizes the main international transport, although if it is commercial practice, or at the buyer’s request, the seller may organize transport at the risk and expense of the buyer (this is a “FCA additional service” or “FCA +”). (Malfliet) This term has been designed to meet the requirements of modern transport, particularly such “multimodal” transport as container or “roll on-roll off” (RO/RO) traffic by trailers and ferries (UNDP, 2008).
- **FOB** – free on board (named port of shipment). The seller must load the goods on board the vessel nominated by the buyer. Cost and risk are divided when the goods are actually on board the vessel. The seller must clear the goods for export. The term is applicable for maritime and inland waterway transport only but NOT for multimodal sea transport in containers. The buyer must instruct the seller of the details of the vessel and the port where the goods are to be loaded, and there is no reference to, or provision for, the use of a carrier or forwarder. This term has been greatly misused over the last three decades ever since Incoterms 1980 explained that FCA should be used for container shipments. (Rushton et al., 2012; UNDP, 2008)

Seller must:

- Prepare and pack the goods as required;
- Deliver the goods on board the vessel designated by the contract;
- Bear all costs and all risks of the goods until they have effectively passed ship’s rail;
- Bear costs of counting, measuring, weighing;
- Provide when required, at the buyer’s expense, consular certified invoices, certificates of origin and help buyer to obtain other documents obtainable in the country and which the buyer may need; and
- Provide the buyer at the seller’s expense with the usual document of proof of delivery.

Buyer must:

- At own expense, reserve space on board a vessel and give all the required instructions to the seller enabling it to deliver in time for shipment (NOTE: this registration and calling forward are normally carried out by the buyer’s forwarding agent.);
- Bear all expenses and risks of the goods from the time they have effectively passed ship’s rail;
- Bear the cost of obtaining documents required for the export of the goods;
- Pay demurrage incurred at the port of shipment unless the detention is attributable to the seller;
- Bear any costs incurred if the vessel designated by the buyer or buyer’s agent is unable to take the goods;
- Bear the cost of B/L and any documents the buyer may have asked the seller to provide; and
- Pay the cost of inspection, if required.

(UNDP, 2008)
The buyer organizes the main international transport, although if it is commercial practice, or at the buyer’s request, the seller may organize carriage at the risk and expense of the buyer (this is a FOB “additional service” or “FOB +”) (Malfliet, 2011).

- **CPT** – carriage paid to (named place of destination). The seller pays for carriage. Risk transfers to the buyer upon handing over the goods to the first carrier at the place of import (Rushton et al., 2014). CPT can be used for any mode of transport, including containerized shipments delivered to a sea-port. The risk of loss or damage to the goods is transferred from the seller to the buyer when the goods have been delivered into the custody of the carrier and not at ship’s rail. Risk passes from the seller to the buyer at so-called FCA point (UNDP, 2008). This is the reason why it is said that CPT has two ‘critical points’. Delivery, and thus passing of risk, occurs at the place of departure, when the seller hands over the goods to the carrier that has been contracted for transport to the agreed place of destination. Nevertheless, the seller pays – and thus includes in his selling price, the costs of transportation (the freight) that is for the seller’s account under the contract of carriage until arrival at the agreed place of destination. In other words, the carriage is for the account of the seller, but occurs at buyer’s risk (Malfliet, 2011).

- **CIP** – carriage and insurance paid to (named place of destination). The containerized transport/multimodal equivalent of CIF. The seller pays for carriage and insurance to the named destination point, but risk passes when the goods are handed over to the first carrier. (Rushton) The seller has the same obligations as under CPT but with the addition that the seller has to procure cargo insurance against the buyer’s risk of loss of or damage to the goods during the carriage. The seller contracts for insurance and pays the insurance premium. The buyer should note that under CIP term the seller is only required to obtain insurance on minimum coverage. (Mafliet, 2011; UNDP, 2008) This cover may be sufficient for bulk goods, but is often insufficient for manufactured goods that often have a value exceeding by far the carrier’s liability under the waybill (Mafliet, 2011) The CIP term requires the seller to clear the goods for export (UNDP, 2008).

- **CFR** – cost and freight (named port of destination). The seller must pay the costs and freight to bring the goods to the port of destination. However, risk is transferred to the buyer once the goods are loaded on the vessel (Rushton et al., 2014) Therefore, CFR equally has two ‘critical points’. Delivery, and thus passing of risk, occurs in the port of departure, when the seller places the goods on board the vessel (as in FOB). On the other hand, the seller pays the freight until the port of destination. In other words, sea carriage is for the account of the seller, but occurs
at buyer’s risk (Mafliet, 2011). Insurance for the goods is NOT included. Maritime transport only (Rushton et al., 2014).

Seller must:

- Contract and pay for the carriage of the goods to the port of destination on a sea-going vessel, by the usual route unless otherwise stipulated in the contract of sale;
- Obtain and pay for a clean B/L (a through B/L) for the goods;
- Prepare and pack the goods as required;
- Bear the cost of checking, counting, weighing, measuring;
- Bear the cost of obtaining documents required for the export of the goods, and the cost of demurrage if any at the port of shipment;
- Bear all risks of the goods until they have passed ship’s rail at the port of shipment;
- Provide, at buyer’s expense, consular/certified invoices and/or certificates of origin and assist in obtaining other documents upon request of the seller to procure;
- Notify the buyer without delay of the shipment; and
- Unless otherwise agreed, at seller’s own expense provide the buyer without delay with the usual transport document for the agreed port of destination.

Buyer must:

- Bear all risks of the goods from the time they have passed the ship’s rail at the port of shipment;
- Bear costs incurred in obtaining documents such as consular/certified invoices, etc. (not the cost of B/L);
- Accept, as proof of payment of freight, B/L stamped “freight paid” or “freight prepaid”, and arrange payment on receipt of documents in accordance with terms of contract, even before actual arrival of goods at destinations;
- Bear the cost of unloading, lighterage, dock charges at destination, as well as all further expenses such as customs clearance, duties and taxes, etc.;
- Except freight and bear extra expenses that may be incurred during the course of the carriage by sea (by reason of emergencies, back freight, etc.); and
- Bear cost of inspection when inspection is required.

(UNDP, 2008)

- CIF – cost, insurance and freight (named port of destination). Exactly the same as CFR except that the seller must in addition there are additional obligations:

Seller must:
Contract at own expense with an insurance company, a transferable insurance coverage for the risks, duration and journey specified in the contract of sale or accepted purchase order (NOTE: it is advisable that buyer includes in the solicitation document and in the contract, a provision for additional coverage at seller’s expense, i.e. Institute Cargo Clauses A); and

- Provide the insurance policy or certificate together with B/L and other documents, for the buyer to receive them in time for collection of the goods upon arrival. NOTE: the seller buys insurance on behalf of the buyer.

Buyer must:

- Bear supplementary expenses of insurance against risks requested that the seller cover, and which were not included in the contract of sale; and

- Do their work in connection with an insurance claim.

(Rushton et al., 2014; UNDP, 2008)

Maritime transport only (Rushton et al., 2014)

- DDP – delivered duty paid (named place of destination). DDP is essentially the same as DAP, but with the added obligation for the seller to obtain all official authorizations, carry out all customs formalities and pay all duties, taxes and other charges payable upon import, including VAT. The seller is responsible for delivering the goods to the named place in the country of the buyer, and pays all costs in bringing the goods to the destination. The buyer is responsible for unloading. This term places the maximum obligations on the seller and minimum obligations on the buyer (as opposed to EXW). (Rushton et al., 2014; Malfliet, 2011)

3.4.3.2 Decision to Outsource Transportation

Even if firms can choose between transporting goods using a private fleet (the “make” option) and using external service providers to move freight (the “buy” option), because of the particular complications concerning import and export documentation, as well as for other reasons, many companies use the services available in the market (Rushton et al., 2014; Coyle et al., 2009). In particular, companies entering foreign markets outsource an even broader range of activities when going global in order to reduce the risk of the market entry and to leverage the country specific know-how of their partner (Straube et al., 2008). Some organizations decide to use external experts for freight movement and transportation management. Top carriers in all modes offer the capacity, experience, and flexibility to serve a wide variety of customers. These for-hire carriers also offer a variable-cost, simplified alternative to private transportation.
By using for-hire carriers, the customers do not have to incur the large capital cost of starting a private fleet, invest the time needed to build transportation expertise, or take on the challenges (accident liability, regulatory compliance, labor issues, etc.) inherent in operating a private fleet (Coyle et al., 2009).

As long as SMEs are considered, they often lack international freight shipment experiences, and their cargos are usually smaller and of more irregular frequency. SMEs’ imports and exports therefore rely on services provided by logistics providers.

Compared to big firms, SMEs face particular logistics challenges arising from higher logistics costs and the inability of accessing efficient logistics services, which are two sides of the same coin.

SMEs trade smaller quantities than big enterprises do. This implies that fixed trade costs, including logistics costs, often make up a greater share of the unit cost of their goods when compared to rivals exporting larger volumes. In other words, logistics tend to cost more for SMEs than for large enterprises.

Hence, reducing logistics costs is crucial for the improvement of SMEs’ trade opportunities.

In order to reduce logistics costs, firms tend to outsource logistics functions (transport, warehousing, inventory management, freight forwarding, etc.) to specialized providers, i.e. providers of “third-party logistics” (3PL). Partnerships with 3PL providers not only allow firms to focus on their core business; it also means access to advanced logistics services and supply chain management. Advanced logistics services are ICT-intensive and adapt quickly to new technologies, which often require the integration of supply chain management platforms with customers’ internal systems. Even if, due to resource constraints, SMEs often lag behind in adapting to technological advances and are reluctant to tap into the 3PL market (i.e. the small size of the businesses is a disadvantage for SMEs wishing to negotiate affordable contracts with 3PL) (World Trade Organization, 2016) more than 90% of the European companies Outsource the logistics activities. Transportation is the most outsourced activity, since only less than 7% of the companies perform it in-house (Straube et al., 2008).

Third-party firms provide a wide array of transportation services. Dedicated contract carriage is one such service of 3PLs and truckload carriers. Under this arrangement, the 3PL serves as the organization’s private fleet and devotes a management team, drivers, and equipment to the relationship. Another service is traffic management where the 3PL provides transportation planning and tactical decision making, handles administrative functions like freight bill auditing, and coordinates supply chain activities.

Finally, specialized 3PLs provide assistance with the challenges of moving freight inter-nationally. Three types of international 3PLs provide valuable services for organizations that do not have internal global transportation expertise or the freight volume to warrant a full-time staff:
• International Freight Forwarders (IFF) help importers and exporters move their goods. Many IFFs consolidate freight in particular service areas, modes of transport, or markets. IFFs are often seen as the travel agents of international freight transportation. These service providers identify and book the best routes, modes of transport, and specific carriers based on customer requirements at competitive rates (Coyle et al., 2009). Typical services that are offered include:
  o preparation and checking of shipping documents;
  o booking space with carriers;
  o arranging the order collection from the point of origin to the shipping port;
  o arranging the customs clearance and final delivery at the destination country;
  o provision of advice in export regulations, documentation requirements, etc;
  o detailed knowledge of carriers, ports, etc;
  o knowledge of the different modes of international transport;
  o knowledge of the different costs associated with different modes and destinations.

(Rushton et al., 2014)

• Non Vessel-owning Common Carriers (NVOCC) help organizations move freight in less than container load (LCL) quantities. Unlike IFFs, who usually act as the organization’s agent, NVOCCs are common carriers. They book container berths on ships on a regular basis, allowing them to gain advantageous rates from the ocean carriers. They resell the space to customers in smaller increments.

• Customs Brokers are individuals or firms licensed by the CBP to act as agents for importers. Brokers are experts at the entry process and, for a fee, help importers avoid Customs clearance pitfalls that delay shipments and increase costs. Brokers prepare and file the necessary Customs entry documents, arrange for the payment of duties, and speed the release of the goods in CBP custody.

3.5 International distribution and logistics strategies

As Rushton et al. (2014) note, besides the increasing importance of distribution, logistics and supply chain, a growth in the number of associated definitions has been progressively registered.

Coherently with the aim of this research, it will be adopted the definition developed by (e.g., Creazza et al., 2010; Straube et al., 2008; Rushton et al., 2014) where “international logistics strategy” is the logistics strategy supporting company international sales of finished products.

Even though logistic is fundamental when it comes to make the international trading possible, in literature there are few articles treating specifically the logistic strategies that a company can pursue to
sustain the internationalization of its business. When food supply chain is considered, there are no articles dealing specifically with this issue. Moreover, while the possible configurations and strategies enforcing the sourcing activities of a company operating in an international environment were treated deeply by various academics and experts, this is not the same for the choice of the best international distribution logistic network. On the basis of the existing literature, it is possible to identify 2 logistics macro-options that a company can use to sell its products on a new foreign market.

The first macro-option calls for a physical, and so also tax, representative in the destination market. The term physical representative means a branch of the company set in the foreign market. It can have different roles and perform different activities depending on the international distribution network setting that the exporting company plans to establish. It can be referred also as “equity” approach, and it point out all the possible options concerning a physical presence of company owned properties in the foreign market (Marchet et al., 2016).

As long as SMEs are concerned, this is the least pursued way since less than 3 per cent of SMEs located in the European Union have a foreign subsidiary overseas, whenever it is a joint venture or a whole owned subsidiary (Muller et al., 2016).

Therefore, referring to the scope of this research, only a brief overview of these two options will be carried on:

- **Joint Venture**: A joint venture is an entity formed by two or more independent firms working together. The firms agree to join together sharing revenues and costs, as well as the control of the new firm. The venture can be just a project or a long-term relationship. Joint ventures are often seen as a very viable business, since the companies involved can complement their skills. Both companies can gain international presence; Typical joint ventures where two parties are involved are 50/50 ventures, though it can also be other combinations depending on the agreements of the parties involved. Such agreements are stated in contracts, which also state the role and kind of participation each firm will commit to. The advantages stated by Hill (2007, p. 493) are as follows: a firm benefits from local partner’s knowledge of the host country’s competitive conditions, culture, language, and political and business systems. Costs and risks are shared. In some countries this is the only way to entering that market. The firm can also overcome some risk by giving control of its technology to the other part involved. This kind of relationship between two companies does not give a firm the tight control over the subsidiaries both local and international, leading to conflicts and battles over the control, if the strategies of both companies differ on the way things should be done in order to fulfill their goals (Hill, 2007).

- **Wholly Owned Subsidiary**: In a wholly owned subsidiary the firm owns 100 percent of the stock. There are two ways to gain internationalization by using this entry mode. The first one
is by setting up a new operation in the host country, often referred to as a Greenfield venture, or it can acquire established firm in the host nation and use that firm to promote its products (Hill, 2007). This entry mode, since it reduces the risk of losing control over the competence. It gives a firm tight control over operations in different countries. This is the most expensive method of going abroad. The firm will have to overcome less risk if the firm buys a firm in the market they are willing to expand to.

Specifically concerning the Chinese market, there is the possibility to open a representative office. One of the reasons for a firm in financial activity to choose a representative office to enter China is that the financial entity needs to have a representative office for three years in the country before it can become a branch. Also, to start that kind of office does not require high capital outflow so the investment is not as risky and it gives the firm more flexibility (Hallgrímsdóttir, 2009).

In comparison to large multinational firms, small and medium sized enterprises (SMEs) are typically regarded as resource-constrained, lacking the market power, knowledge and resources to operate viably in international markets (Fujita, 1995; Coviello & McAuley, 1999; Knight, 2000; Hollenstein, 2005). Indeed, SMEs tend to experience greater financial, human and management constraints than large companies, and are more adversely affected by higher market barriers, and FDI, entail larger fixed costs, which are more difficult to reverse in particular for SMEs (World Trade Organization, 2016).

As a consequence, also from a temporal point of view, equity options are pursued only in later, and more mature, phase of the internationalization process, especially by SMEs.

The second considers as an entry option the use of brokering agents, local distributors and importers, that make a profit for taking care of the company sales on the new market. Also referred to as “non-equity” option, it includes all the alternatives where the exporting company seek the help of other actors for distributing the goods in the final market, and so relying on third parties structures (Marchet et al., 2016). Depending on the broker typology, this margin could be a sales charge or the difference between the purchase price from the exporting company and the selling price to the final client, respectively when a broker agent and an import company are considered.

SMEs may pursue a variety of foreign market entry modes which vary significantly with respect to benefits and costs (Sharma and Erramilli, 2004). In the case of exporting, firms face two channel options: (1) export directly to customers abroad or (2) export indirectly with the help of an intermediary (Peng and York, 2001). Exporting indirectly is typically considered to be the least risky entry mode to international markets because it enables SMEs to gain access to international markets without having to bear the upfront costs (including “sunk” costs, i.e. costs that cannot be recovered once incurred) associated with searching for new customers and negotiating contracts. Export intermediaries or other firms which undertake transaction sales and/ or services in overseas markets on behalf of SMEs benefit from market
knowledge and negotiation skills that allow business risks to be pooled and diversified and that reduce the searching and matching costs associated with export transactions (World Trade Organization, 2016).

Exporting is viewed as less risky than contract- or investment-based internationalization strategies because it requires a lesser commitment of organizational resources, entails fewer financial and commercial risks, and allows for greater flexibility and managerial discretion (Lages and Montgomery, 2005).

In the light of the above-mentioned approaches, it is proposed a graphical representation where both the point of view are considered at the same time. It is worthwhile to mention the unfeasibility of performing direct exports without a physical representative of the company in the foreign country of destination. Instead, the other combination are possible solutions currently used by real companies.

![Trading View and Asset View approaches in comparisons](image)

### 3.5.1 Direct Exports

“Direct exports” occur whenever an enterprise sells goods or services directly to customers in another country. Since there is no intermediary, a major benefit of exporting in this way is that the exporting firm is in direct contact with its consumers, enabling a better understanding of their needs, thereby creating new business opportunities. In addition, direct exports provide firms with more protection of their trademarks or patents in case of innovative products.

SMEs can export directly if they have the means to reach foreign consumers or GVC partners located abroad. However, they may find it difficult to mobilize all the necessary human and financial resources to develop their international trade activities. Thus, exporting can be challenging for SMEs, especially in developing economies (World Trade Organization, 2016).

### 3.5.2 Indirect Exports

Indirect paths to internationalization are those “whereby small firms are involved in exporting, sourcing or distribution agreements with intermediary companies who manage, on their behalf, the
transaction, sale or service with overseas companies” (Fletcher, 2004). Export intermediaries play an important “middleman” role in international trade, “linking individuals and organizations that would otherwise not have been connected” (Peng and York, 2001, 328). Such indirect matching may be required for transactions to take place or to be successful (Trabold, 2002). Export intermediaries often help their clients to identify customers, financing and distribution infrastructure providers (Balabanis, 2000). Intermediaries often help firms in overcoming knowledge gaps and can reduce uncertainties and risks associated with operating in foreign markets. Firms may hire export intermediaries because they perform certain functions related to exporting better or at lower costs than the firm itself could, for example because they possess country-specific knowledge that the firm lacks (Li, 2004). In distant, unfamiliar markets, export-related search costs (e.g. marketing research) and negotiation costs can be very high. For this reason Peng and Ilinitch (1998) argue that manufacturers may be more likely to use intermediaries when entering foreign markets. Export intermediaries can also help firms to save costs associated with searching new customers and monitoring the enforcement of contracts (Peng and York, 2001) as well as to help access intermediaries’ contacts, experience and knowledge of foreign markets (Terjesen et al., 2006). However, intermediaries also add costs to exporting, in particular transaction costs and rent extraction (Acs and Terjesen, 2006). Furthermore, there can be a loss of control when a firm uses an intermediary (Blomstermo and Sharma, 2006). In sum, using an intermediary is associated with benefits as well as costs.

Intermediaries include agents and distributors located either at home or abroad (Peng and York, 2001).

Also from a logistics point of view, it is important to investigate the kind of suppliers dealing with the company on a global level and the impact on supply chain planning. Intermediaries for the supplying of finished goods could be divided into two categories:

- **Commercial intermediaries**: In the first case generally the company has a relationship with a commercial intermediary, who provides a connection with local manufactures. The customer-supplier relationship occurs without undertaking audit actions or anyway without developing a continuous contact with the aim of having a strong control on the process. Often the only contact between trading partners occurs at the beginning of the relationship, in order to agree the purchasing conditions (e.g. during trade fairs) (Dallari et al., 2006).

- **Complete traders**: In the second case, the company relies upon a complete trader offering many services, ranging from quality control to selection and assessment of suppliers, up to ensure, in many cases, the management of the logistic process and of sourcing activities (Lee, 2000).
This behaviour can be perfectly explained by the Psychic Distance Theory. It supposes that the distance of a market, both psychologically (education system, complicated market structure, unfamiliar experiences) or geographically determines the extent to which firms will pursue opportunities there directly. Firms would transfer what are perceived to be large transactional costs to an intermediary for whom these costs are considerably less (Nguyen et al., 2012).

### 3.6 Internationalization forms

A number of influential theories have been propounded to analyze how firms behave regarding international expansion, such as: Hymer’s theory (1976), Product Life Cycle theory (1966), Internationalization theory (1975), Dunning’s eclectic theory (1980), Internalization theory (1976), Transaction Cost theory (1986) and Location theory (1985). However, a detailed overview of each of them goes beyond the purpose of this thesis. According to Marchet et al. (2016), there is a behavioural theory that fits the objective of the research, where the internationalisation process evolution is based on a sequence of incremental decisions and a gradual market learning: the Uppsala Model. Also according to Mitgwe (2006), research on the firm internationalization process centres on the U-Model, from the Nordic school, the incremental school. The theoretical framework for this theory was first developed by Johansson and Wiedersheim-Paul (1975) in their study of four Swedish firms, in which they observed that when firms internationalize, they move along in a series of incremental steps which they termed as “establishment chain” or “step by step”. In 1977, Johansson and Vahlne refined and established the model. The theory focuses on four aspects that firms should face while going abroad: market knowledge and commitment, and commitment decisions and current activities which are divided into stage and change aspects that interact with each other in what seems to be a cycle. State aspects are the resources committed to the foreign market: market knowledge and commitment decisions that would affect the firm’s opportunities and risks (Johanson & Vahlne 1977, p. 27). Market commitment stands for those resources that will be committed as well as the degree of involvement. Market knowledge helps the managerial team to make decisions. There are two main types of knowledge: objective knowledge, which can be transferred from one market to another and experiential knowledge, which is gained by experience, learning by doing or acting. Change aspects are the results of the state aspects. Once the firm know about the market they can decide the way the firm will commit to that market, and will therefore be able to plan and execute the current activities needed to complete the cycle by committing to the market.

The basic assumption of the Uppsala Model is that market knowledge and market commitment affects both the commitment decisions and the way current decisions are performed—and this, in turn,
changes market knowledge and commitment. The amount of knowledge of foreign markets and operations is influenced by the amount of commitments of resources in foreign markets, and vice versa (Johanson & Vahlne, 1977). Incremental growth also suggests that companies begin internationalization process in markets that have less psychic distance. Psychic distance is defined as factors such as differences in language, culture, political systems, etc., which disturb the flow of information between the firm and the market (Johanson & Wiedersheim-Paul 1975, p. 308).

According to the Uppsala model and other contributions (e.g., Johanson and Wiedersheim-Paul, 1975), four progressive stages can be selected by a company to sell products in foreign markets over time: no regular export activities, export via independent agents, creation of sales subsidiary, and production establishments. A number of empirical studies have supported the Uppsala model and have indicated that the internationalisation process as explained by this model has a positive impact on performance (e.g., Barkema et al., 1996; Bello and Barksdale, 1986; Luo and Peng, 1999; Sezen, 2008). Additionally, the Uppsala model has been progressively adjusted to explain specific internationalisation processes (e.g., Camuffo et al., 2007), and further revised (Johanson and Vahle, 2009). The revised model maintains its original basic structure, especially in terms of ‘state’ and ‘change’ aspects and their mutual relationship, but considers the fact that the internationalisation process is pursued within a network of companies (e.g., local partners) (Marchet et al., 2016).

The same model was used by the World Trade Organization (2016) in order to explain the traditional gradual approach pursued by SMEs. Even if in total were identified 4 approaches, such as:

- the traditional gradual approach;
- “born global”;
- “born-again global”;
- global value chain participation;

for the specific purposes of this thesis, only the first will be detailed and referred to.

The traditional gradual approach involves a series of stages in which SMEs gradually increase their international involvement over time from low and less risky to high and risky commitments overseas. First, these SMEs start to internationalize through (1) sporadic exports followed by (2) the establishment of agreements with independent intermediaries and distributors in order to acquire the information.

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**Figure 14: Uppsala model process, adaptation from the theory.**

No Regular Export Activities → Export Via Independent Agents → Sales Subsidiary → Production Establishments

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needed to export in international markets. It is only at a later stage that traditional SMEs decide to (3) establish their own sale branches overseas and then (4) set up foreign production facilities (Johanson and Vahlne, 1977). The incremental resource commitment and cumulative acquisition, integration and use of knowledge and experience about foreign markets tend first to take place in countries perceived as culturally, economically or geographically close. Traditional SMEs expand their export destinations to more distant countries only when they have learned from exporting activities in neighbouring countries. Similarly, traditional SMEs only engage in more commitment-intensive forms of internationalization, such as foreign direct investment (FDI), when they mature and attain sufficient resources, knowledge and experience to compete (World Trade Organization, 2016).

3.7 From the field: Geographic and commercial environment

The geographic and commercial environment is obviously an important issue when designing a supply chain. It is difficult to generalise about the geographic environment, however, this is likely to act as a constraint on solutions given the differing levels of infrastructure development. Legislation can also act as a constraint in the geographic environment in which supply chains operate. In the area of the commercial environment it is important to highlights a number of important factors that influence supply chain location decisions: corporate income tax rates; barriers to trade (tariff and non-tariff barriers) and currency exchange rates (Lovell et al., 2005; Melacini, 2015).

Due to the focus of the research, it was difficult to retrieve data from the literature specifically tailored on the Chinese system. Therefore, the information provided below comes from a deep on-field research pursued along 1 year while studying in Shanghai for the Double Master Degree exchange program. Several actors were interviewed and each of them provided detailed insights about the Chinese commercial environment. A law consultancy firm based in Shanghai was involved to get a deeper knowledge of the laws directly tacking the food trade and safety. Then, the Chinese and Dutch branches of a freight forwarding company complemented the part related to the food import procedures. In addition, an on-site visit to the China Customs in the Waigaoqiao Free Trade Zone in Shanghai supported even more the quest with a direct experience of the Customs procedures.
3.2.7.1 Customs, Duty and VAT

Related to the last point discussed above, it is worthwhile to deepen the analysis on the implications of the Customs regulation, and the specificity of regulations and fiscality of each country.

The transition of the logistics from domestic, or national, to international implied an higher complexity due to several factors that comes into play as long as a global scope is concerned. In the academic literature, the distribution systems characterized by customs tariffs, cost differentials and international trade and transportation considerations are not researched together as an important topic (Choi et al., 2012). However, it is not only a matter of tariffs and fiscality in general. Many developing countries are also reputed for their logistical unfriendliness and delivery unreliability. The government’s role as a clearing agent of goods that flow in or out of a country creates delivery uncertainties in the best of situations. These uncertainties become especially pronounced in developing countries, given excessive customs regulations, and inadequate customs-related infrastructure. Such uncertainties are contrary to the precepts of supply chain management. A supply chain perspective cautions us that the problem’s outreach is not localized. Vulnerable firms will transmit uncertainties, domino-like, throughout their supply chains. To understand how to deal with customs-clearance uncertainties, we need to consider explicitly their influence on the supply chain. Unfortunately, there is a “curious disparity” between the limited treatments in the literature of issues like customs clearance, and the widespread recognition of their importance.

Despite liberalization of trade in several developing countries, a high level of uncertainty is still attributable to customs clearance. Customs procedures and clearance times are still “very severe” logistics barriers. Customs regulations are far from streamlined. The customs infrastructure is also generally insufficient to support advanced logistics. Customs warehouses at dockyards, and those connected with roads and railways, are rarely automated or computerized. Advanced information technology is simply not available. Communications networks are unreliable, and systems like electronic data interchange (EDI) cannot be supported. Goods may be cleared in days, or months. All of the above impede the flow of goods. Firms can mitigate customs uncertainties by developing collaborative relations with customs agencies, or ally with transportation firms that have developed such relationships (Sawhey and Sumukadas, 2005).

In the end, customs rules can present complex challenges in any jurisdiction. However, if these rules are understood and managed, they can enable companies to reduce operational risks, manage costs, improve their bottom line and gain favourable recognition in the market (KPMG, 2016).

As long as the Chinese environment is considered, the size of the country can create further uncertainty due to variations in practices or interpretations at different ports of entry.
It is now provided a complete overview of Chinese Customs and regulation in order to have a clear understanding of the regulatory environment, including the structure of related government authorities. During the analysis, it will be provided a specific drill down of the peculiarities and regulations that concern the import of food and beverage goods.

3.2.7.1.1 Structure of related government agencies

The General Administration of Customs (“GAC” or “China Customs”), a ministry level organisation under the State Council, has authority and responsibility over all the Customs districts and offices throughout the People’s Republic of China (“PRC” or “China”). All imports and exports from the PRC are subject to the supervision and control of the GAC. On the ground, the GAC administers a total 600 customs houses or offices and nearly 4,000 customs clearance control stations manned by around 50,000 personnel (including Customs anti-smuggling police). Cross-border trade with China is normally performed under General Trade. General Trade is the regular import channel where customs duties and import Value Added Tax (VAT) are levied upon importation.

3.2.7.1.2 Customs environment for General Trade

Basic importation into China requires the payment of the proper duties and taxes. Payment of the correct amount depends on an accurate declaration of a product’s value, tariff classification and country of origin.

3.2.7.1.2.1 Types of duties and taxes

China Customs levies duties and taxes in accordance with the Customs Law of the PRC and the import/export tariff schedule. Currently, total revenue collected by China Customs comprises mainly the following:

<table>
<thead>
<tr>
<th>Import Tax</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customs duties</td>
<td>Varies on type of product</td>
</tr>
<tr>
<td>Value Added Tax</td>
<td>In China, the positive VAT rates are 3%, 4%, 6%, 13% and 17%. The 17% rate applies unless another rate is specified by law. The reduced rate of 13% applies primarily to essential goods (e.g. foodstuff) and services</td>
</tr>
<tr>
<td>Consumption Tax</td>
<td>5% to 56% depending on product</td>
</tr>
<tr>
<td>Vessel Tonnage Tax</td>
<td>RMB 1.5 to RMB 31.8 per ton</td>
</tr>
</tbody>
</table>

Table 4: Types of duties and taxes and applied rate (KPMG, 2016)

(KPMG, 2016)
Subsidiaries of foreign enterprises that supply goods or taxable services in China are treated in the same manner as other taxable persons. Any person who imports goods into China is liable to pay VAT at the point of entry, at the same rates applicable to the sale of similar goods in China. A taxable person must pay the VAT due on imported goods within 15 days after the date following the date on which the customs authorities issued the import duties statement (EYGM, 2013).

### 3.2.7.1.2.2 Customs valuation

China’s Customs authorities follow the valuation principles set out in the WTO Agreement on the Implementation of Article VII of the General Agreement on Tariffs and Trade (GATT) or the WTO Agreement on Customs Valuation. According to the measure, the dutiable value of imported goods should be assessed based on the transaction value, which is defined as the complete actual price of the goods, including both direct and indirect payments made by the buyer to the seller.

### 3.2.7.1.2.3 Country of origin

It is important for both importers and exporters in China to properly identify their product’s country of origin due to the potential impact that would have on the customs duty rate that may be imposed on their product either in China or in its country of destination. China is involved in various preferential Free Trade Agreements (FTA) that grant lower rates of duty for products that originate in China. These FTAs in particular also provide reciprocal treatment in China for goods that are imported from other countries that are members of the specific FTA. The Chinese government deems FTAs as a new platform to further opening up to the outside and speeding up domestic reforms, an effective approach to integrate into global economy and strengthen economic cooperation with other economies, as well as particularly an important supplement to the multilateral trading system. Currently, China has 19 FTAs under construction, among which 14 Agreements have been signed and implemented already.

### 3.2.7.1.2.4 The rules of origin

To determine whether a product originated in China or in other FTA member countries, companies must ensure their compliance with the Rules of Origin (ROO). The ROO generally defines the country of origin as the place where the “last substantial transformation” took place. A Certificate of Origin will be issued as proof of compliance with the ROO, which must be presented to the Customs authorities in order to enjoy the preferential rate of duty. In China, Certificates of Origin...
for preferential purposes are issued by the Bureau of Commodity Inspection and Quarantine. Companies have to register in advance with the Bureau to apply for Certificates of Origin.

3.2.7.1.2.5 Quality and quarantine controls

Except for China Customs, China Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) is one of the most important authorities supervising international trade in China. Except for licenses and duty, which are taken care of by Customs, the entry-exit quarantine, the safety and quality supervision of foodstuff and equipment, skin care and cosmetic products, the science and technology of goods, the standardisation of goods, etc., are all supervised by various departments within AQSIQ, such as the China Entry-exit Inspection and Quarantine Bureau (CIQ) (KPMG, 2016).

Related to the last point, a detailed drill down is now provided, focusing on the Chinese import regulations regarding food and beverage goods, and the operative steps to be considered in a successful transaction.

3.2.7.1.3 The China’s Food Safety Law

The import and trade of food products in China are governed by a heterogeneous system of national, local laws, regulations and parameters. At the top of the system is the Food Safety Act, whose most recent version came into force on October 1, 2015.

According to art. 2, the Law applies to the following activities: a) food production, food sales, food distribution, b) production and distribution of food additives, c) production and distribution of packaging, containers, detergents and disinfectants for food and equipment used in food-related products; (d) application of food additives and food-related products by producers or distributors; (E) food storage and transport, (f) supervision of food safety, food additives and food-related products, and the Law also applies to online food business activities (Articles 62, 131).

3.2.7.1.3.1 The Actors involved

The main administrative authorities in the food sector are:

- Chinese Food and Drug Administration (CFDA). Responsible for regulating and controlling the food and pharmaceuticals market and managing its emergencies.
- General Administration for Quality Supervision, Inspection and Quarantine (AQSIQ). Generally responsible for controlling the food safety of products entering and leaving China.
• Entrance and Exit Inspection and Quarantine Offices (EEIQB, Entry-Exit Inspection and Quarantine Bureaus). They are the 35 territorial offices, hierarchically dependent on AQSIQ, which concretely carry out the control and quarantine of incoming and outgoing products from China.

• National Committee for Health and Family Planning (NHFPC). A part of the Chinese executive with some functions in the field of public health, health services, pharmaceuticals market, etc.; It is responsible also for the registration of standards applicable to products placed on the Chinese market.

• Chinese Administration for Certification and Accreditation (CAAC). It is the authority responsible for the control and certification of food quality and safety;

• General Administration of Customs (GAC). It is the reference authority in customs matters; Customs clearance procedures are carried out at its local offices. Its statute does not specifically refer to the import of foodstuffs; It is responsible that foreign products not complying with Chinese law are prevented from passing customs.

• Ministry of Agriculture (MOA). As far as this is concerned, the Ministry of Agriculture participates, in one with the health authorities, on the formulation of certain food standards.

3.2.7.1.3.2 F&B Import

The Food Safety Act dedicated to the Import and Export of Foods the Articles 91-101.

Food import and export discipline is dominated by a uniform treatment principle: foods entering the People's Republic of China or placed on the market must comply with the rules applicable to homologous domestic products. "Foods, food additives and imported food-related products must comply with China's national food safety standards."

Only food products conforming to Chinese national standards can be introduced in China. If a particular product conforms to a foreign or international standard, but there is no Chinese national standard, it is necessary first to register the standard with the NHFPC. The foreign producer or exporter, or the importer chosen by them must take care of this part. If the standard is successfully recognised by the authority, the NHFPC temporarily approves it and start to work on the formulation of an equivalent Chinese standard. The local EEIQB is responsible for controlling incoming foodstuffs; The AQSIQ carries out import supervision and establishes the requirements and parameters applicable to the products. According to the Food Safety Act of 2015, food and food additives must be complemented by a "certificate of conformity" as set forth by the AQSIQ.
It is forbidden to import food products that do not meet the requirements of food safety laws, regulations and standards. The manufacturer and the foreign exporter are totally responsible for the compliance of their products to the Chinese law, as well as the contents of the labels and instructions on the envelopes.

Regarding the labels of food imported into China or otherwise placed on the Chinese market, the basic rule is that they must be written in Chinese.

Exporters or foreign agents exporting foodstuffs to the People's Republic of China, as well as importers who introduce them, must proceed to the “Record filing” at AQSIQ; Food producers must register with the same authority. The difference between registering and “record filing” is mainly that the first requires a positive feedback from the authority - it submits the application and the administration approves it, after which it can perform a given activity - while the second does not require it - once the necessary materials have been presented, it is possible to do this activity directly, without waiting for a response from the authority.

The registration of foreign producers is abolished (which entails the ban on their products in the People's Republic of China) when fake data is provided for registration or imported products cause serious food security accidents. AQSIQ regularly publishes and updates lists of registered exporters, agents, importers and foreign producers.

The importer is therefore liable for any deviation of the products from the requirements of law. It must maintain a register of imports and sales of foodstuffs, indicating, also the name of the product, the quantities, the date of production, the production or import number, the expiration date and information relating to the product, Exporter and buyer. An appropriate review system verify that foreign manufacturers and exporters provide products that successfully meet the requirements. If the products deviate from legal requirements or can be harmful to health, it is compulsory to stop immediately the importing and to recall the products.

3.2.7.1.3.3 The customs control

At customs passage, the EEIQB and/or the AQSIQ check that the incoming products comply with the requirements of Chinese food safety law. This process is described in the following paragraphs.

Registration at AQSIQ

As anticipated before, foreign producers, foreign exporters and Chinese importers must communicate their data to the AQSIQ. Manufacturers, exporters and importers must complete the registration or record-filing process on a dedicated online platform. At the end of the procedure, the subject obtains a
registration number and his/ her name or company name is entered in a special public list. The procedure requires a small registration fee and, according to the first available data, can be completed in about two weeks. The registration is valid for three years, which will be renewable. At the physical entry of the products into the People's Republic of China, the name of the exporter and the importer (or his agent), together with the relevant registration numbers, must be indicated; the information regarding the import and sale of each food lot will be loaded into the AQSIQ platform.

Inspection procedure at the border

To pass the customs, thus entering the territory of the People's Republic of China, the products must be complemented by the “Certificate of Inspection and Quarantine for Entry Goods”. The certificate states the compliance of the products with Chinese food safety law, and it is issued by the EEEB at the end of the following steps:

1. Application for Quarantine and Inspection, to which the following documents must be enclosed:
   a. Copy of the contract by which the products are imported into China
   b. invoice issued by the exporter or his agent
   c. Cargo policy (via sea, air, land)
   d. Packing list
   e. Weight list
   f. quarantine report and inspection issued by the authority of the country of origin
   g. Certificate of origin issued by the authority of the country of origin

2. Calculation and collection of quarantine and inspection fees

3. Product sampling

4. Quarantine and inspection (on-site, in laboratory or in isolation, as appropriate)

5. (If quarantine and inspection is successful) Release of the certificate for the customs clearance of goods

6. (If Quarantine and Inspection Fails) "Corrective Treatment": The authority requires to decontaminate, return or destroy the products. At the positive end of the decontamination, the authority issues the certificate for the customs clearance of the goods.

The inspection carried out by the EEEB during the customs inspection regards also the labelling of the product, which must be approved by issuing a Certificate of Food Labelling Verification.

The related procedure is carried out in part at the AQSIQ, partly by the local EEIQB. The part of the proceedings involving the local EEIQB varies according to the place. Below it is described the procedure carried out in Shanghai.
The application must be submitted to the EIB. The EEIQB conducts a preliminary examination to check whether the documents attached to the application are complete and whether the format of the label complies with the requirements. When the preliminary examination is successful, the office admits the application and asks the payment of the fees for the procedure and to send samples to the Chinese Academy of Examinations and Quarantines (CAIQ - Chinese Academy of Inspection and Quarantine), headquartered in Beijing.

The EEIQB proceeds to a substantial examination of the label and the documents submitted; It then transmits the acts of the proceeding together with its assessment to the AQSIQ. Transmission must take place within 7 days of the date on which the application was admitted. Meanwhile, the Chinese Academy for Inspection and Quarantine conducts the conformity examination and also transmits the results to the AQSIQ.

The AQSIQ decides at this point whether to approve or not the label. If so, issue the certificate within 10 days of the date on which the positive decision was taken;

The foreign actor is particularly interested in the labeling of import products. According to the law, "Pre-packaged import food must be labelled in Chinese and, where required by law, Chinese instructions. Labels and instructions must comply with this Law, other laws, administrative regulations and national food safety parameters, and must indicate the country of origin as well as the name, address and contact of the household agent. It is forbidden to import products without Chinese labels or instructions or with labels or instructions that do not comply with this Article."

Therefore, in accordance with the approach, it is not sufficient for the label of imported food to indicate the name of the foreign producer or the exporter: it is necessary to add the contact of a person within the Chinese system (the "domestic agent"), which can therefore be easily contacted by consumers and the authorities (GWA, 2016; USDA Foreign Agricultural Service, 2015).

### Special Customs supervision area

There is a topic, often neglected by the existing frameworks: the financial exposure related to the duties payment could be a relevant cost item for the SME, since the advance payment required to make the custom clearance directly depends on the duties amount. In order to release the goods for free circulation, the companies must have enough liquidity, otherwise they must undergo a financial debt and its related financial expense.

One possible solution to overcome the financial exposure associated with the duties down payment is the bonded warehouses. They are a suspensive economic regime that let the importer to store the imported goods without having to pay the related duties for the release for free circulation. Besides this
huge advantage, there are others that enhance the benefits of these trade regimes. In fact, it is possible to destroy, manipulate or send back the goods that are no more suitable to enter the market without paying any duty, VAT or excise. This is fundamental when dealing with goods that could face unsold issues or with high deterioration risk. Moreover, the best results are obtained as long as goods burden by high duties and long supply lead time are concerned, since it is not convenient for the companies to take the risk and the cost of a traditional importation without a real order. The latter is even more true in a highly instable market (Lusardi, 2012).

China established export processing zones and various other special customs supervision areas to promote itself as a world-class manufacturing hub. Following China’s accession to the WTO, China Customs has expanded the scope of permissible bonded operations from manufacturing to include logistics operations.

Besides Bonded Warehouse, customs special supervision areas include Bonded Ports (BP), Bonded Logistics Parks, (BLP), Bonded Logistics Centers (BLC), Free Trade Zones (FTZ), Export Processing Zones (EPZ), and Export Supervisory Warehouses (ESW). The common denominator among these special areas is that materials may be imported into these zones free from import duties and VAT under Customs’ supervision. However, each of them has unique characteristics that afford different sets of advantages and limitations to different types of businesses.

<table>
<thead>
<tr>
<th>Type of customs supervision area</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonded Port (BP)</td>
<td>• No limitations</td>
</tr>
<tr>
<td>Bonded Logistics Park (BLP)</td>
<td>• No Processing Trade activities</td>
</tr>
<tr>
<td>Bonded Logistics Center (BLC)</td>
<td>• No Processing Trade activities</td>
</tr>
<tr>
<td>Free Trade Zone (FTZ)</td>
<td>• Goods must be physically exported out of China to claim export VAT refund</td>
</tr>
<tr>
<td>Export Processing Zone (EPZ)</td>
<td>• No Processing Trade activities</td>
</tr>
<tr>
<td></td>
<td>• No inland transfers</td>
</tr>
<tr>
<td></td>
<td>• No price adjustments</td>
</tr>
<tr>
<td>Export Supervisory Warehouse (ESW)</td>
<td>• No inland transfers</td>
</tr>
<tr>
<td></td>
<td>• No price adjustments</td>
</tr>
<tr>
<td>Bonded Warehouse (BW)</td>
<td>• No Processing Trade activities</td>
</tr>
<tr>
<td></td>
<td>• No inland transfers</td>
</tr>
<tr>
<td></td>
<td>• No price adjustments</td>
</tr>
<tr>
<td></td>
<td>• Goods must be physically exported out of China to claim export VAT refund</td>
</tr>
</tbody>
</table>

Table 5: Types of customs supervision area and corresponding limitations (KPMG, 2016)

(KPMG, 2016)
4 Case Studies

In this chapter, it will be provided the outcome of the interviews: the case studies. In order to protect the privacy and confidentiality of the information, as asked by some companies, none of the real name will be used. Instead, it will be used acronym to identify the companies (e.g. Company A). There will be provided 3 types of cases: direct, indirect, mixed.

The direct case studies come from accurate in-depth interviews with people employed in the starring companies, whereas indirect ones are collected from freight forwarders, export/import trading companies, and distributors. If the point of view of a SME is assumed, the latter actors are position upstream or downstream along the supply chain. Since they interact with multiple SMEs, they can provide a much broader perspective and information base. In addition, they can funnel, filter, and compare the examples offered, since only the recurrent and most common cases are reported, eliminating in this way possible outliers and sub-optimal samples that could bias the outcome of the research.

Only Case D is built as mixed case study, since the source of information is both from direct and indirect interviews. This example is important to verify the goodness of using the indirect interviews as a reliable source of information. Indeed, the data collected from direct interviews with Company C are complemented and further completed by the indirect ones with other actors. Moreover, the latter provided not only more detailed information, but also other examples of companies behaving in a similar way.

All the interviews were transcribed immediately after meeting with respondents, with the data analyzed as soon as possible, while information was still fresh in the mind of the interviewer. Especially regarding the indirect typology, the case study is built using multiple sources and interviews, therefore it is fundamental to gather and merge the data before presenting them.

4.1 Case A

Company A is an Italian Co-op of grapes producers, wholly owned by a holding company created by the private equity fund of a famous Swiss bank. In 2015, the total revenues of the group was around €540 million and more than 200 million bottles produced. Company A, by itself, reported revenues exceeding €300 million and 90 million bottles produced.
4.1.1 Company A in China

The first contact between the company and the Chinese market was the establishment of a consulting company, aimed at supporting the commercial channel between the HQ in Italy and importers in China. At the beginning, the company’s main task was to support the sales with documents translation, collection of legal information, and so on. It issued invoices for consulting services directly to the HQ.

A further development occurred when it changed the business name, becoming a trading company and acquiring the import license. Unlike a consulting company, a trading company entails a higher registered capital and it has, to all intents and purposes, the right to sell the products directly on the market. This implies an increased visibility of the goods, as well as a higher level of control on the marketing leverages, such as price and promotion. Moreover, it is possible to establish deeper and stronger relationships with customers and, more in general, all the stakeholders involved. From a fiscal perspective, besides the invoices for consulting services, the trading company actually issues commercial invoices.

4.1.2 The distribution channels

The trading company allows the creation of local owned stock, therefore the customers can benefit from the possibility of placing smaller quantity orders. Due to the central role that Company A has now in the direct control of the logistics flows, the trading company opens up also to new and different commercial channels.

The first commercial channel is towards the distributors, who, in turn, serve retailers, and then the final consumers. Company A has also a direct channel towards the final consumers thanks to an online shop on Tmall (i.e. a Chinese-language website for business-to-consumer (B2C) online retailer). This is mainly due to the willingness to keep the control over the price along the SC. In addition, the direct channel makes possible a better control over the brand image and the advertisements/promotions. In turn, the online channel allows an accurate customers’ profiling and the identification of the high demand products. The third commercial channel is the Ho.Re.Ca. one.

The company directly knows the customers’ needs and their behaviour in placing the orders. Furthermore, it consolidates them and it is in contact with the Italian HQ, it knows how the production scheduling works and its requirements, therefore it can better optimize the production/replenishment orders.
4.1.3 The logistics configuration

Similar to the company name, also the logistics configuration faced and evolution over time. At the beginning, Company A totally relied on a 3PL, a subsidy of DHL, specialized in wine transportation and providing made-to-measure logistics solutions. It takes care of the line haul, performed by container vessel, from Venezia to Shanghai Yangshan Port, where the goods are undocked and trucked to the Waigaoqiao Free Trade Zone in a temperature controlled warehouse. Here 3 activities take place at the same time:

- Customs clearance: the goods are kept in hold waiting for the accomplishment of the customs clearance operations.
- AQSIQ controls: due to the importance of the FTZ, the AQSIQ established a branch nearby to allow rapid visits to the warehouses and the local testing of the samples. Practically, after Company A request, the AQSIQ agents come to the warehouse and take a sample of the goods to be tested. In order to get AQSIQ approval, the test result must, first of all, be compliant with Chinese Food Safety Regulations. Then, it must match with the test result attached to the imported cargo and performed at the shipment origin. Finally, the AQSIQ test result must correspond with the ingredients declared on the label. If all of these requirements are met, the goods can be sold on the market. It is important to underline that the AQSIQ approval and the customs clearance are two separated activities, performed by different actors. Therefore, it is possible to clear the goods without AQSIQ approval, and the same conversely.
- Labelling: in accordance with Chinese laws, in order to sell the goods on the market, they must have a label written in Chinese, including specific information. Most of the goods imported in China do not come with a label specifically tailored for this issue, and therefore have to face a re-labelling.

Once the goods are cleared, they are transferred and stored in an unbonded warehouse with controlled temperature. In this first configuration, Company A relies entirely on DHL for the road transportation, warehousing, handling, and customs clearance operations. However, DHL does not directly operate all of the activities; indeed, the handling of the goods in the FTZ, the labelling, the customs clearance, and, more in general, the documentation are outsourced to local brokers/agents.

The lead time of this configuration is 75-90 days, from the order issuing to the goods clearance. The length and variability of the lead time is mainly due to 2 factors:

- Production scheduling: the branch of Company A does not have control on the production scheduling in Italy.
- 3PL policy: even if the customs clearance and AQSIQ activities could be run concurrently, DHL deliberately choose to wait the AQSIQ approval before clearing the goods. This impact
on the lead time, that vary between 3-5 weeks, and therefore on the inventory costs, since the daily cost per stockholding unit in a bonded warehouse in FTZ is higher than the unbonded one.

The shipment frequency is usually 1 container per month. Depending on the period of the year, and so the quantity shipped, Company A use 20 or 40 foot containers. As confirmed by the company, there are several reasons behind the choice of frequent shipments with small unit drop instead of fewer shipments but with a bigger unit drop; first of all, not entering too much in the details, there are specific issues concerning the product typology, its perishability, and production factors that lead to small quantity shipped. Then, there is a financial reason related the inventory carrying cost. Indeed, the high cost of the rent warehouse calls for a reduction of the inventory level. Moreover, the VAT, Duties, Wine Consumption Tax, increase even more the cash tied-up in the inventory, since all of these costs are paid directly cash in hand. In addition, so far the demand level is low. Considering the lead time and the shipment frequency, at the same time there are 3 containers along the supply chain:

- 1 container to be cleared;
- 1 in transit on the vessel;
- 1 to be shipped by the HQ.

The quantity managed by DHL are high compared to the quantity shipped by Company A, likewise the bargaining power the first are higher than the second one’s. Moreover, the interviewed company suffers, especially for the customs clearance phase, from the lack of a tailored service, because the 3PL is highly structured and deals with many customers like Company A on a daily base. In the end, due to the relationships and the knowledge gained being local, it was possible to spot a new broker who performs better than the one use by DHL. In fact, the new agent allows a faster customs clearance, especially for urgent goods, and does not have the “policy” followed by DHL.

Therefore, the second phase starts with the decision of using the new broker for the customs clearance operations instead of DHL. This choice lead to a reconfiguration of the logistics. First of all, the new broker operates in Ningbo Zhousahan Port and not in Shanghai Yangshan. The goods are undocked there and moved through bonded trucks to the temperature controlled warehouse in the Waigaoqiao FTZ, waiting for the labeling and the customs clearance, allowing the AQSIQ to perform the analysis on the samples. Once the goods are cleared, they are transported to Jiuting, in the same rent warehouse used in the first configuration.

In the new configuration, the seafreight line haul is operated by Gori, the unbonded rent warehouse with controlled temperature and the road transportation is performed by DHL, as in the previous solution. However, now for the customs clearance operations a new independent broker is used, who directly reports and communicates with Company A.
Beside the evolution other the time, Company A has also an emergency configurations used in extraordinary case when very urgent and small orders, usually with high value density, need to be shipped in short time. Therefore, even if the mark-up on each bottle is 30-40 times the seafreight one, the company uses airfreight, that allows a lead time <3 weeks, from the order issuing to the customs clearance. In this case, the logistics setting of Company A is similar to the first phase; the goods are shipped to Shanghai Pudong Airport, then transferred to temperature controlled warehouse in the Waigaoqiao FTZ, labelled and cleared, and finally moved to the unbonded warehouse in Jiuting. DHL is in charge of all the phases.

4.2 Case B

Company B, founded in 1950, is an Italian company producing sweets, candies and sugary drinks. The company started to export in China since 2013, when it established its Chinese branch, formally a trading company with importing license, in Hong Kong. Company B hired experienced local people for covering also managerial positions in the branch.

Every month, depending on the season, the HQ sends from 1 to 3 containers (40 foot) from Italy by vessel to the Hong Kong Port. Here, the containers are undocked and trucked to the Shenzhen border, where the customs check the cargo and the attached documentation, as well as the payment of the taxes, and then proceed to clear the goods. At the border the products undergo quality control and sample testing by AQSIQ. Afterwards, the goods are transferred to a temperature controlled warehouse nearby Shenzhen to be labelled and to wait the AQSIQ approval. In the end, the products are sorted and sent to the local resellers/dealers/wholesalers.

Every segment of the logistics network is performed by different actors. The seafreight line haul is performed by a freight forwarder, changing from time to time depending on the price charged and the availability. The port handling, the trucking from the port to the boarder and to the warehouse, the customs clearance and all the documentation handling is arranged by a local broker, with whom Company B is working for years and bounded a strong relationship. The connections and the experience of the broker in the customs operations allows a fast and smooth clearance. If any problems arise during the process, he is able to easily and rapidly solve them. The warehouse is rent from a 3PL provider. The final delivery to the customers can be performed by 3PL, freight forwarders or small logistics companies, chosen each time depending on the price charged. Every day in a shared warehouse, several trucks operate loading and unloading activities and most of the companies, who rent the storage space, often ship LTL and this is also the case of Company B. However, selecting one of the companies usually working with the warehouse to operate the final delivery, creates a win-win relationship. On the one
hand, the trucker optimize the transportation consolidating multiple shipments to perform a FTL even without the need of coordination between the senders. On the other hand, the companies benefit from lower rates.

4.3 Case C (Indirect)

Company C is a world famous luxury chocolatier based in Brussels, officially established in 1995. As of 2012, the corporation employs 350 people and as of 2015 holds 30 shops all around the world. The company also decided to enter also the Chinese market, opening a store in Shanghai, and therefore opting for a B2C solution.

The supply of the goods, especially ice-creams, is entirely managed by a freight forwarder and 3PL, with a door-to-door solution.

Regardless of the quantity shipped, only airfreight solution is used with refrigerated ULD. The goods arrive at Shanghai Pudong Airport where the goods are unloaded and immediately trucked to the Yangshan FTZ in a rent warehouse with controlled temperature and also refrigerated areas. Here the goods undergo AQSIQ examinations and random testing, as well as labelling. Thanks to the safe environment, they can wait for the completion of customs clearance procedures without any risk of perishability and loss of quality. Once the goods are cleared, they are transferred to the small refrigerated storage facility nearby the shop, where to wait AQSIQ approval before being sold in the shops. All the road transportation is performed by refrigerated trucks. Only the final storage facility is owned/rent by Company C. The freight forwarder collaborates with local partner for the brokerage and trucking activities. The warehouse in Yangshan FTZ is also rent.

4.4 Case D (Direct and Indirect)

Company D is a Dutch dairy cooperative born after a merge between other two companies in 2008. It is the world’s largest dairy co-operative and one of the top 5 dairy companies in the world with annual revenue of 11.4 billion euros. It has offices in 28 countries and employs a total of 21,186 people. Its products find their way to more than 100 countries. The product range consists of consumer milk, milk in powder and concentrated form, dairy drinks, yogurts, desserts, cream, coffee creamers, baby and infant food, cheese, butter and ingredients.

Even if the company itself does not fall under the definition of SME, the interview focused on a small part of the business recently started to operate in China: the cheese.
Company D totally outsources the shipments to China to a freight forwarder/3PL. The company pursue a direct commercial (and logistics) channel strategy to local distributors. Indeed, it sends whole containers (20-40 feet) directly without the need of an intermediate warehouse.

Around 1000 tons per year are shipped from Europe to China, using 20-40 foot refrigerated containers transported only by sea. Once the goods arrive at Shanghai Yangshan Port, the cargo is undocked and directly transferred in Yangshan FTZ in a temperature controlled warehouse where AQSIQ examination as well as customs clearance procedures are carried on. The goods are kept in hold in the FTZ until both AQSIQ approval and customs clearance are completed. Afterwards, the cargo is directly shipped to the customers. The freight forwarder is responsible for all the transportation, from the line haul to the road trucking, including warehousing. Customs clearance procedures, interfacing with AQSIQ, and, more in general, all the documentation handling is outsourced by the freight forwarder to its trusted local broker.

The role of the Chinese branch is to collect the orders, create forecasts and coordinating with the Dutch HQ and the production sites for producing and shipping the goods. At the same time, Company D want to assess the viability of the Chinese market and the consumers’ behaviours towards the cheese

4.5 Case E (Indirect)

The interviewed company is a trusted importer and distributor of exceptional quality products and specializes in frozen and chilled food and beverage. Therefore, it does not fall under the scope of the research, however it provided a good description of its customer base, which is composed by European SMEs. In addition, it offers a good example of one of the possible alternatives pursuable by such companies. Therefore, in this case study, Company E is the typical European SME who is the customer of this distributor.

The company strategy is to go directly to the source. Indeed, it has experienced agents in several European countries to scout brands and products that could be easily sold in the Chinese market. Also the companies are directly contacting them to evaluate together the possibility of exporting their products. It will buy the products in the country of origin and will take care about all the aspects involved in selling the goods on the market: logistics, operations, law compliance, documentation and certificates, buyer scouting, marketing promotions etc. Indeed, on the operations and logistics side, it manages all the necessary documentation for obtaining AQSIQ label, carries on labelling activities, supports AQSIQ quality check, clears the goods. Besides that, it arranges the transportation, both the international line haul and the road transportation, as well as the warehousing and the handling of the goods.
The European SMEs, interested in the services of this company are characterized by: low knowledge of the market, procedures, and laws, inability of finding local clients, lack of logistics capability. Also companies who want to explore the appealing of their products in the Chinese market without taking risks or bearing fixed and unrecoverable costs are interested in the service offered by this importer. Often they are at their first experience in engaging an international market.

Beside reaching an agreement on the selling price and on the other terms of service, there is a constraint that these companies must comply with: depending on the transportation mode, the minimum shipped quantity is one 20 ft container for seafreight, and one ULD for airfreight. This is because it is easier for the importer to coordinate with the buyers, managing the logistics and the customs clearance with a logic by “shipment”. In turn, the company is very effective since a cargo is often totally sold even before arriving in China.

The main drawbacks for the European SMEs is that they lose control and visibility on their products and brands once they sold the goods to the importer. In fact, the long chain that lead the products from the importer to the final consumer enhances the complexity of coordinating with all the actors involved to control the final prices as well as the quality level on the shelves, set up promotions, and, more in general, protect the brand image.
5 Findings and development of a Model

In the following section, the answer to RQ1 and RQ2 are presented. First of all, the goodness of using the Uppsala Model is verified, and a modified version of the internationalization phase is reported. Afterwards, the part regarding the relevance of the relationship with LSP is discussed.

Finally, a matrix model is developed merging and relating the two previous part together. In this part, the role of the knowledge is explained and linked to the model to guide the selection of the best couple internationalization phase-relationship with LSP from the point of view of a hypothetical SME.

The empirical evidence is directly derived from an ex-post analysis of the case studies. Moreover, the goodness and plausibility of the research outcome is further confirmed by interviews companies, freight forwarders, traders, and distributors.

5.1 The Internationalization Phases

This section aims at identifying and formalizing the internationalization phases according to a unique structured framework. Indeed, it will be verified the applicability of the Uppsala model in relation to the specific focus of this study, and thus the case studies. The final classification will consider also necessary modifications of the latter model. Altogether, this part will shed lights on the RQ1.

According to the Uppsala model (Johanson and Vahlne, 1977), when firms internationalize, they move along in a series of incremental steps which they termed as “establishment chain” or “step by step”. In case A, the only one that showed a progression over time of the configuration, it was possible to identify a step by step gradual evolution.

Moreover, Case A, Case D, and Case E point out the importance of the knowledge as a fundamental variable to consider when choosing the configuration, and so the commitment decision. Particularly in Case A, the initial configuration of the company lead to an increase of the knowledge (customs procedures, brokers, market etc.) that later allowed an evolution of the setting. Indeed, it seems as though the knowledge is driving the commitment decision (i.e. the configuration) as well as the chosen setting will enhance the foreign country knowledge of the company. This is in accordance with what stated by the Uppsala Model, since the theory focuses on four aspects that firms should face while going abroad: market knowledge and commitment, and commitment decisions and current activities which are divided into stage and change aspects that interact with each other in what seems to be a cycle. Precisely, market knowledge helps the managerial team to make decisions. The basic assumption of the Uppsala Model is that market knowledge and market commitment affects both the commitment decisions and the way
current decisions are performed—and this, in turn, changes market knowledge and commitment. The amount of knowledge of foreign markets and operations is influenced by the amount of commitments of resources in foreign markets, and vice versa.

As stated by Johanson and Wiedersheim-Paul (1975) the most important obstacles to internationalization are lack of knowledge and resources, that can be reduced through incremental decision-making and learning about the foreign markets and operations. The perceived risk of market investments decreases and the continued internationalization is stimulated by the increased need to control sales and the increased exposure to offers and demands to extend the operations.

According to this model, four progressive stages can be selected by a company to sell products in foreign markets over time: no regular export activities, export via independent agents, creation of sales subsidiary, and production establishments. The first approach towards a new market is via independent representatives, as this means a smaller resource commitment than the establishment of a sales subsidiary (Johanson and Vahlne, 1977; Johanson and Wiedersheim-Paul, 1975).

Nevertheless, the scope of the research focuses on the SMEs internationalization logistics strategies for distributing finished goods, specifically Food and Beverage, in the Chinese market, and it does not consider the establishment of production facilities. In addition, the model cannot be fully applied.

Indeed, all the companies of the Case Studies can be placed in one of the 2 intermediate phases out of the 4 of the Uppsala Model. When the model is applied to this specific case, the intrinsic characteristics of the market as well as the typology of the companies and the products treated lead to a modified version of the phases. A description of the revised phases as well as the allocation of each Case Study to the correct phase is now provided:

- **Independent Intermediaries**: the first step in approaching the Chinese market is the option extensively presented in Case E. From the point of view of the SME it cannot be properly called “export”. In fact, the company sells its products directly to Company E who will take care about all the activities for exporting them and, in turn, will also retain the profit resulting from the sale. All the risks are transferred to Company E even before leaving the home country. As shown in Case E, this option is mostly used when the knowledge of the Chinese market is very low and this creates uncertainty around the appeal of the company’s products on the market. From an operative point of view, laws, regulations, customs procedures, certifications, documentation are, in part or totally, unknown and the uncertain, and low, level of demand is considered insufficient to justify a direct commitment. No fixed costs and fully reversibility make this option particularly interesting to who wants to experiment the viability of the Chinese market. The main drawbacks of this option are the lack of both the development of the knowledge
and the control on the flow of goods once arrived in Mainland. No control on prices, advertisement, quality, and, more in general, all the aspects impacting on the brand image and consumers’ behaviour are in trade-off with the benefits coming from this very low commitment choice.

- **Owned Intermediaries**: the option adopted by the Company A at the beginning, and also by Company D. As long as the company values more the control on the goods and the possibility to gain a deeper knowledge of the Chinese market and operations, it opts for a higher commitment configuration. Indeed, it directly operates a FDI opening a local branch that is acting as a consulting company. The branch is the owned intermediary between the HQ and the local clients, and it is also responsible for sourcing new customers and opportunities. Even if the goods are directly sent to the clients, the branch arranges the shipments, offering also support for the local customers. In this way, it gains knowledge about the market and the local operations, while keeping an higher level of control on the flow of goods as well as the way such products are sold in the market. Moreover, it directly interfaces with the actors involved in the trade. However, the branch cannot sell the products on the market. Another drawback of the solution is the lead time, strictly depending on the transportation mode selection as well as the adopted freight forwarder and the relationship with it.

- **Sales Subsidiary**: the most mature option to entry the Chinese market, without establishing production facilities, pursued by Company A in the second phase, Company B, and Company C. It is similar to the previous configuration; however the main difference is in the business name. Indeed, the establishment of a Trading Company with the purchase of the Import Licence allow the local branch to appear as importer in the documentations and to sell the products on the market. Moreover, this overcomes the drawback of the previous option, lowering the lead time and being closer to the market, since it enables the branch to hold local inventory. However, a high level of knowledge is necessary to effectively set up this solution: local actors, market and consumers’ behaviour, customs procedures, laws and regulations can be considered a fundamental knowledge barrier to deal with. The option calls for a high level of commitment to the market, entailing fixed costs and making it riskier than the previous solutions. Nevertheless, it enables the company to get the deepest knowledge and control about the market, the brand, and the products.
5.2 The Relationships with LSP

It can be noticed that none of the interviewed companies perform in-house logistics activities. Indeed, this evidence is in accordance with the existing literature; Straube et al. (2008) highlighted that the companies entering foreign markets shows higher outsourcing levels and the range of activities that is outsourced to LSPs is increasing.

As Marchet et al. (2016) found, it is in the early stage of the internationalisation process that LSP can have a direct impact on the company successful entry into the new market. Although their research remarked the importance of LSP selection and collaboration during this phase, there was no evidence that the companies consider it as related to internationalisation choices.

Case A showed an evolution of the logistics settings in accordance with the development of different types of relationships with LSP. Looking at the other companies, it is possible to find out some recurrent schemes and patterns that can be described using the framework suggested in (Straube et al., 2008):

- **One-Stop-Shop**: the company relies on only 1 LSP who provide a door-to-door complete service. The full coverage and global scope of the partner offer the main advantage of simplifying the communication and coordination. However, due to the specificity and the current situation of the Chinese market, there are no actors capable of delivering a real full integrated global service and range of activities, in accordance with what stated by (Straube et al.) In fact, they often cooperate closely with further partners and subcontractors. Since the customer has no visibility on the intermediaries and partners selected by the LSP, it is necessary to create and bound a strong relationship with a trusted third-party who can ensure the reliability and the commitment of its partners to defined rules and quality standards. Beside the trust concerns, the main drawback of this solution is the risk deriving by making the global logistics procedures depending on the performance of a single LSP. Indeed, it is not only related to the problems arising in case of disruption, but also to the bargaining power and the switching costs that will impact also on the cost of the service. This type of relationship was chosen by Company A during the first phase, Company C and Company D. To some extent, Company E can be considered as falling under this category.

- **Segmented Outsourcing**: the company outsources specific activities to several LSPs. As presented in Case B and during the second phase of Case A, the import logistics activities can be segmented in:
  - International Transportation;
  - Brokerage, Customs Clearance and Bonded Warehousing;
  - Road Transportation;
Findings and development of a Model

- Unbonded Warehousing;

Each of the latter part can be assigned and performed by a different actor. Although this solution increases the complexity of coordinating with all the different actors, it should overcome the problems of the first solution. Indeed, not only the disruption risk will be lowered, but also the cost and lead time, as showed by Case A, will benefit. In that case, the selection of an independent broker to arrange all the customs clearance procedures and the goods handling in the port allowed the company to reduce both the lead time average value and variability, and therefore to increase also the customer service.

A fundamental enabler of this type of relationship is the knowledge of the market; without it the company can hardly select the best player to perform one of the segments, leading to poor choices, suboptimal configurations and bad overall supply chain performances. If the company does not have the necessary local expertise and connections, engaging in this type of relationship could be more harm than good.

5.3 The Model

The empirical evidences allowed the creation of a framework in which organize the case studies:

<table>
<thead>
<tr>
<th>Segmented Outsourcing</th>
<th>A2; B</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-Stop-Shop</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>A1; D</td>
</tr>
<tr>
<td>Independent Intermediaries</td>
<td>Owned Intermediaries</td>
</tr>
</tbody>
</table>

*Figure 15: The matrix model populated with the case studies.*

5.3.1 The role of the knowledge

During the interviews, the role of the knowledge of the Chinese market and procedures were often mentioned as one of the most important enablers of the internationalization phase. Moreover, even the relationship with LSP was deeply influenced by this factor. At the beginning, the low level of knowledge lead to select couple of configurations in the lower left part of the matrix (Company A during the first phase, Company E). Regarding Company D, it is interesting to notice that, even if the business is part of a MNC, it operates with a SME logic. The low level of knowledge of the Chinese
market and consumer behaviours towards the specific traded product typology was the main driver of choice.

Case A showed that the configuration chosen enhanced the knowledge level of the company, in accordance to the Uppsala Model where the Commitment Decision positively influences the Market Knowledge. In turn, the higher knowledge enabled a more advanced configuration with the establishment of a sales subsidiary and the selection of Segmented Outsourcing for the relationship with LSP during the second phase of Case A. On the other hand, Company B started the Chinese business involving experienced local employees since the early beginning, especially for the managerial positions, allowing it to quickly gain knowledge. This fact explains why it is possible to find Company B in the upper right part of the matrix. Concerning Case C, the company engaged in the luxury segment, selling high value and quality chocolate and sweets. Therefore, it has to protect and preserve the brand against possible misbehaviours operated by selling partners. This is the reason why it operated a sales subsidiary from the beginning: the choice was given by the high level strategy of Company C, disregard of the low level of knowledge. In fact, the company opted for a one-stop-shop solution as relationship with LSP in order to cope with the latter fact.

In the end, the empirical evidences from the Chinese market show that the knowledge plays a fundamental role in the early phase of the internationalization of SMEs. Consistently with the Uppsala Model, the knowledge is, at the same time, enhanced by and enables the configuration chosen. The couple of relationship with LSP and Internationalization Phase affect and is affected by the knowledge. They mutually interact with each other. Moreover, the disposition of the case studies in the matrix offers more insights on the way the knowledge impact on the configuration choice. It can be noticed that the case studies are arranged following increasing levels of knowledge. In addition, the selected couples are consistent between each other, whereas an internationalization phase entailing low knowledge is paired with a relationship with LSP that calls for a comparable level of the latter.

![Figure 16: The matrix model where the arrow represents the direction of the knowledge level increase.](image-url)
Ultimately, if a line is drawn starting from the lower left corner to the upper right one, the configurations pursued by the interviewed companies occupy only the lower half. From this pattern, a best practice can be derived to guide the internationalization strategy of the SMEs engaging in the Chinese F&B market. Indeed, the case studies showed that the relationship with LSP and the internationalization phase are decision related to each other and they should be taken in accordance with the knowledge level of the company about the Chinese market and procedures. Therefore, the new companies entering the market can follow this pattern as entry strategy and further expansion.

Figure 17: The matrix model where the grey area represents the feasible solutions adoptable.
5.4 Further Findings

Beside the structured conclusions that was possible to draw from the information and the insights collected both from the field and the literature, there is a number of subjects that still are worthy to be mentioned, discussed and organized to facilitate future studies (extensively mentioned in the chapter 7 of this research).

Stepping back from the environmental context and from the strict boundaries of the research, but always focusing on the SMEs, below a tentative framework that tries to explain the overall complex system behind the selection of the logistics configuration and all the interactions between each of the small units of study.

Concerning the methodology pursued to study a complex problem, it was chosen to split the logistics configuration in smaller discreet unit of analysis that were further categorized in dependent, independent, environmental and mediator decision variables. Then, the relationship between them was further investigated with the aim of explaining the functioning of the system so constituted. Although it was not possible to find the exact interaction of all the variables in a deterministic way, a tentative description of the system architecture is provided.

The identified variables are:

- **Flow Level**: similar to the concept of throughput proposed by Vos (1993), and taken up later by Lovell et al. (2005), it express the yearly number of TEU shipped.

- **Shelf Life**: as summed up by Rushton et al. (2014), mentioned by Lovell et al. (2005), and extensively treated by Dani (2015), Hoffman (2012), Oedekoven (2010), and Shaw (2011), it represents the time available before the goods cannot be sold legally anymore on the market.

- **Lead Time required by the market**: partly mentioned by Rushton et al. (2014) and Lovell et al. (2005), but often cited during the interview, especially in a fast-changing environment, it is the time that the customer is willing to wait for the product (before opting for the closest substitute available, if any).

- **Company Size**: measured in annual revenue. Although the focus of the research is on the SMEs, the evidences from the field showed different behaviours between small sized and medium sized companies.

- **Knowledge of the Market and the Customers**: extensively treated in the previous chapter, it can be partially iteratively affected by the output of the logistics configuration decision process.

- **Volume Density**: also referred as volume to weight ratio (Rushton et al. 2014), it is the ratio between the weight of the product and the space occupied. Depending on its value, the interviewed companies showed different behaviours towards the selected transportation mode.
• Value Density: also called value to weight ratio by Rushton et al. (2014), it is calculated dividing the product monetary value by its weight. Along with the volume density, this variable was often driving the decision process of the companies. Different values lead to significantly different configurations, not only concerning the transportation mode but also the network configuration.

• Vulnerability: this variable sums up together different characteristics of the product on the base of the final impact on the handling, transportation, and storing. In part, it recalls the high-risky products mentioned by Rushton et al. (2014), and the handling characteristics of Lovell et al. (2005). Also the perishability of a product, already mentioned by Dani (2015), Hoffman (2012), Oedekoven (2010), and Shaw (2011), is included in this variable. The field confirms that different types of products, with different characteristics, are considered as having the same level of vulnerability, so they require the same special configurations in terms of supply chain and distribution.

• Logistics Flows Control Level: it describes part of the international logistics strategy of a company in terms of the scope of control of a company. Even though in Marchet et al. (2016) this is strictly related to the international commercial term of trade, in this context it assumes a more general perspective, considering also the contradictory evidences about the relevance of the INCOTERMS in the decisional process, as it will be explained later in Chapter 6.4. In this sense, it is used to describe how much control the company has on the flow of goods from the country of origin to the destination market, including the extent to which it can actively influence and change them. It encompasses also the visibility it has on the products.

• Relationship with LSP and Local actors: as extensively treated in Chapter 5.2, and building on Marchet et al. (2016), it identifies the type of relationship to be established with the international and local suppliers of logistics services.

• Logistics Network Configuration: i.e. the number, location and capacities of warehouses, and material flow through the network (Chopra and Meindl, 2004; Creazza et al., 2010; Marchet et al., 2016).

• Decisions Centralisation Level: building on Melacini et al. (2011) but not only focused on the planning point of view, the variable describes the locus of control of the decision process. Indeed, decisions can be made totally by the headquarters or autonomously by the subsidiaries. Between these two extremes, the is an intermediate approach that implies a certain level of coordination (Pirttila and Niemi, 1996; Rudberg and West, 2008; Melacini et al., 2011; Marchet et al., 2016).

• Transportation Mode: deeply treated in Chapter 3.4 and further discussed in Chapter 6.2, it illustrates how the goods are moved from the country of origin to the destination market. In this sense,
as long as an international perspective is assumed, this variable is more focused on the transportation method used for the main international line haul due to its vital role in setting up an international logistics strategy (Marchet et al., 2016).

- Internationalization Phase: a full overview is available in Chapter 5.1. Mainly built on the Uppsala model (Johanson and Vahlne, 1977), it is then further adapted to the focus of this research and completed with evidences coming from more recent studies (e.g. Marchet et al., 2016). It describes the strategy used by the company when engaging a new market outside national border. Therefore, it can be considered the starting point of a logistics configuration.

Of the above-mentioned variable, it can be made a first gross split between dependent and independent variables reflecting in this way the causal relationship existing between them. Indeed, some of them are directly related to the company type, the typology of the traded products and the destination market, whereas other variables can be considered dependent on the former one. These are describing the logistics configuration, and so the output of the decision process. In addition, there is the Knowledge Level that a company has at the first iteration of the decision process. However, as the first logistics configuration is set, the Knowledge is impacted (as partially explained by the model in chapter 5.3.1). It seems that the Knowledge and the logistics configuration are embroiled in a feedback loop, influencing each other. The Internationalization phase plays the role of a mediator variable between some of the independent variables and the final configuration. As explained in the previous chapter, it is also affected by the Knowledge. In addition, it seems to be influenced by the environment. Lastly, there is the Lead Time required by the Market that, definition, is an environmental variable, totally independent by the logistics configuration.

The partition is summed up by the following table:

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Dependent Variables</th>
<th>Environmental Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow Level</td>
<td>Logistics Flows Control Level</td>
<td>Lead Time required by the market</td>
</tr>
<tr>
<td>Shelf Life</td>
<td>Relationship with LSP and Local actors</td>
<td></td>
</tr>
<tr>
<td>Company Size</td>
<td>Logistics Network Configuration</td>
<td></td>
</tr>
<tr>
<td>Volume Density</td>
<td>Decisions Centralisation Level</td>
<td></td>
</tr>
<tr>
<td>Value Density</td>
<td>Transportation Mode</td>
<td></td>
</tr>
<tr>
<td>Vulnerability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge of the Market and the Customers*</td>
<td></td>
<td>Mediator</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
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</tbody>
</table>

Table 6: Variables break down by typology

According to what previously exposed, it is proposed below also a visual scheme of the process:
Even though the evidences from the interviews validate the causal relationships between the variables, it is still unclear the exact impact of each variable on the final configuration. In Chapter 5.3 it is explored the need of consistency between the type of LSP and the Internationalization Phase, along with a detailed explanation of the role of Knowledge in this process. However, in the framework presented in this Chapter, the scope of the study became larger and, at this level and according to the information gathered during the study, it is not possible to drive exact conclusions. For this reasons, I would suggest further research on this topic using this framework as a base.

Concerning the case studies derived from the investigation, the decision process that lead to the logistics configuration is now structured using the proposed scheme in their smallest unit of study. In order to facilitate the comparison, the variables will be described, wherever applicable, by qualitative unit of measures and phases instead of numerical quantitative one. All the values are contextualized to what was discovered in the interviews. In this sense, the variables can take the following values:

- **Flow Level**: Low, Medium, High. From the small shipments performed by Company E or A (during the first configuration), to the several FCL of Company B and D. Company A (second configuration) and Company C fall in the middle with moderate flows.
- **Shelf Life**: Short, Long. Wine, candies, and basic commodities of Case A, B, and E have a much longer shelf-life compare to dairy products traded by Company D and C.
- **Company Size**: Small, Medium. Bigger and more mature companies are presented in Case A, C, and D. Company B and E fall under the classification of small enterprises.
- **Volume Density**: Low, Medium, High. Even though there are no extreme cases in the F&B companies of very high volume density products, wine bottles and canned food, respectively traded by
Company A and E, rank higher compared to candies and ice-creams, Company B and C. The cheese of Company D can be considered as belonging to the medium range.

- **Value Density**: Low, Medium, High. Company A is trading also expensive wine bottles, however, when it comes to value density, the weight is significantly impacting and make its products falling in the medium zone, whereas luxury desserts of Company C rank higher. The other companies can be classified under “low”.

- **Vulnerability**: Low, Medium, High. Frozen, perishable, and, generally speaking, all the products that require controlled temperature are extremely vulnerable. Wine figures within the medium classification. Compared to the above-mentioned, commodities have a low vulnerability.

- **Knowledge of the Market and the Customers**: Low, Medium, Complete. As extensively treated in Chapter 5.3.1, Company E has the lowest level of knowledge, while Company A (first configuration) and Company D are positioned in the middle with an higher knowledge level compared to the former, but lower if related to Company C and A (second configuration), with a complete knowledge of the market and the customers.

- **Logistics Flows Control Level**: Low, Medium, Total. Solutions that entail multiple intermediaries and not a physical presence of the company in the foreign country (Case E), lowering in this way the visibility of its products in the destination market, lead to a low level of control on the logistics flow. Instead, an owned branch acting as an intermediary increases the visibility and the control level (Company A2 and B). The logistics settings of the other company can be located in the medium range.

- **Relationship with LSP and Local actors**: One-Stop-Shop, Segmented Outsourcing. A deep treatment of this variables can be found in Chapter 5.2. As a recap, Company E, A1, and D are categorized under the One-Stop-Shop relationship, whereas A2 and B fall under the more advanced solution of Segmented Outsourcing.

- **Logistics Network Configuration**: Outsourced, Partially Owned. In general, resource constrained SMEs tend to outsource not-core activities (Fujita, 1995; Coviello and McAuley, 1999; Knight, 2000; Hollenstein, 2005). Even if possible from a theoretical perspective, none of the interviewed companies have a fully vertically integrated logistics, with all assets owned. Indeed, all of them rely to some extent on third parties providing logistics assets to be rent and services. Company A1 and E chose to completely outsource the logistics network, while Company A2, B, C and D own, totally or partially, some of the assets.

- **Decisions Centralisation Level**: Centralized, Coordinated, Decentralized. As it was clearly stated, Company A2 is scheduling all the supply and decides which products import and when. Therefore, it has a decentralized decisions centre. On the other hand, Company E totally relies on independent
actors and all the decisions are centrally taken in the headquarter. Company A1, B, C and D are not acting totally independently, instead the foreign branch merges the knowledge and experience gained in the destination market with the central headquarter, sharing in this way the decision process in a coordinated way.

- **Transportation Mode**: Seafreight, Airfreight, Mixed. While Company A1 and A2 perform mixed shipment, opting for sea and air transportation from time to time, Company E, D and B systematically use vessels to move their goods. Instead, Company C prefers airfreight to transport its luxury products.

- **Internationalization Phase**: Independent Intermediaries, Owned Intermediaries, Sales Subsidiaries. Chapter 5.1 provides an extensive drill into each of the phase. Company E relies on independent intermediaries, while A1 and D opted for owned intermediaries. Company A2, B, and C have sales subsidiary in the destination market.

- **Lead Time required by the market**: Short, Not Relevant. For Company C and A1/A2 it is fundamental to have a logistics configuration that guarantee short lead time. On the other hand, during the interviews, Company B, E, and D did not consider this variable as a relevant factor during the decision process.

The table below provide a unique overview of the possible variables values across the interviewed companies.
### Table 7: Overview of the values taken by the variables across the interviewed companies

<table>
<thead>
<tr>
<th>CLASSIFICATION</th>
<th>VARIABLE</th>
<th>RANGE</th>
<th>COMPANY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DEPENDENT</strong></td>
<td>Flow Level</td>
<td>High, Medium, Low</td>
<td>B, D, A2, C, A1, E</td>
</tr>
<tr>
<td></td>
<td>Shelf Life</td>
<td>Long, Short</td>
<td>A1, A2, B, E, D, C</td>
</tr>
<tr>
<td></td>
<td>Company Size</td>
<td>Small, Medium, High</td>
<td>A1, A2, C, D, B, E</td>
</tr>
<tr>
<td></td>
<td>Volume Density</td>
<td>Medium, Low, High</td>
<td>D, B, C, C</td>
</tr>
<tr>
<td></td>
<td>Value Density</td>
<td>Medium, Low, High</td>
<td>A1, A2, B, D, E, C, D</td>
</tr>
<tr>
<td></td>
<td>Vulnerability</td>
<td>Medium, Low, Complete</td>
<td>A1, A2, B, E, A2, C</td>
</tr>
<tr>
<td></td>
<td>Knowledge*</td>
<td>Complete, Medium, Low</td>
<td>A2, B, A1, D, E</td>
</tr>
<tr>
<td></td>
<td>Logistics Flow Control Level</td>
<td>Total, Medium, Low</td>
<td>A2, B, A1, C, D, E</td>
</tr>
<tr>
<td></td>
<td>Relationship with LSP and Local Actors</td>
<td>Segmented Outsourcing, One-Stop-Shop</td>
<td>A2, B, C, A1, D, E</td>
</tr>
<tr>
<td></td>
<td>Logistics Network Configuration</td>
<td>Partially Owned, Outsourced</td>
<td>A2, B, C, D, A1, E, A2</td>
</tr>
<tr>
<td></td>
<td>Decisions</td>
<td>Coordinated, Centralized</td>
<td>A1, B, C, D, E, A1, B, E</td>
</tr>
<tr>
<td></td>
<td>Centralization Level</td>
<td>Decentralized, Centralized, Airfreight</td>
<td>C, A2, E</td>
</tr>
<tr>
<td></td>
<td>Transportation Mode</td>
<td>Seafreight, Mixed</td>
<td>E, D, B, A1, A2</td>
</tr>
<tr>
<td></td>
<td>Internationalization Phase</td>
<td>Sales Subsidiaries, Owned Intermediaries, Independent Intermediaries</td>
<td>A2, B, C, A1, D, E, A1, A2</td>
</tr>
</tbody>
</table>
When the focus is shift from an inclusive general overview to a company centered analysis, the following tables can be created.

**Company A1/A2**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Range</th>
<th>A1</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Size</td>
<td>Medium</td>
<td>Logistics Flow Control Level</td>
<td>Medium</td>
</tr>
<tr>
<td>Flow Level</td>
<td>Low</td>
<td>Relationship with LSP</td>
<td>One-Stop-Shop</td>
</tr>
<tr>
<td>Knowledge*</td>
<td>Medium</td>
<td>Logistics Network Configuration</td>
<td>Outsourced</td>
</tr>
<tr>
<td>Shelf Life</td>
<td>Long</td>
<td>Decisions Centralization Level</td>
<td>Coordinated</td>
</tr>
<tr>
<td>Value Density</td>
<td>Medium</td>
<td>Transportation Mode</td>
<td>Mixed</td>
</tr>
<tr>
<td>Volume Density</td>
<td>High</td>
<td>Internationalization Phase</td>
<td>Owned Intermediaries</td>
</tr>
<tr>
<td>Vulnerability</td>
<td>Medium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead Time</td>
<td>Short</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 8: Company A1 variables values split by typology

<table>
<thead>
<tr>
<th>Variable</th>
<th>Range</th>
<th>A2</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Size</td>
<td>Medium</td>
<td>Logistics Flow Control Level</td>
<td>Total</td>
</tr>
<tr>
<td>Flow Level</td>
<td>Medium</td>
<td>Relationship with LSP</td>
<td>Segmented Outsourcing</td>
</tr>
<tr>
<td>Knowledge*</td>
<td>Complete</td>
<td>Logistics Network Configuration</td>
<td>Partially Owned</td>
</tr>
<tr>
<td>Shelf Life</td>
<td>Long</td>
<td>Decisions Centralization Level</td>
<td>Decentralized</td>
</tr>
<tr>
<td>Value Density</td>
<td>Medium</td>
<td>Transportation Mode</td>
<td>Mixed</td>
</tr>
<tr>
<td>Volume Density</td>
<td>High</td>
<td>Internationalization Phase</td>
<td>Sales Subsidiaries</td>
</tr>
<tr>
<td>Vulnerability</td>
<td>Medium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead Time</td>
<td>Short</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 9: Company A2 variables values split by typology

**Company B**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Range</th>
<th>B</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Size</td>
<td>Small</td>
<td>Logistics Flow Control Level</td>
<td>Total</td>
</tr>
<tr>
<td>Flow Level</td>
<td>High</td>
<td>Relationship with LSP</td>
<td>Segmented Outsourcing</td>
</tr>
<tr>
<td>Knowledge*</td>
<td>Medium</td>
<td>Logistics Network Configuration</td>
<td>Partially Owned</td>
</tr>
<tr>
<td>Shelf Life</td>
<td>Long</td>
<td>Decisions Centralization Level</td>
<td>Coordinated</td>
</tr>
<tr>
<td>Value Density</td>
<td>Low</td>
<td>Transportation Mode</td>
<td>Seafreight</td>
</tr>
<tr>
<td>Volume Density</td>
<td>Low</td>
<td>Internationalization Phase</td>
<td>Sales Subsidiaries</td>
</tr>
<tr>
<td>Vulnerability</td>
<td>Low</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead Time</td>
<td>Not Rel.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 10: Company B variables values split by typology
Findings and development of a Model

Due to the dynamic perspective of the case, some fields are highlighted in the tables of Company A1/A2. It is interesting to notice that the change of just two variables (left tables) lead to a dramatic modification of the final configuration (right tables). However, it is not possible to come to the conclusion that only the former two variables have an impact on the final configuration. Indeed, Company C

Company C

<table>
<thead>
<tr>
<th>Variable</th>
<th>Range</th>
<th>Variable</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Size</td>
<td>Medium</td>
<td>Logistics Flow Control Level</td>
<td>Medium</td>
</tr>
<tr>
<td>Flow Level</td>
<td>Medium</td>
<td>Relationship with LSP</td>
<td>Segmented Outsourcing</td>
</tr>
<tr>
<td>Knowledge*</td>
<td>Complete</td>
<td>Logistics Network Configuration</td>
<td>Partially Owned</td>
</tr>
<tr>
<td>Shelf Life</td>
<td>Short</td>
<td>Decisions Centralization Level</td>
<td>Coordinated</td>
</tr>
<tr>
<td>Value Density</td>
<td>High</td>
<td>Transportation Mode</td>
<td>Airfreight</td>
</tr>
<tr>
<td>Volume Density</td>
<td>Low</td>
<td>Internationalization Phase</td>
<td>Sales Subsidiaries</td>
</tr>
<tr>
<td>Vulnerability</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead Time</td>
<td>Short</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 11: Company C variables values split by typology

Company D

<table>
<thead>
<tr>
<th>Variable</th>
<th>Range</th>
<th>Variable</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Size</td>
<td>Medium</td>
<td>Logistics Flow Control Level</td>
<td>Medium</td>
</tr>
<tr>
<td>Flow Level</td>
<td>High</td>
<td>Relationship with LSP</td>
<td>One-Stop-Shop</td>
</tr>
<tr>
<td>Knowledge*</td>
<td>Low</td>
<td>Logistics Network Configuration</td>
<td>Partially Owned</td>
</tr>
<tr>
<td>Shelf Life</td>
<td>Short</td>
<td>Decisions Centralization Level</td>
<td>Coordinated</td>
</tr>
<tr>
<td>Value Density</td>
<td>Low</td>
<td>Transportation Mode</td>
<td>Seafreight</td>
</tr>
<tr>
<td>Volume Density</td>
<td>Medium</td>
<td>Internationalization Phase</td>
<td>Owned Intermediaries</td>
</tr>
<tr>
<td>Vulnerability</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead Time</td>
<td>Not Rel.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 12: Company D variables values split by typology

Company E

<table>
<thead>
<tr>
<th>Variable</th>
<th>Range</th>
<th>Variable</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Size</td>
<td>Small</td>
<td>Logistics Flow Control Level</td>
<td>Low</td>
</tr>
<tr>
<td>Flow Level</td>
<td>Low</td>
<td>Relationship with LSP</td>
<td>One-Stop-Shop</td>
</tr>
<tr>
<td>Knowledge*</td>
<td>Low</td>
<td>Logistics Network Configuration</td>
<td>Outsourced</td>
</tr>
<tr>
<td>Shelf Life</td>
<td>Long</td>
<td>Decisions Centralization Level</td>
<td>Centralized</td>
</tr>
<tr>
<td>Value Density</td>
<td>Low</td>
<td>Transportation Mode</td>
<td>Seafreight</td>
</tr>
<tr>
<td>Volume Density</td>
<td>High</td>
<td>Internationalization Phase</td>
<td>Indep. Intermediaries</td>
</tr>
<tr>
<td>Vulnerability</td>
<td>Low</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead Time</td>
<td>Not Rel.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 13: Company E variables values split by typology
shows the same value of Company A1/A2 for the Flow and the Knowledge Level, but the final configuration is totally different. For comparison purposes, below an alternative representation of the final logistics configuration is proposed. Broadly speaking, the data on the axis should be considered not ordered. Whether possible, they were ordered following an increasing order rule. If the variable type does not allow an order rule, then it was followed a random allocation.

In the end, to get a deeper knowledge of how this complex system is working, it seems that more data are required.

Figure 19: Radial representation of the companies’ final logistics configuration.
6 Operative Advices

The aim of this chapter is to answer to:

RQ3 WHAT ARE THE MAIN PECULIARITIES OF ENTERING THE CHINESE FOOD AND BEVERAGE MARKET? WHAT ARE THE MAIN ACTIVITIES TO REDUCE THE VULNERABILITY OF THE SUPPLY CHAIN DURING THE INTERNATIONALIZATION PROCESS?

The first section deals with the findings about the logistics network configuration. Even though the literature states that this is a differential factor for the internationalization of the companies, the impact of both the specific context and product typology, along with the strict regulations that the latter entail, lead to a fixed configuration. Indeed, all the companies set up, by the means of LSP, a similar network configuration. Therefore, it can be considered a best practice to be pursued by a SME entering in this market.

The second part regards the selection of the international transportation mode. Similar to the first section, the literature reports the transportation mode selection as a differential factor. However, within the limits of the scope of this research, the empirical evidence shows that it is not related to the internationalization of the companies nor to the logistics network configuration. As it will be showed, the interviewed companies, as well as freight forwarders, mentioned other factors driving the choice: flow, lead time, and product related.

The third part provides advices for the entry point selection. Shanghai and Hong Kong are compared from different perspectives and point of views. In the end, it is explained why Shanghai is considered by practitioners to be a better entry point solution than Hong Kong.

The fourth and last part of this chapter comments the role and relevance of the terms of trade in the logistics configuration of the interviewed companies.

6.1 The impact of F&B Laws and Regulations on the Logistics Network Configuration

The first step towards a successful import of F&B in China is the conformity with the Chinese national standards since all the foods entering the People's Republic of China or placed on the market must comply with the rules applicable to homologous domestic products. The detailed description of registering the standard was extensively covered in the Literature Review part, and therefore it will not
be treated again. Nevertheless, it is worthwhile to analyse the impact of the inspection procedure on the border on the logistics.

When the products arrive at the border they must get the “Certificate of Inspection and Quarantine for Entry Goods”. Besides the documentation required, detailed listed in the Literature Review part, the main steps involve:

- Product sampling;
- Quarantine and inspection (on-site, in laboratory or in isolation, as appropriate);

Moreover, the inspection during the customs inspection regards also the labelling of the product, which must be approved by issuing a Certificate of Food Labelling Verification. In order to effectively clear the goods only the Certificate of Inspection and Quarantine for Entry Goods is required. However, the goods cannot be sold on the market without the Certificate of Food Labelling Verification. To obtain the first certificate, the agents will inspect the goods locally, whereas the documentation can be prepared in advance. The result of the analysis requires some days to be issued, along with the approval.

Concerning the second certificate, it can take up to 17 days (GWA, 2015) for the approval.

All the goods must possess a valid Chinese label before passing the border. During the interviews with local freight forwarding companies, it came out that most of the goods do not have a valid label when they arrive in China, and therefore they must undergo a re-labelling.

Altogether with the other customs clearance procedures, it can be concluded that the goods will wait some days before they can be moved outside the border. In addition, during the re-labelling the products will be handled one by one in order to attach the new valid label. Without a proper environment, this could create some problems, especially for frozen/chilled goods.

Concerning the sea freight, the cargo, waiting for the customs clearance, are stored and stacked in the port dock. In this way, they are exposed to the elements and bad weather for days without any control. Also, the re-labelling activities are performed locally, making it extremely critical for goods that must be kept at a certain controlled temperature. Furthermore, the port agents will make the importer paying a daily fee for the space occupation. For all these reasons, the experienced actors come up with a unique logistics network configuration in order to cope with the risk.

As soon as the goods are undocked, they are transferred to a rent warehouse, often with controlled temperature, in the nearby FTZ. There some benefits coming from this solution. The first is the possibility to store the goods in a safe environment while waiting for the clearance, where they can also undergo sampling and testing from AQSIQ. Likewise, the re-labelling activities can be performed in a better way, with more attention and care, since there is no need to speed up the process to avoid loss of quality or disruptions due to environmental factors (e.g. extreme weather conditions). Finally, due to
government incentives, the FTZ solution is cheaper than detention and demurrage costs paid to shipping companies.

The goods are stored in the FTZ as long as they are customs cleared. Afterwards, they are transferred to an unbonded warehouse, often with controlled temperature depending on the type of the goods, waiting for the final approval from the AQSIQ (refer to Literature Review for a detailed list of the administrative authorities), because of a lower holding cost.

The problems faced by sea freight are the same as for air freight. However, there is an additional one regarding the latter, that is mainly due to space constraints in the airport. Indeed, the goods can be stored locally in the airport warehouse for a maximum of 15 days. Afterwards, if they are not moved out or sent to another location/country, they will be destroyed. This is fostering even more the detention of the goods in the FTZ warehouse to wait for customs clearance and re-labelling activities.

In the end, the empirical evidences along with interviews with experienced freight forwarders determined that the Logistics Network Configuration of SMEs importing F&B in the Chinese market is given rather than a variable.

Especially for companies that rely on segmented outsourcing as relationship with LSP, it is important to choose wisely the logistics network configuration. Even if they do not have direct ownership of the asset, the choice of selecting the actor from which to buy the logistics services (e.g. warehousing, transportation, brokering) is as important as what network to set up. It is therefore suggested to opt for the following solution:

- Warehouse in FTZ, if necessary with controlled temperature, where to transfer the goods after the arrival at the port/airport;
- Unbonded warehouse, if necessary with controlled temperature, where to transfer the goods after the customs clearance;

An unintended benefit coming from renting the facilities is extensively described in Case B: the possibility to benefit from lower rates selecting transportation companies that usually work with the other warehouse lessees to perform the final delivery. Most of the companies that share the space in a rent warehouse perform LTL, and this is not optimal for the truckers who want to maximize the space occupation of the trucks. Indeed, the transportation companies should further consolidate the shipments and they will charge an higher price to LTL for this reason. However, if several companies are located in the same warehouse and ask for LTL to the same trucker, it is possible to consolidate the shipments in one FTL, and therefore to benefit from lower rates.
6.2 The International Transportation Mode

In the case studies, only sea freight and air freight were used for the international line haul. The interviews with both companies and freight forwarders allowed a deeper operative point of view on what are the drivers that lead the selection of the transportation mode.

Kruger (2002), Lovell et al. (2005), Rushton et al. (2014), Melacini (2015), Creazza et al. (2010) provided an extensive list of the factors impacting. Likewise, the empirical evidences coming from real companies, within the scope of the research, identified as fundamental some of these drivers:

- **Flow**: the average quantity/volume shipped. Company A, Company B, Company D and Company E identified this driver as the most important. Generally, sea freight is preferable for shipping big quantities, equal or higher than 1 TEU. Moreover, the latter is also a unit of measure for shipments, since it is simpler to reason as multiple of TEU. When the controlled temperature fact is combined with the flow, they also can heavily influence the mode selection. In fact, if the company cannot meet the threshold and it requires controlled temperature to ship its goods, airfreight is the only option available. Usually, the freight forwarders offer the possibility of consolidating the goods with other LCL shipments in order to perform a FCL. However, this option is perceived as extremely risky and can create a lot of problems as long as the goods requires controlled temperature container (i.e. reefer), and so, for the time being, it is not available on the market and/or it is not diffused. In this case, LCL and controlled temperature, the goods are shipped by air using controlled temperature ULD.

- **Lead time**: when the shipments must arrive within short time, the air freight solution, even if it is the most expensive, will be used. There are two main reason why the companies face the need of shipping in short time; The first is related to urgent, last minute, orders that must be fulfilled on time, especially nearby national festivals. The second is related to the intrinsic characteristics of the product, and will be deeply treated in the next point.

- **Value density/Perishability/Risk level**: strictly related to the lead time. In case C, the company performs air shipments of high value, fresh (and so perishable) products even though the flow would be enough to perform a sea shipment. Indeed, Company C judged as fundamental to preserve the quality level and the freshness of its goods, since they directly impact on the luxury brand image of the company. The short lead time of air freight solution allows the minimum risk of perishability and degradation, especially if performed with controlled temperature ULD.

In general, sea freight is seen as the base case, the benchmark solution. Air freight will be adopted in particular cases, as described above.

Like the Logistics Network Configuration, the International Transportation Mode does not affect the Chinese market entry strategies. Empirical evidences show that the selection drivers are unrelated.
to the entry configuration pursued, and quite homogenous between the companies. They depend only on the bullets presented before.

6.3 The entry point: Hong Kong vs. Shanghai

One of the operative decision that considerably impact the supply chain configuration is the physical entry point in a foreign country. Since the literature does not treat in a deep way, specifically tailored on the Chinese market, it was necessary to pursue an on-field research also for this element of the utmost importance.

In principle, the available information identified Shanghai and Hong Kong as the two-main entry points in China. Looking at the data, in 2016 Shanghai and Hong Kong total imports sum up to 0.75 USD trillion. In comparison, in the same period; the total imports of China (including Mainland, Taiwan and Hong Kong itself) were 1.58 USD trillion. This means that the 47% of all the goods enter in China through these two entry points (Netease, 2016; Census and Statistics Department of the Hong Kong Special Administrative Region, 2016; Hong Kong Trade Development Council, 2017). Therefore, it was assumed that the entry point would have been a relevant variable of choice.

Nevertheless, in the end it turned out to be more a fixed parameter, totally independent from the logistics setting adopted, rather than a dependent variable. This conclusion can be drawn looking mainly a two factors.

The first is related to the geo-political and sociodemographic status quo of China. Indeed, even though, with its 9,326,410 km², it is the third country by extension in the world (Wikipedia, 2017) its population as well as the economic development are unevenly distributed over the land. Looking at the

![Figure 20: Night-time Lights of China 2010 (NESDIS, 2010)]
night pictures taken from the satellite it can be noticed that most of the cities are concentrated on the east coast, leaving the west part practically empty.

The statistical data further confirms this imbalance. As it appears from the population density map below, most of the population concentrates around the main city of the “Yangtze River Delta” zone and also northern from there:

![Population Density of China](image)

Figure 21: Population Density of China (Gifted Geography, 2016)

This particular distribution is well-known between the practitioners. If a diagonal line connecting Tengchong and Ahnui is drawn, the Chinese territory will be divided in two parts. This line is commonly referred as “Hu Huanyong Line” and it can be noticed that almost 94% is currently living to the right of this imaginary barrier.
At the same time, the unevenly distribution of the 2015 China GDP’s per person directly follows the above showed population one.

Figure 22: The Hu Huanyong Line (Regional Studies Association, 2012)

Figure 23: China’s GDP per person (The Economist, 2015)
Far from drawing any type of causal relationship between the two observed phenomenon, it can be said that ultimately the eastern part of China is characterized by an higher number of people with a superior spending power. In turn, this makes the zone interesting for a company who wants to expand his scope in the Chinese market. Not only this part of the mainland has a bigger user base but also on the average each of them has an increased spending capability compare to other areas of the country.

Choosing the location of the facility and/or entry point significantly impact on both the service level and the logistics cost faced by a company. An analytical treatment of the factors influencing the localization problem as well as the differences and completeness of the possible Total Cost equations go beyond the scope and the level of detail of this thesis. Nevertheless, in a localization problem the transportation cost represents one of the main cost items and it is directly affected by the distance between the warehouse and the destination point. As a rule of thumb, being as close as possible to the target market not only increase the Service Level but also lower the transportation cost.

Looking at the isochrones centered in Shanghai and Hong Kong at distances of 8 and 12 hours (assuming an average speed of 60 km/h), it is clear that from the former city it is possible to reach more cities of the up mentioned appealing zone.

![Figure 24: Isochrones centered in Hong Kong and Shanghai](image)

In other words, assuming the point of view of a company who wants to expand in China, choosing Shanghai as main entry point could be better compared to the Hong Kong option. Both the customer service level as well as the transportation cost will benefit from this decision. Broadly speaking, it is possible to gain efficiency as well as effectiveness in serving the market.
While the latter reason is related to the operations of a company, the second argument to prefer Shanghai as the main entry point is related to fiscal and legal questions.

During a direct interview with a legal consultancy company based in Shanghai, it was possible to get deeper insight of the treated point. Indeed, the consultant gave his own professional opinion without going into too much details. The point is often faced by the agency since more and more companies are interested in entering the market. In terms of applicability, it is preferable to have guidelines instead of several detailed information when it comes to make strategic choices. As it came out from the meeting, this is even more true as long as the perspective of a SME is considered.

Therefore, far from a comprehensive treatment of all the legal and fiscal aspects, and in line with the slant given to this research, below the rationale behind the choice of Shanghai as main entry point is provided. The explanation is given in the same manner as the consultancy company would do with his business customers.

Hong Kong has often been seen by companies as country with a favorable taxation. One of the main reason was the special taxation of the offshore companies registered within its borders. In this sense, the term “offshore” means a legal entity that is incorporated in a low-tax jurisdiction specialized in providing financial and commercial services to the non-resident companies. More practically, as it would be explained better later on, Hong Kong falls into this type of jurisdiction and if a company is incorporated there, then it is possible to refer to it as an “offshore” company.

In reality, to actually enjoy a reduced taxation, the company should comply with a condition: as long as the company's activities are carried on outside the Hong Kong national borders, as well as the profits are declared as coming from overseas, the company is not subject to taxation in Hong Kong. This system is based on the notion that taxes are earned by a government that provides you services. If a company does not make use of the Hong Kong services to raise profits, the government will ask no taxes. For instance, a trading company sets up a Hong Kong corporation to source goods from EU and then sell them to markets in China. If the Hong Kong company merely facilitates the transaction between two other countries, it’s not taxed. Merely “facilitating” means, for example, getting invoiced by and sending invoices to the EU and China. Hong Kong companies are only subjected to profits tax if profits are derived from Hong Kong at the rate of 16.5% of the net profits. Only “Private Company Limited by Shares” incorporated in Hong Kong can benefit from the attractive tax regime.

According to the local legislation, there is no need to reside or rent an office in Hong Kong, nor to employ staff, in order to open a Private Company. Therefore, a diffused practice between the companies is to have no physical offices and employees. Instead, they rely on agents providing incorporation services, such as the legal Hong Kong Company Secretary & Office registered address parking, which is compulsory by law. In addition, it is also necessary to open a bank account in one of the national banks
of the former British colony. The price surcharged by these agents to carry on all the bureaucratic procedures as well as the paperwork could have a substantial impact especially on the smaller entities, like a SME.

However, opening a company in Hong Kong is only half of the job. Indeed, there is still all the practical side of the business to be performed. Carrying out business operations, setting up factories and warehouses in Hong Kong could be particularly difficult, since the limited space available lead to high land cost. Therefore, at the up mentioned costs, it should be added also the one to open a Trade Company in the mainland plus the cost of obtaining the Import License, required by law in order to feature the company as the importer.

In the end, setting up such an enterprise structure could be extremely expensive for a SME. Also the complexity when dealing with all the different legislations, intermediaries, and the level of control required, make this solution inconvenient. In this sense, choosing Shanghai as the main entry point is more convenient, less expensive and complex, and therefore preferable also from a fiscal, legal as well as cost perspective.

6.4 The role of the INCOTERMS

In the last years, practitioners are more frequently underlying the importance of using the correct term of trade when engaging in the international trade (Goetschalckx et al., 2002, David and Stewart, 2010, Malfliet, 2011, Blanco and Ponce Cueto, 2015). Recently, the work of Marchet et al., 2016 shed light on the relevance of this factor as a key variable defining a MNC international logistics strategy. However, the point of view of a SME was not fully considered before. Only Malfliet, 2011, partially addressed the issue claiming that Small and beginning exporters often prefer that the buyer organizes transport.

Even if the empirical evidences coming from the research confirmed that also SMEs move from one stage of internationalization to the next one because they look for a better control over the distribution channels, thus having the possibility to directly manage the marketing of its products – and stay as close as possible to their final customers – so that potential market opportunities and threats can be rapidly understood, the modalities in which they pursue this transition is different compared to the findings of Marchet et al., 2016. Indeed, in the latter research, it is claimed that the MNCs adopt different Incotermes to modify the management of transport and logistics processes. Instead, in this study, it seems that SMEs prefer mainly to adapt the relationships with LSPs to the desired level of control on the distribution channels, therefore neglecting the adopted Incotermes. In fact, as it came out from the
direct interviews, and in accordance with Malfliet, 2011, the main adopted term of trade is Ex Works (EXW).

When interviewed companies were asked the reasons behind this choice, they mostly referred to the convenience of using such term of trade. More specifically, the SMEs positioned in the lower-left part of the graph (i.e. independent intermediaries and one-stop-shop) prefer EXW because of the use of the type of transaction carried on with the customer. Indeed, they do business with distributors, trade companies, and wholesalers characterized by a higher level of experienced and solid relationships with LSP. In addition, a company who makes use of such intermediaries is characterized by a low level of knowledge of the market and the actors involved. Altogether, these reasons are pushing toward the selection of a simple, from the seller perspective, term of trade like EXW.

Ex Works, together with Cost, Insurance and Freight (CIF), is also used by companies positioned in the upper-right part of the model as a way to facilitate the trade between local branch and central headquarter. Indeed, it seems that the higher level of knowledge of the local branch pushes the headquarter to delegate all the aspect of the transportation to the former. CIF is formally used to simplify the Duties and VAT at the customs, since the CIF price is used as the base from which these taxes are calculate. However, also in this case, the local branch is in charge of looking after the shipment.

In summary, the interviewed companies see the term of trade choice more as a method to mitigate the complexity of doing business at an international level than to enhance their control on the logistics flow. This is in line with the tendency of a resource constrained SME to focus on other parts of the business and outsource not-core activities (Fujita, 1995; Coviello and McAuley, 1999; Knight, 2000; Hollenstein, 2005). In view of the above, two trends can be identified within the companies currently engaging the Chinese market; the first concerns about the homogeneity of the selected term of trade, related to the willingness of the SMEs to decrease the overall complexity of the business. The second highlights the diffused practice of using the relationships with logistics service providers as control lever on the logistics flows.

Therefore, it is advisable for a SME entering the Chinese market, to focus more on fine tuning the relationships with LSP, gaining knowledge of the involved actors and bound strong relationships with them. If this activity is effectively carried on, the choice of the INCOTERM becomes a secondary choice and a trade-off between the pros and cons should be pursued: as long as the selected term of trade does not increase the complexity of the business, then it represent a viable solution.
7 Conclusion, Limitations and Further Research

The research originated from the analysis and merge of two parallel stream. The first was related to the review of the academic literature concerning the SMEs internationalization strategies, especially from a logistics perspective. Except few independent reports (e.g. WTO), most of the articles and papers treated the argument from MNC point of view. The second stream concerned the analysis of the flow of goods between Europe and China; especially during the recent years, it was possible to assist to the rise of the European export towards P.R.C.

Therefore, the EU SMEs can take advantage of the growth opportunity that this new market can bring.

However, the Chinese market is far away from Europe, both from a geographical and cultural perspective, and most of the strategical models do not cover the specific needs and limitations of this type of companies. Indeed, it was fundamental to improve the practicality of the model, through the operationalization of the suggested strategies. The imports of food and beverage in the Chinese market from Europe was considered relevant enough to justify a separated treatment and a good context where to investigate the operative implications of the entry strategies for the SMEs.

This research provides four main contributions. The first is meant to the SMEs that want to engage in the Chinese F&B market. In fact, the research does not only provide a detailed operative point of view, through the operationalization of the strategies in a real and relevant context, but also it gives practical and operative advices, aimed at simplifying the market entry and avoiding poor choices.

The second contribution is directed to the existing research. By incorporating some classic elements of the Uppsala Model with a more recent research from Marchet et al. (2016), it was possible to design a model where the internationalization phases are operationalized into viable configurations. The latter were further linked to the relationships to maintain with LSP. Besides the other variables identified by Marchet et al. (2016), the case studies highlighted this as an enabler for the internationalization of a SME. This does not imply that the other variables are considered not important. In fact, due to the specific focus of the research, there were empirical evidences to conclude that only the relationship with LSP is strictly related with the internalization phase. The logistic network design, along with the inventory planning centralization level, transport planning, and the level of control on logistics flows, were homogeneous between the interviewed companies, and therefore they do not constitute a differential factor. For instance, due to the specific product typology on which the thesis focused on, the suggested logistic network design was the same along the phases.
The third contribution is the proposal of a tentative framework explaining the decision process behind the choice of the best logistics configuration. In this sense, this input could be the base for future researches. Companies will benefit from a structured procedure to follow when setting up a logistics configuration while engaging a new market. Moreover, in a fast-paced environment where information overload could be really making smaller companies struggling in making the best decision, this will help to identify what is important in the decision process, so to prioritize correctly and create an action plan.

The fourth and last relevant contribution is the operative advices discovered during the research. They add a solid base coming from the field that companies could use to enhance their knowledge and speed-up the process of engaging a new foreign market. This is in line to the purpose of the study of providing not only broad strategical model but also to operationalize it into practical issues that concern the decision making of SMEs.

The research was structured in a linear way, following the answers of the 3 main research questions.

The RQ1 focused on finding empirical evidences to validate the applicability of the Uppsala Model also for SMEs internationalization, as assumed at the beginning. Indeed, in accordance with the theory, the knowledge played a fundamental role during the selection of the configuration and its evolution over time. Through the analysis of the case studies, it was possible to identify a revised version of the model, that better fit the specific scope of this thesis.

Afterwards, the relationship with the LSP was deeply investigated. Even though Marchet et al. (2016) in the paper did not find enough evidences to infer clearly the importance of this variable during the internationalization of MNCs, it was assumed that for SMEs it should be a differential factor and a key point when expanding in a foreign country. Historically resource constrained, they do not have the necessary capabilities to implement an in-house logistics, and therefore they have to rely on the market to obtain such services. Therefore, RQ2 aimed at investigating the relevance of this variable and its impact on the internationalization phases highlighted in RQ1. Indeed, it was possible to develop a matrix model where the relationship with LSP and the revised internationalization phases/configurations were linked together and ordered based on the knowledge level required to effectively pursue the strategy. Once again, according to the Uppsala model, the knowledge is both enhanced by and an enabler of the selected strategy, and therefore it is suggested to pursue a consistent choice between the couple “internationalization phase” and “type of relationship with LSP”: the consistency zone is highlighted in the matrix.

By investigating the peculiarities of the Chinese F&B market along with regulations, laws, and best practices, the RQ3 provides operative advices to the SMEs that want to engage in this country. Indeed, during the research phase, experienced freight forwarders and law consultants were contacted to gain
insights, since the lack of information from the literature. The interviews with the companies, not only provided the base for the case studies, but also helped to complete the knowledge of the best practices and commonalities. Altogether, the information was collected and formalized in practical advices that complemented the matrix model coming from RQ1 and RQ2.

The study is subject to a number of limitations. First, even if the evidences and the result of the research were further confirmed by freight forwarders, traders, importers, distributors, and interviewed companies, giving a solid enough base, the direct sample is relatively small. Moreover, the direct sample involved only Italian and Dutch companies, whereas the European scope of the research is enabled by the indirect interviews. Therefore, future researches could focus on using a different methodology, more quantitative, in exploring the applicability of the model on a larger sample of companies.

Secondly, the result of the thesis is strictly bounded with and dependent on the design choice of focusing on a specific context. At the same time, this is a strong point but also a weak one since it prevents the generalizability of the results. Thus, further researches could focus on assessing the goodness of the model when SMEs engage in different target markets, whereas it would be a different country and/or exporting other product types.

Related to the latter research direction, it can be investigate whether the relationship with LSP is relevant also in the internationalization process of SMEs in other countries. Moreover, it would be interesting assessing if the factors considered not differential in this research (i.e. the logistic network design, the inventory planning centralization level, transport planning, and the level of control on logistics flows) are relevant in other contexts, and to what degree they impact on the internationalization phase as well as the matrix model.

Following the direction pursued by Straube et al. (2009), SMEs from other countries could be involved in the future researches, and the result compared to find similarities and differences for the internationalization process of SMEs. Moreover, also the reasons behind the deviations should be investigated.
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