Mapping the value chain of imported shellfish in China

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Abstract

This study explores the value chain structure and chain activities of the imported shellfish industry in China. Data were collected from face-to-face semi-structured interviews in Guangzhou (n=30) and Shanghai (n=23) and a face-to-face survey in Shanghai (n=71). Data analysis employed both content and descriptive analyses. Results show that the value chain is composed of several important members including foreign exporters, Chinese importers, wholesalers, resellers and clearance companies. Business partnership is the main channel by which marketing information is gained by chain members. Relationships are quite stable among the chain members, with *quality*, *price* and *credit items* being the most important factors that influence chain relationships. It seems that imported shellfish from some developed countries (e.g. Canadian and U.S. lobsters) have reached a market saturation in China's first-tier cities (e.g. Guangzhou and Shanghai) and relevant chain members face fierce competition. E-commerce is still not mature enough as a tool for the marketing development of imported shellfish in China.

Keywords: imported shellfish; aquatic product; seafood; China; value chain; e-commerce.

1. Introduction

The rapid economic growth of Asia, which is primarily due to large population size, is transforming the global food industry [1]. China is one of the more important emerging markets in Asia, and its growing middle-class consumer segment is resulting in an increase in demand for seafood [2–5]. The higher risk of microbial contamination in shellfish relative to non-shellfish aquatic products, a number of seafood safety incidents caused by coastal contamination, and a tradition of luxury seafood consumption have led to a tremendous growth in demand for imported high-value shellfish (i.e. Canadian and U.S. lobsters) [2–7]. The emerging demand for imported shellfish in China can help to diversify global shellfish export destinations from saturated developed countries to this huge and emerging market [4]. A need exists for global shellfish exporters and policy-makers to comprehensively understand the value chain structure for imported shellfish in China in order to develop effective and suitable marketing strategies and policies for this huge emerging market. However, there are different value chain structures for aquatic product industries between China and developed country markets (i.e. the USA) [8], and to our knowledge, there is no study that assesses the value chain structure and chain activities of the imported shellfish industry in China.

The concept of a value chain can be defined as a number of activities that firms operating in a specific industry perform in order to provide a product/service for the market [9]. Firms in value chains are vertically and horizontally networked, and exhibit shared perspectives and strategy, mutual esteem, leadership, well-matched culture, teamwork, commitment, a "win-win" orientation, and positive attitudes to building a business system with aims at sustaining solid relationships and providing value for final consumers [10, 11]. A typical shellfish value chain often includes members such as harvesters (fisherman), traders, importers, distributors, food service sectors and other players [12]. Chain structures may be different between domestic and imported shellfish value chains (e.g. no harvester for the imported chain) and between developed and developing shellfish value chains (e.g. with a stronger regulatory ability for resources and finance in the developed country chains) [3, 12].

Value chain analysis focuses on recognizing chain activities (related to material flows, information flow and chain member relationships) in order to modify the chain structure and ensure the chain possesses the following characteristics: *1) Customers and consumers orientation; 2) Value creation, allocation, recognition and protection; 3) Obtaining right product each time; 4) Having effective and efficient logistics; 5) Having effective information and communications; 6) Shaping and sustaining effective relationships* [10, 13, 14]. Although previous studies provide knowledge regarding the acquatic product industry in China, there are still no empirical studies that map the value chain and understand detailed chain activites for the imported shellfish industry in China – the largest fishery product market in the world [3, 4, 5, 15].

This study focuses on this unexplored area, namely the value chain mapping of imported shellfish in China. Face-to-face interviews and surveys are conducted with the chain members to map the value chain and chain activities for the imported shellfish industry in China.

2. Data sources and research design

An earlier expert panel (including Canadian stakeholders in shellfish export to the Chinese market in August and October of 2016) commented that first-tier cities (e.g. Beijing, Shanghai, Guangzhou and Shenzhen) had stronger consumption power for imported shellfish than lower-tiered cities in China and should be a focus of study. As such, this study focused on the first-tier cities in China. The information required for this study was obtained through face-to-face semi-structured interviews in two Chinese first-tier cities: Guangzhou and Shanghai during February 2017 and a face-to-face survey in Shanghai during December 2017 (see Table 1 for more sample details).

Shanghai is an eastern city and an international metropolis of China, with a population of 23 million and an annual average personal income of $USD 7864 [16]. Guangzhou is a southern Chinese city and the provincial capital of Guangdong province, with a population of 14.04 million and an annual average personal income of $USD 7376 in 2016 [16]. Traditionally, local dishes often contain seafood in these two cities, e.g. fresh-water crab in Shanghai and a variety of seafood in Guangzhou [17].

>>>>> Insert Table 1

Regarding the face-to-face semi-structured interview, a discussion guide was developed to understand interviewees' daily business activities and requirements related to imported shellfish (e.g. species, country of origin, e-commerce, suppliers and buyers). The interviews were audio- or text-recorded in Chinese. An interview transcript was created from 165 minutes of audio-recordings and 24 text-notes (for those interviewees who refused audio recording). These files were coded into an Excel file (in English) and content analysis was performed on the data.

Based on the qualitative research findings from the semi-structured interview and from previous literature [10, 18], a questionnaire was developed for the face-to-face survey in Shanghai to quantitatively understand interviewees' chain activities related to material flows, information and communication flows, and relationships with other chain members. Each survey took 10 to 20 minutes. Descriptive analyses (e.g. mean value and percentage) were employed for data analysis.

3. Results and discussion

3.1 Value Chain map and material flow

Figure 1 shows the value chain map of imported shellfish in China based on the findings of the face-to-face semi-structured interviews. There are many organizations involved in the value chain, including foreign exporters, Chinese importers, wholesalers, resellers and clearance companies. While this study did not collect data from upstream foreign chain members (e.g. harvesters or exporters) and final consumers. However, information on those chain members can be obtained from previous studies [2, 4, 5, 10, 12].

>>>>> Insert Figure 1

Chinese importers find international shellfish resources and purchase them from foreign exporters. Regarding fresh-frozen and frozen shellfish, the species and their original countries have to appear on a list edited by the Chinese government; otherwise, the shellfish products cannot be legally imported. Foreign exporters have to be registered in China to export aquatic products. Foreign exporters have to provide proof of place of origin for wild shellfish, and farmed shellfish has to pass food safety standards. For example, refrigeration, and hygiene conditions in foreign exporters' warehouses have to reach the standards required by the Chinese government. Further, Chinese importers have to apply for a license and quarantine permit from the local Commodity Inspection and Testing Bureau (in Guangzhou and Shanghai). Regarding live shellfish, the license includes an annual quota amount for the Chinese importer. When a Chinese importer doesn’t use their quota in one year, it is difficult for that importer to obtain a new quota in the following year. Live shellfish are transported to these two cities by air with ice. A small amount of frozen or fresh-frozen shellfish is also delivered to the two cities by air, while the majority is transported to China by boat (with cold chain transport).

Clearance companies provide services to assist imported shellfish into China such as: 1) faster customs clearances; 2) introducing qualified logistic companies to Chinese importers, and/or arranging the transportation of imported shellfish inside China to locations required by the Chinese importers; 3) helping Chinese importers and foreign exporters (who have no qualification, import quota and are not registered by the Chinese government) to borrow certification and an import quota from other Chinese importers and foreign exporters. Further, some clearance companies directly import shellfish, so they also play a role as Chinese importers.

Chinese importers sell most of their shellfish to wholesalers in aquatic/seafood markets. Shellfish are delivered to the aquatic markets or are picked up by the wholesalers at airports or harbors. The two cities both have large aquatic markets, such as the Huang Sha market in Guangzhou and the Jiang Yang market in Shanghai, where wholesalers are the main suppliers of shellfish to local restaurants and other retailers. Some importers also have shops in the aquatic markets of the two cities and play roles as both importers and wholesalers. China has more than 30 large aquatic markets located in large and/or coastal cities. These aquatic markets handle the bulk of imported shellfish and are the most important suppliers for shellfish consumption both in those cities and surrounding cities. Therefore, foreign shellfish exporters and marketers should try to better understand these aquatic markets in order to find potential markets and diversify their export destinations in China.

Wholesalers or importers in the aquatic markets sell most of their shellfish products to local restaurants. Some of them sell a small amount of shellfish (with lower quality compared to those sent to restaurants) directly to consumers who visit the markets. Furthermore, they also sell their shellfish to resellers, especially for frozen products. There are two kinds of resellers: local resellers and resellers from other cities around Shanghai and Guangzhou. The local resellers have good networks with local restaurants and often have their own cold stores and tend to purchase a large amount of frozen shellfish from the wholesalers and importers. The resellers from other cities purchase shellfish from wholesalers and importers in Shanghai and Guangzhou and sell the shellfish to the local markets in their own cities (e.g. Hangzhou and Wuxi cities around Shanghai, and Dongguan and Foshan cities around Guangzhou).

The findings from the face-to-face survey confirm this chain structure (by multiple choice questions that aim to recognize the business types of participants' downstream and upstream partners). Participants mainly purchase their imported shellfish from importers or foreign exporters (77.5% of the total sample). They also purchase imported shellfish from the wholesalers located in their domestic aquatic markets (54.9% of the total sample). A small share of them (8.5% of the total sample) purchase imported shellfish from clearance companies.

Most of participants in the survey (above 70% of the total sample) sell imported shellfish to the local food service industry (e.g. hotels and restaurants) and the wholesalers located in their aquatic markets. They also sell imported shellfish to resellers (local and from other regions), consumers and retailers. On average, participants indicate that above 70% of their imported shellfish is sold to the food service industry by themselves and their downstream partners (e.g. resellers). This is in line with the previous findings that Chinese consumers mainly consume shellfish in food service sectors, rather than their homes, as they consider shellfish dishes as a premium choice when establishing networks with important people and to elevate their face-consciousness [2, 4, 5].

3.2 Price and profit

The price of live shellfish, especially high-value shellfish such as lobster and king crab, fluctuates rapidly. Frozen shellfish generally has a transparent price, and the price can be easily obtained through China's online Business to Business (B2B) platforms.

Chinese importers and restaurants have a high profit margin on imported shellfish, while wholesalers generally have a low profit margin for that product. Wholesalers often use a strategy of large sale and low price for frozen shellfish, and make small profits but with a quick turnover. The prices of frozen shellfish from wholesalers are also forced down by local resellers who have large frozen storage facilities and long-term relationships with local restaurants and subsequently control the direct channels of shellfish supplies for restaurants.

3.3 Physical requirements of shellfish

Restaurant managers and wholesalers discuss that *freshness* and *good-meat-texture* are the major reasons for them to purchase shellfish products. Furthermore, some restaurant managers mention that *good value for money* is an important factor for their shellfish purchase, as their current businesses are not as prosperous as in previous years. The purchase of some shellfish species also depends on the production season. For example, oyster can only be on the menus of restaurants for one or two months when it is in season. In general, interviewees agree that the most important influencing factor for their shellfish selection is consumer preference. Consumers have different preferences in different regions. For example, Australian, Vietnamese and Indonesian lobsters are more popular than North American 'Boston' lobster in Guangzhou, because local consumers dislike the meat texture of Boston lobster. Also, when sitting around a table for dinner or lunch as a group in Shanghai, consumers require a larger lobster (750g to 1250g) to share, while those in Zhejiang province need smaller lobsters (400g to 600g) for each person.

3.4 Peak season and timing for supply

Restaurant managers and wholesalers agree that the peak seasons of shellfish consumption are during Chinese festivals (especially during Chinese New Year). They also consider summer as a peak season for shellfish consumption in China with at least double the number of sales than during other seasons.

The timing of supply required by restaurants is from ‘per day’ to ‘per weeks’, depending on different shellfish species, consumption volume and production form. Restaurants often require a supply timing of ‘per day’ for live shellfish such as lobster and king crab in order to guarantee the freshness of shellfish in restaurant dishes. They require a supply timing of ‘per week’ for frozen shellfish, because they often have freezer storage facilities to keep them in. The wholesalers in Huangsha market and Jiangyang market businesses are open 24 hours per day and they will receive live shellfish from the airport at any time of the day if it is arriving from Chinese importers. Some large Chinese importers also deliver their shellfish, such as Vietnamese shrimp, to wholesalers in the markets on a daily basis.

3.5 Countries-of-origin of imported shellfish

The face-to-face semi-structured interviews recognize that countries around the world are selling their shellfish and competing with domestic shellfish (e.g. farmed scallop from Dalian city) in the Chinese market. As such, global shellfish exporters face stiff competition in this huge market.

Figure 2 shows the results of a multiple-choice question from the Shanghai face-to-face survey that aims to understand country of origin (COO) of imported shellfish in participants' businesses. Half of the total participants sell Canadian shellfish, meanwhile over 40% of the participants sell U.S. shellfish, while a significantly lower percentage of the participants report business dealings with other COOs for shellfish (under 26% of the total participants). It seems that North American shellfish products have had a much better market penetration than shellfish products with other COOs in Shanghai. Some participants mention that U.S. and Canadian shellfish products, lobster in particular, are more popular in Shanghai and its neighboring cities than other Chinese regions (e.g. Guangzhou).

In addition, around 60% of the total participants indicate that they prefer to purchase shellfish from both developed and developing countries. Some of the participants also mention that there is a smaller profit margin for shellfish from developed countries (e.g. Canada and the U.S.) than that from developing countries (e.g. India and Vietnam) due to the more mature and saturated market for developed country shellfish than that for developing country shellfish.

>>>>> Insert Figure 2

3.6 Imported shellfish species

The face-to-face semi-structured interviews reveal that a great deal of imported shellfish species appear in the markets of Shanghai and Guangzhou, including lobster, king crab, shrimp, sea crab, snow crab, scallop, mussels, clam, oyster and so on. These imported shellfish species have to compete with local shellfish species (e.g. fresh water crab, mantis shrimp, oyster, scallop and sea crab) for market shares in China.

Figure 3 displays the results of a multiple-choice question from the Shanghai face-to-face survey that aims to understand which imported shellfish species comprise the participants' businesses. Lobster and shrimp/prawn are most common shellfish species in the business. This corresponds with the previous findings that Chinese consumers have stronger positive attitudes toward lobster and shrimp/prawn than that for other shellfish species [4]. As such, there are more wholesalers and importers that want to seize this huge potential market demand for lobster and shrimp/prawn in China in comparison with that for other imported shellfish species.

>>>>> Insert Figure 3

3.7 Information and communication flows

Figure 4 highlights the results of a multiple-choice question from the face-to-face survey that aims to understand the channels often used by participants in order to obtain marketing information including demand, availability, price and customers' requirements in terms of product attributes and service levels. Business partners dominate the information and communication channels; they are chosen as main channel to gain marketing information from over 90% of participants. Furthermore, about 18% of the total sample report gaining marketing information through social networks and the Internet. None of the other channels were selected by over 6% of participants. In addition, around 45% of the interviewees report that they can always obtain enough marketing information regarding imported shellfish, while the other participants indicate that they are not sure, or that they cannot gain enough marketing information.

Therefore, methods should be improved for Chinese shellfish importers/wholesalers to obtain marketing information in order to let them have an exact and timely understanding of marketing situations for the imported shellfish products they are doing business with. To fulfill this purpose, some efforts can be recommended i.e. foreign shellfish exporters and policy-makers could use Chinese Internet and social networks (e.g. WeChat) to provide more marketing information to shellfish import chain members (e.g. importers and wholesalers) in China.

>>>>> Insert Figure 4

3.8 Relationships among chain members

Regarding the face-to-face survey, participants on average have collaborated with their most important suppliers for 7 years and with their most important customers for 6 years. Around 60% of the participants do not sign business contracts with their suppliers and customers. Over 50% of the participants indicate that they always make business with the same customers and/or suppliers. Furthermore, 77% of the participants admit that their businesses are very familiar to their customers and 66% of them also admit this for their suppliers. In addition, over 90% of the participants indicate that they do not often have hygiene or safety problems with their customers and suppliers. They mention that there are rigorous checks and tests by China's customhouse and aquatic market governance so that imported shellfish with safety or hygiene problems are not allowed to enter China or aquatic markets in Shanghai. Over 70% of participants report to have no problem regarding other issues with their customers and suppliers. Therefore, it seems that relationships among chain members are quite stable as they make business dealings with the same suppliers and customers over a long period of time and deeply understand each other's businesses.

Figure 5 shows the results of two multiple-choice questions from the face-to-face survey, used to understand important factors influencing participants' relationships with their main suppliers and customers. Quality, price and credit items (e.g. on time delivery or payment) are recognized as the most important influencing factors for both the suppliers and customers. Therefore, foreign shellfish exporters and policy-makers might improve their relationships with Chinese importers and wholesalers through making relevant marketing promotions and policies related to these important marketing factors i.e. price (e.g. reasonable and acceptable), credit items (e.g. transportation on time) and quality (e.g. a low mortality rate or a high level of freshness).

In particular, quality-related promotions and policies, such as creating quality standards for shellfish based on Chinese market demand, should take precedence. This is the case as the majority of quality-assurance activities, such as adhering to strict standards for purchasing, storing and cooking shellfish to ensure the highest quality of shellfish dishes for consumers, are shouldered by value chain members rather than final consumers in China [4]. *Freshness* is the most important quality attribute for shellfish as perceived by Chinese people due to its important role in enhancing the favored umami taste for shellfish dishes [4, 5]. As such, foreign shellfish exporters and marketers should develop marketing strategies and policies that ensure a high level of freshness for their shellfish products delivered to the Chinese market. Furthermore, *mood-enhancement*, such as making consumers have a good mood or a feeling of relaxation, and *ethics-friendly*, such as environmental friendly or supportive of sustainability, are two other quality attributes for shellfish as perceived by Chinese people due to their needs for face-consciousness and gradually increased ethical concerns toward shellfish production [4, 5]. In that perspective, relevant marketing promotions and policies are recommended i.e. selecting suitable shellfish products to meet face-consciousness needs and developing eco-friendly labels applied to the Chinese market.

>>>>> Insert Figure 5

3.9 Competition and future prospects

Regarding the face-to-face interviews, around 55% of the total participants indicate that they feel motivated by the future prospects for their businesses as part of the imported shellfish industry, while the rest of the participants are not sure or do not feel motivated in this regard. Besides, over 70% of the total participants indicate that they face fierce competition in the imported shellfish business. It seems that participants are not fully confident in the future of the imported shellfish industry due to the fierce competition.

This is in line with the qualitative findings of the face-to-face semi-structured interview. Some restaurant-managers and wholesalers indicate worse business conditions compared to previous years due to the Chinese government policy towards anti-corruption. It is harder to find people who eat luxury shellfish than before and therefore they require shellfish products with higher value for money. Furthermore, some wholesalers in the interview also indicate the serious market saturation for some imported shellfish species in Shanghai and Guangzhou i.e. Australian, Canadian and Boston lobsters, snow crab and Dungeness crab in the market.

Therefore, it might not be a wise choice for foreign exporters and policy-makers to continually work on enlarging market shares for their shellfish species and products with serious market saturation in first-tier cities (e.g. Shanghai and Guangzhou). Instead, they might seek to expend the market share of these shellfish species and products in other tiered cities (e.g. second- and third-tier cities) to diversify their export destinations for potential profit growth in China. Furthermore, foreign exporters and policy-makers should develop and promote shellfish species and products that meet the new market demand in China i.e. good value for money.

3.10 E-commerce for imported shellfish

There has been a dramatic increase in e-commerce for aquatic products in China recently [4, 5]. However, the findings from this study indicate that e-commerce has still a long way to go for imported shellfish in China. Participants in the face-to-face survey report a small share (less than 10%) of e-commerce (B2B and B2C) in their current imported shellfish business, although they expect to enlarge the share to 40% in the future if the e-commerce environment changes and provides better conditions for imported shellfish. Currently, they face a number of problems in this regard, such as high mortality when shellfish reaches consumers' homes and the credit issues in the volume and quality of shellfish purchased from B2B platforms. Meanwhile some restaurant managers in the face-to-face semi-structured interview mention that there is a risk in directly purchasing live shellfish from online B2B platforms as they cannot know the quality of the boxed shellfish before delivery, which is different from buying live shellfish from the tanks of wholesalers in aquatic markets as they can clearly see the condition of live shellfish. These findings are line with the fact that online shopping is not a favorite choice for aquatic products by consumers with a small market share (less than 5%) for aquatic product consumption in China [2, 4].

Therefore, foreign exporters and policy-makers should not put a great deal of emphasis on B2B and B2C platforms for their shellfish products in China, though that may become a better choice in the future when the e-commerce environment is mature enough for shellfish business. Instead, O2O (online to offline) might be a more suitable e-commerce type for imported shellfish in the current Chinese market, where consumers order and make payment online and physically consume shellfish products offline, i.e. the Fresh Hema Stores recently opened by the Chinese e-commerce giant, Alibaba [19].

3.11 Limitations

This study does have some limitations. Firstly, it does not focus on a whole-of-chain perspective as data was not collected from upstream foreign chain members (e.g. harvesters or exporters) and final consumers. However, information related to consumer behavior and upstream chain activities in shellfish industry can be obtained from previous studies [2, 4, 5, 10, 12]. Secondly, the design of the face-to-face survey was developed from a previous study [18]. This may be a methodological limitation. However, the survey design was used as it allowed us to rapidly recognize chain members' activities related to material flows, information and communication flows, and relationships with other chain members. Thirdly, this study only focused on product attributes related to Chinese consumers' quality perceptions for shellfish, for example freshness, ethics-friendly and mood-enhancement, as quality was the most important influencing factor for value chain members' relationships with both suppliers and customers. Regarding other important product attributes that drive Chinese consumers' choice behaviors for shellfish, please refer to previous consumer studies [2, 4, 5]. It is recommended that future studies focus on the fields of shellfish consumer behavior in China, such as understanding different consumer segments' decisions for imported shellfish consumption in China, as providing or creating values for final consumers is an important task for chain members in a value chain [10, 11].

4. Conclusion

The demand for imported high-value shellfish has been growing dramatically in China – the largest aquatic product market in the world. This presents a great opportunity for global shellfish exporters and policy-marketers to diversify global shellfish export destinations from saturated markets in developed countries to a huge and emerging market. By using face-to-face interviews and surveys, this is the first empirical study to explore the value chain structure and chain activities of the imported shellfish industry in China. The value chain is composed of several important members including foreign exporters, Chinese importers, wholesalers, resellers and clearance companies. Business partners are the main channels through which chain members gain marketing information. Relationships are quite stable among the chain members, with *quality*, *price* and *credit items* being the most important factors that influence chain relationships. It seems that imported shellfish from some developed countries (e.g. Canadian and U.S. lobsters) have reached market saturation in China's first-tier cities (e.g. Guangzhou and Shanghai) and relevant chain members face fierce competition. E-commerce is still not mature enough as a tool for the marketing development. The first-hand findings in this study provide valuable inputs for global shellfish exporters and policy-makers to better understand the value chain and its chain activities for imported shellfish in China in order to develop effective marketing strategies and policies for their shellfish products in this huge emerging market.

Acknowledgement

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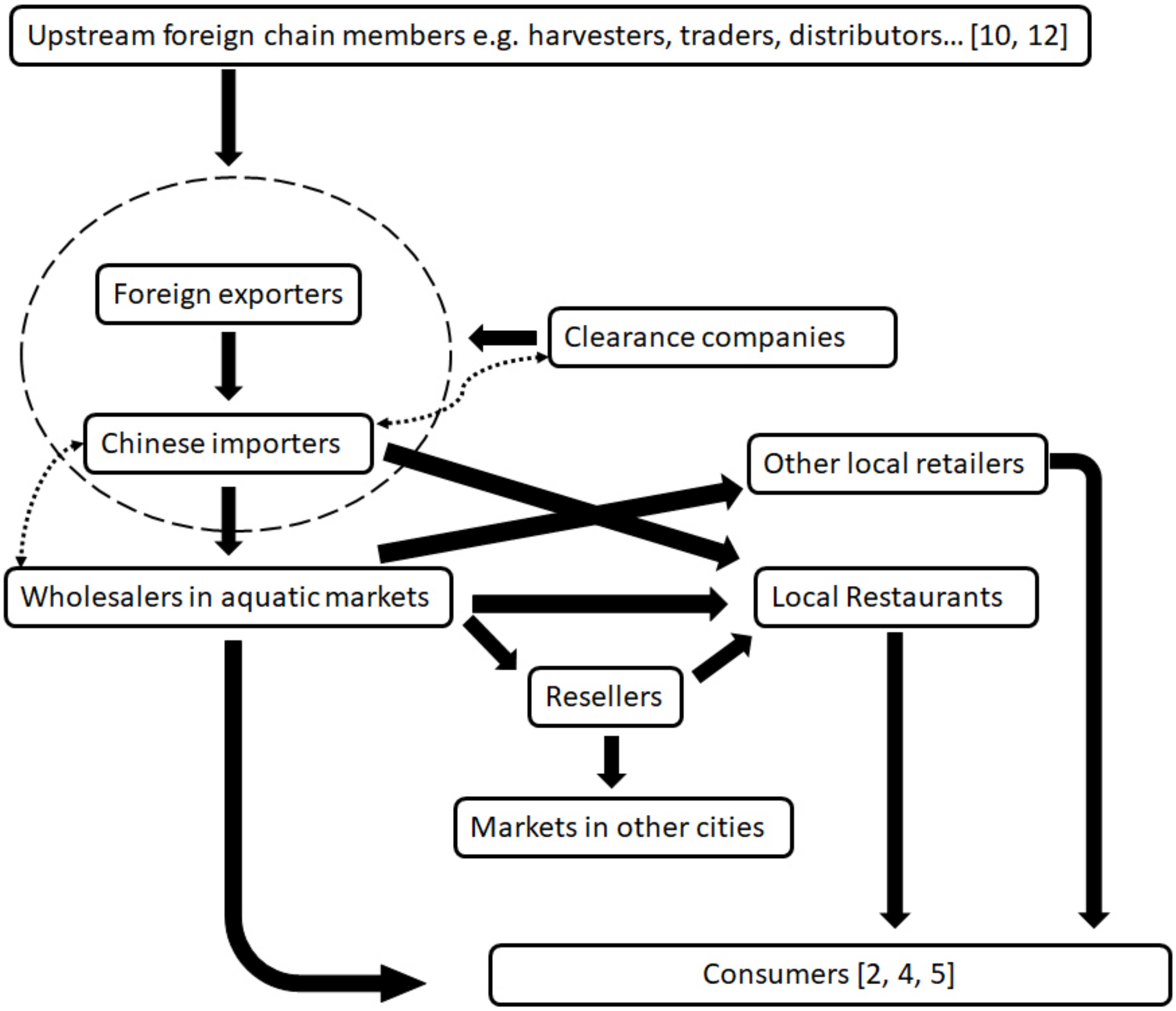
Upstream foreign chain members e.g. harvesters, traders, distributors... [10, 12]
Foreign exporters
Clearance companies
Chinese importers
Other local retailers
Wholesalers in aquatic markets
Local Restaurants
Resellers
Markets in other cities
Consumers [2, 4, 5]

Fig. 1.

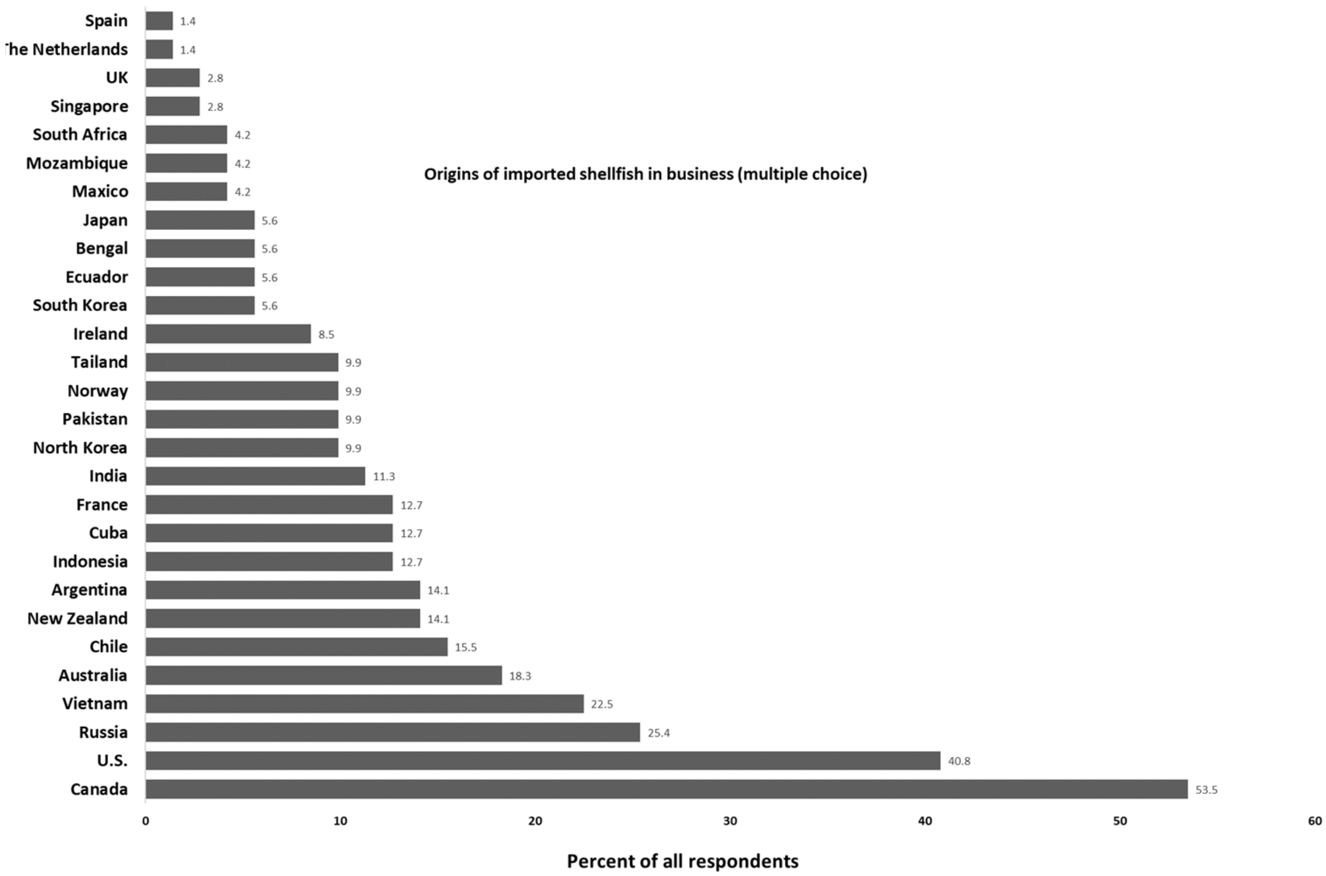
Origins of imported shellfish in business (multiple choice)
Spain 1.4
he Netherlands 1.4
UK 2.8
Singapore 2.8
South Africa 4.2
Mozambique 4.2
Maxico 4.2
Japan 5.6
Bengal 5.6
Ecuador 5.6
South Korea 5.6
Ireland 8.5
Tailand 9.9
Norway 9.9
Pakistan 9.9
North Korea 9.9
India 11.3
France 12.7
Cuba 12.7
Indonesia 12.7
Argentina 14.1
New Zealand 14.1
Chile 15.5
Australia 18.3
Vietnam 22.5
Russia 25.4
U.S. 40.8
Canada 53.5
0
10
20
30
40
50
60
Percent of all respondents

Fig. 2.

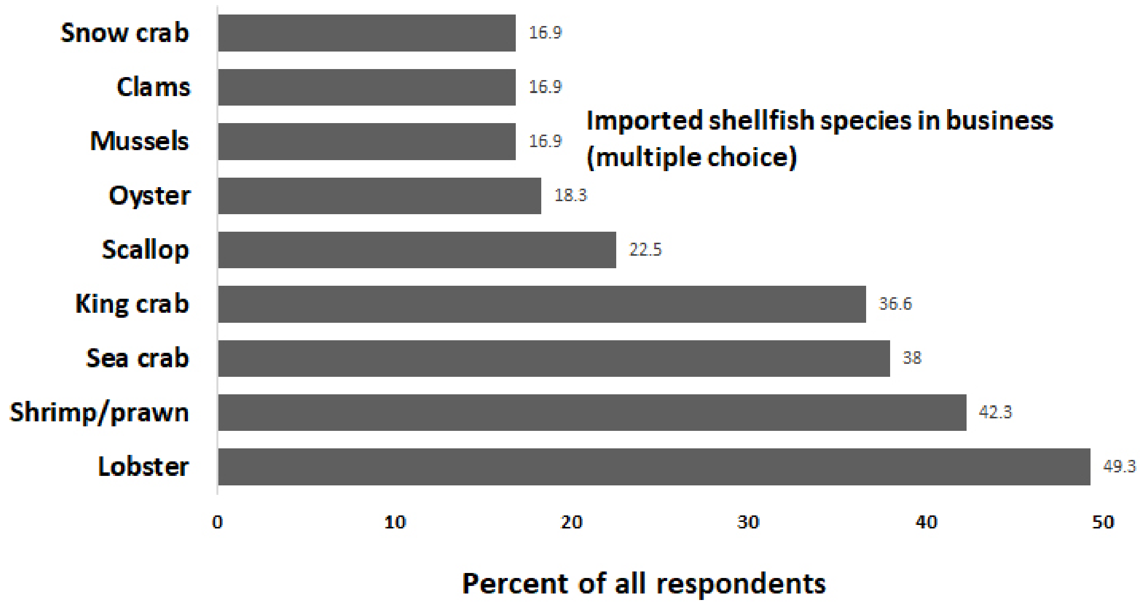
Imported shellfish species in business (multiple choice)
Snow crab
Clams
Mussels
Oyster
Scallop
King crab
Sea crab
Shrimp/prawn
Lobster
16.9
16.9
16.9
18.3
22.5
36.6
38
42.3
49.3
0
10
20
30
40
50
Percent of all respondents

Fig. 3

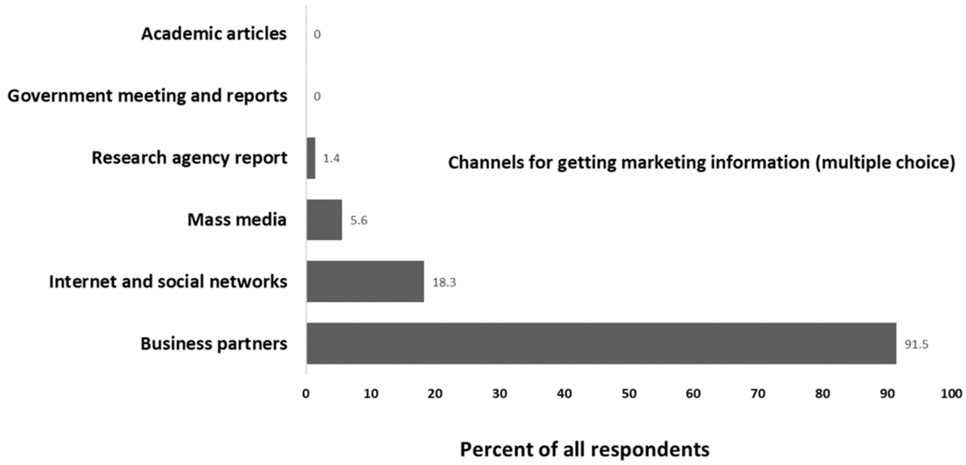
Academic articles
Government meeting and reports
Research agency report
Mass media
Internet and social networks
Business partners
0
0
1.4
5.6
18.3
91.5
Channels for getting marketing information (multiple choice)
0 10 20 30 40 50 60 70 80 90 100
Percent of all respondents

Fig. 4.


With main suppliers (multiple choice)
Lack of alternative suppliers
Strength of personal relationships
Long term prospects
Help and advices offered
Supply volume
Business security
Credit terms
Supply price
Quality
4.2
12.7
21.1
21.1
22.5
25.4
33.8
38
45.1
0
10
20
30
40
50
Percent of all respondents
With main customers (multiple choice)
Their lack of alternative suppliers
Strength of personal relationships
Customer loyalty
Help and advices we offer
Purchase volume
Purchase price
Credit terms
Quality
1.4
4.2
12.7
15.5
26.8
36.6
40.8
45.1
0
10
20
30
40
50
Percent of all respondents

Fig. 5.

Fig. 1. Value chain map of imported shellfish in China

Fig. 2. Country of origins for imported shellfish in participants’ businesses in the face-to-face survey

Fig. 3 Imported shellfish species in participants’ businesses in the face-to-face survey

Fig. 4. Channels for gaining marketing information in participants’ businesses in the face-to-face Survey

Fig. 5. Importance of influencing factors on relationships with main suppliers and customers as perceived by participants’ businesses in the face-to-face survey

Table 1
Sample details of the face-to-face interview and survey

Face-to-face semi-structured interview		
Business type	Guangzhou (n=30)	Shanghai (n=23)
Restaurant	8	9
Wholesaler	19	12
Clearance company	3	2
Face-to-face survey		
Business type		Shanghai (n=71)
Both wholesaler and importer		26
Only wholesaler		37
Only importer		8