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Innovation strategies and competitive forces to enter the European seafood market

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Acknowledgements

List of papers

Main papers

This thesis consists of four main papers:

Yusuf, M. and Trondsen, T. (2013). A market-oriented innovative quality framework for the investigation of competitive entry opportunities into new seafood markets for producers. *International Journal of Quality and Innovation*, Vol. 2 No. 2, pp. 175–192.

Ørebech, P. and Yusuf, M. 'Trade, not aid': How to conquer the EU market? Disguised trade barriers or exporter imperfections. *European Journal of International Law*, Submitted.

Yusuf, M., Xie, J. and Trondsen, T. Decision process for adoption of innovate products in the European seafood market: The importance of the supply and demand factors. *Journal of International Food & Agribusiness Marketing*, Accepted.

Yusuf, M. and Trondsen, T. Competitive forces and innovation strategies for entering new market: A study of Indonesian crab industries. *Journal of Agribusiness in Developing and Emerging Economies*, Submitted.

Additional papers

These are additional projects during my PhD study, not included in the thesis:

Yusuf, M. and Trondsen, T. (2013). Improving Indonesia's competitiveness: Innovation, value chains and cluster-bases for realizing the huge potential of marine and fisheries. *International Journal of Organizational Innovation*, Vol. 6 No. 1, pp. 128–136.

Yusuf, M. Innovations under the concept 'turning garbage into gold' in fisheries waste management. *Journal of Entrepreneurship, Management and Innovation*, Accepted.

Abstract

Aims – This thesis examines the capabilities of the Indonesian seafood export industry to enter the European market, which is the world's largest seafood importer. The aim is to offer a knowledge-based competitive marketing strategy which is analysed in four parts: Paper I: Competitive framework; Paper II: Legal barriers; Paper III: Demand for seafood trade innovation in Europe; Paper IV: The Indonesian supply advantage.

Focus of study – Fisheries has the potential to become a leading contributor to Indonesia's economic development. This case study examines empirically the export potential of the European (EU) market for Indonesian Blue Swimming Crab (BSC), which currently depends on the United States (US) market. The main research question is: What are the strengths and the potential barriers for introduction and export of Indonesian seafood like BSC into the European market? What are the key factors for improving the competitiveness and value chain effectiveness for Indonesian exporters entering the new European market?

Theory, methodology and findings – The main argument in this thesis is that success in the introduction of new products into the European market relies on market oriented strategic management. Market orientation is defined as an industry-wide generation of market intelligence pertaining to current and future customer needs, the dissemination of that intelligence across the value chain, and industry-wide capability to response to it (Kohli and Jaworski, 1990; Grunert et al., 2010). This thesis investigates the information relevant to market intelligence and analyses required to uncover competitive strategic opportunities and barriers to entering new markets with new seafood products.

A combination of secondary and primary data is used in the investigation and analyses. Secondary data was collected from literature, statistics and legal databases while primary data was collected by surveys of European seafood buyers and Indonesian seafood suppliers.

In paper I, a framework for the collection and analysis of intelligence is developed to identify opportunities and barriers in the introduction of innovative seafood products in markets by combining marketing theories from Rogers (2003), Barney (2002) and Porter (1980; 2008). Seven major categories important for developing market oriented value chain product advantages and market introduction advantages are identified; (1) trade barrier regulation, (2) supply-demand balance in the actual market (3) consumers' purchasing behaviour, (4) customers' value chain control, (5) pressure from the raw material suppliers, (6) competitive pressure within the value chain from; investment in innovation performance, market oriented infrastructure, rivals and new entrants, and (7) competitive pressure of substitute products. Intelligence as data of strategic value may be revealed by identification of the offered market values, market rareness, imitation protection and organizational capabilities (the VRIO model) and the factors influencing market adoption of new products (see Paper III below). Some of the seven categories presented in paper I were empirically studied in papers II, III and IV (Chapter 5), and supported the investigation of market trends (Chapter 6).

Paper II studies legal regulation and trade barriers based on the sociology of law. The main finding is that the legal trade barriers are not among the main problems that explain the previous downturn in Indonesian exports to the EU. Nevertheless, the

study indicates that Indonesia's surveillance and enforcement of its domestic laws is in need of improvement. The challenge for Indonesia is to improve the legal framework; a challenge that seems most easily addressed by a full harmonization of Indonesian food safety rules to the EU law and the establishment of an EU-Indonesia conformity assessment agreement. The finding emphasizes the importance of gathering information on the law regarding trade barriers early in the process of market entry.

Paper III analyses the importance of marketing-strategic intelligence combining product, price, promotion and place (the 4Ps) relative to the purchaser's process of decision-making for the adoption of new seafood products in the EU market: the relative advantage, compatibility with current industry conventions, complexity of use, trialability in the small scale and social observability (the 5 IDs). The findings showed significant interest in new seafood products in the studied distribution chains. Nevertheless, the adoption process for new products meets many hurdles have to be overcome. The findings show the importance of intelligence about the process of adoption of innovative products which goes through two decision stages: the decision takers focus, in the first stage, on 5 ID product properties, while in the second stage they focus on the relative advantages (value for money) in the product-price relationship. This finding is important for the stepwise design of the process of market intelligence collection and 4P strategies in the introduction of new products.

Paper IV studies the competitive strength of the Indonesian crab industry in light of the seven competitive factors presented in Paper I. The findings suggest that the Indonesian crab industry is able to supply first-class crab products. Nevertheless, its competitiveness is hampered by lack of investment in effective development of market orientated innovative products. The findings further disclose the industry's low capability of competitive rivalry and protection, both against domestic and foreign competitors. The industry has a need for orientation of the innovation in value chain and industrial strategies towards Europe as the target market based on up to date market intelligence.

In sum this study suggests that Indonesian seafood industries have the potential for competitive export to the EU market due to its strength in factors such as: (1) adequate supply of raw materials; (2) capability in infrastructure; and (3) industrial experience from exporting competitive generic products to the US market. However, the analysis indicates that the Indonesian capability for market orientation and innovation will face challenges in developing long-term market oriented strategies that it are important to address in order to gain competitive advantages.

Managerial implications – This thesis offers a conceptual framework for gathering intelligence and analysis of competitive market-oriented strategies of seafood value chains in a national and international perspective as well as an analysis of the current competitive capability of the Indonesian seafood industry. This comprehensive framework can be applied in further research as a tool for analysis of competitive forces. The framework may also support the decision makers' evaluation of the market-oriented value chain strategy and the industrial environment.

Key words: Indonesia competitiveness, market intelligence, innovation strategy, competitive forces, European market.

1 Introduction

1.1 Research background

This study of the capability of the Indonesian seafood industry to enter the European market is motivated by my wondering about why the great potential of the Indonesian marine and fisheries sector does not make a more significant contribution to the national income and economy. Market orientation is considered to be a key factor to increase the value obtained from fishery commodities (FAO and OECD, 2011; Grunert et al., 2005; Trondsen, 2012). Therefore, it is necessary to study and highlight the potential for Indonesian market-oriented seafood exports primarily related to innovations, competitive entry and marketing strategies. Focusing on the development of the international seafood market, the European demand for seafood is especially complex. This study reviews the four main topics pertaining to the value chain: [Paper I] Basic theoretical framework, [Paper II] Trade barriers for Indonesian access to the European market, [Paper III] External market demand, and [Paper IV] Internal Indonesian supply capabilities.

Indonesia today already has a strong export market position, being the fourth biggest fisheries producer in the world in quantity (volume), after China, India and Peru.[1] Nevertheless, the value of Indonesia's fishery export, in contrast, remains low compared with other fish producing countries, ranking only twelfth, far below other Southeast Asian countries such as Thailand and Vietnam, which are ranked third and fifth respectively. In fact, Indonesia is not ranked in the top ten suppliers to Europe, the world's largest seafood market.[2] The fishery industries in Indonesia have not been able to meet the challenges of the European market by developing sufficient marketing and market-oriented innovation capacity.

Blue Swimming Crab (*Portunus pelagicus*) is one promising Indonesian resource which still has the potential to be developed and marketed as an export product. Blue Swimming Crab (BSC) may have a large export potential that could be developed by meeting the needs, trends and wishes in the European market as live,

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[1] Source: FAO (2012a)

[2] Source: Facts and figures on the common fisheries (European Commission, 2012)

fresh and processed value added seafood. Competitive product and marketing services must be developed, however, to satisfy the current growing consumption demand and food regulations in Europe.

The fisheries sector has a role and potential as a prime mover of the Indonesian national economy.[3] Innovation is the key to success for improving competitiveness (Barney, 2002; Foss et al., 2011, Hult, Hurley and Knight, 2004; Molina-Castillo and Munuera-Aleman 2009; Shapiro, 2002; Rogers, 2003). In order to grow, Indonesia's current price-dependent trade needs be developed further into an industrial strategy which strengthens the market oriented capability in creating superior value for customers by investment in innovation and industrial organization and structural development (Dhanani, 2000). In other words, progress will not evolve naturally in the context of Indonesia's present endowments and the renewable resource wealth, or in the market openness of international competition. In theory, market-oriented strategies are a requirement for economic progress.

The demand for fishery products is increasing internationally, but those who benefit are often protected by trade barriers.[4] New markets for Indonesian seafoods, such as Europe, provide opportunities for the development of new market adapted fishery products, but constraints should be addressed to realize this potential.[5] On the other hand, the domestic Indonesian consumption of fishery products is also great and must be included in the industrial considerations to meet both domestic and export needs.

> *… The big players have a clear strategy and are lucid about their aims and objectives …* (Howorth, 2010:464)

The challenge for Indonesia is to be a strategic player in the global arena and to deal with the intense competition in the European seafood market, which requires appropriate marketing strategies. The forces of competition and market oriented

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[3] Indonesia is the largest 'Blue Economy' nation in the world and is developing a marine and fisheries sector which is environmentally sustainable and economically viable (IMACS, 2012)

[4] See FAO (2005) World trade in seafood: key trends and issues; Lindsay (2005) Global Trends in the Seafood Sector; Frank and Smith (2009) Trade and Fisheries: Key Issues for the World Trade Organization.

[5] See also Failler (2007).

innovation strategy are main factors that need to be highlighted in order to increase the capacity of the Indonesian seafood industry (Porter 1980; 1996; 2008; Sundbo, 2001; Rogers, 2003; Afuah, 2009). To develop the right strategy it is necessary to analyse the relevant competitive aspects relating to the drivers and barriers for new value chain in the market.

1.2 Research objectives

The essential objective of this research is to contribute a strategic intelligence platform for Indonesian entry into the European seafood market, with the following aspects:

- A theoretical framework for innovative entry into new seafood markets [Paper I]
- Trade barriers in the value chain [Paper II]
- The decision process for market adoption of innovative seafood products [Paper III]
- The current strengths and strategies for innovation in the Indonesian seafood industry [Paper IV]

1.3 Research questions

The main research questions raised in this study are divided into four major questions related to the main issues faced which will be answered through the research phases:

- What are the primary strategic factors for development of industrial competitive advantages in new seafood markets? [Q1]
- How do recent structural changes and regulations influence the barriers to entry into the potential European distribution chains for seafood products? [Q2]
- What are the main considerations of European seafood traders when they adopt new seafood products in their portfolios? [Q3]
- What are the capabilities of the Indonesian seafood industry to utilize the strengths and minimize weakness in its market-oriented bargaining power? [Q4]

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1.4 Structure of the research

Chapter 1 offers an introduction to the chosen themes and the purpose of the research together with the challenges realizing the opportunities available and in solving the current strategic issues confronting Indonesia. Chapter 2 offers an overview of the potential of the Indonesian fisheries; it also introduces the valuable potential in the BSC as a resource. This chapter will lay the basis for further analysis of the Indonesian seafood sector viewed from an international market perspective. Chapter 3 delimits the theoretical foundations regarding global value chains, competitiveness, innovation, markets and strategies. Chapter 4 presents the methodologies and research approaches, including quantitative and qualitative methods combined in the data collection and analysis. The research findings of Papers I–IV are summarized in chapter 5. In chapter 6 the investigation of market trends is linked in relation to the goals of the thesis. Chapter 7 discusses the mapping strategy. Finally, conclusions are drawn in chapter 8, limitations of the study in chapter 9, and suggestions for further work are presented in chapter 10.

2   Potential and challenges of Indonesia's marine fisheries
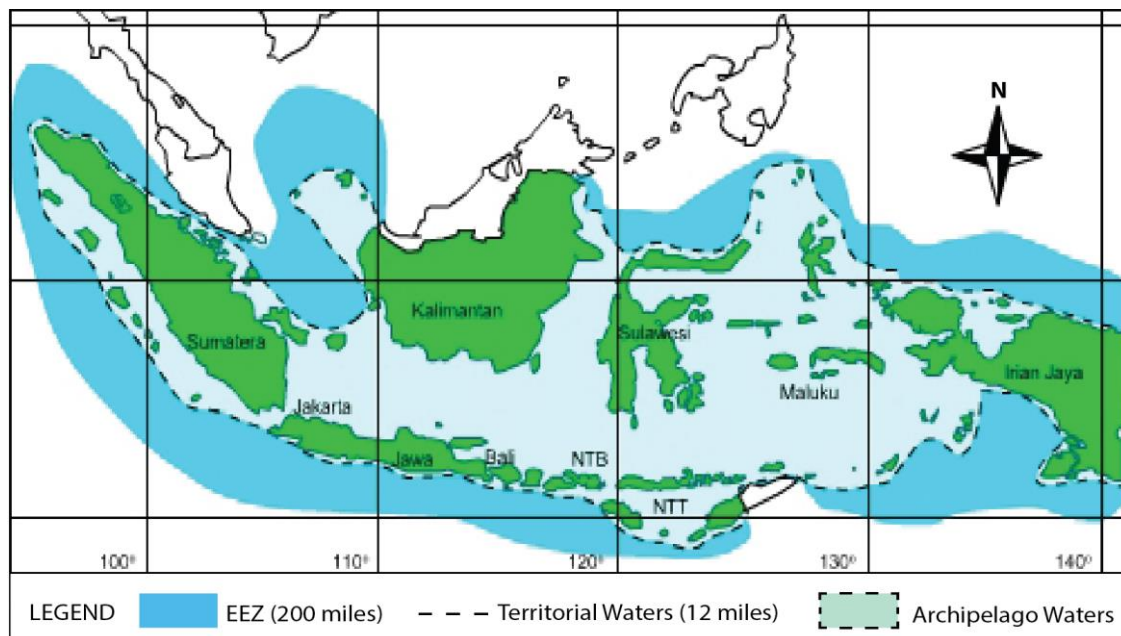
Figure 1 Indonesian maritime territory (source: Bakosurtanal, 2009; MMAF, 2012b)

Indonesia is the largest archipelago in the world, with 17,504 islands and a coastline of 104,000 km.[6] Its maritime area is about 5.8 million km^2 representing two-thirds of the total area of the country. It consists of vast seas, around 3.1 million km^2 with 0.3 million km^2 of territorial waters (<12 nautical miles); and 2.8 million km^2 of archipelago waters. In addition, Indonesia also has the authority to take advantage of a 200-mile Exclusive Economic Zone (EEZ) based on the United Nations Conservation on the Law of the Sea 1982 (UNCLOS), covering 2.7 million km^2 of sea, which authorizes the exploration, exploitation and processing of biological and non-biological resources, research and jurisdiction in installations and artificial islands (Dahuri, 1996).

Harvesting and processing of the resources in this area makes fisheries one of the most important economic sectors in Indonesia. Fishery resources are very abundant and renewable in coral reefs and mangroves. This supports the strategic position of Indonesia located in the 'coral triangle', where the sea is abundant with fish species. The potential fisheries catch is estimated to reach 6.5 million tons of fish per year, while the potential area for aquaculture is estimated at 12 million hectares (MMAF, 2011). In terms of human resources, the number of households (RTP)[7] dependent on wild catch is 892,000 while the fish-farming workforce is about 3.4 million people (*Ibid*).

Currently, these resources are not used optimally to bring prosperity to the communities. According to McKinsey (2010),[8] the fisheries sector is one of the main sectors expected to help to move Indonesia into a developed country by 2030.[9] Learning from other countries' success in the development of the fisheries sector may be important for Indonesia. The resource potential in Indonesia is greater than that of successful fisheries nations like Norway, Iceland, Vietnam and Thailand, but Indonesia is gaining relatively less utilization and export value from the resource.

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[6] http://www.bakosurtanal.go.id/

[7] RTP*: Rumah Tangga Perikanan.*

[8] McKinsey Global Institute study agency in its report "The Archipelago Economy: Unleashing Indonesia's Potential".

[9] The fisheries sector has considerable economic size in the Indonesian economy (Inilah, 2013).

The Indonesian fisheries sector represented 3.46 % of the national GDP in 2012 (Bisnis, 2013; Finance, 2013; MMAF 2013). The growth in the fisheries sector's contribution to GDP reached 6.48% in 2011-2012, with a nominal value of IDR 57.69 trillion ($ 5.8 billion) in 2012. This growth was higher than the average growth of national GDP of 6.23% and well above the growth in the agricultural GDP of 3.97% (*Ibid*). However, the increasing international demand for value added and competitiveness of fishery products may result in increasing exports of Indonesian seafood in the future. The export of Indonesian seafood in 2012 was 1.27 million tons valued at $ 3.9 billion, up 11.62% over the previous year (*Ibid*).

The Indonesian government, represented by the Ministry of Marine Affairs and Fisheries (MMAF), has stated ambitions and strategies in the policy for further industrialization of the seafood sector (MMAF, 2012a). [10] The key factors are strengthening the market orientation, industry innovation and empowerment of the fishery resource management. Marine and fisheries industrialization are seen as necessary to modernize and make effective the system's capability to increase the capacity for value-added production, productivity and the scale of production of fishery products (CBI, 2012). The MMAF argues that this fishery industrialization process should be supported by an integrated policy of macroeconomic development, infrastructure development, creating a good business climate and competitive investment and increasing the provision of knowledge, technology and human resources.

However, the developmental challenges of the marine and fisheries sector are also associated with downstream sectors to increase the added value in the form of processing and marketing of seafood, including BSC. The crab commodity (mostly BSC) is currently ranked third (7.8%) of the total export value of Indonesian fishery products, after shrimp (46%) and tuna (14%) (Sucofindo, 2012). BSC export oriented production has been running commercially since the 1990s and the current value has reached $ 200 million and 30,000 tons per annum (*Ibid*).

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[10] Grand strategy and strategic objective of MMAF.

2.2 Blue Swimming Crab as a future potential export commodity

The Blue Swimming Crab (BSC) is very abundant in Indonesian waters. Crab is important in the commercial fisheries, where catches have risen substantially. Indonesia's BSC catch represented 16% of the global total in 2010, up from 10% in 1980 (FAO, 2012b; MMAF, 2012b; Sustainable Fish, 2011). The average annual landing of BSC in Indonesia in the period 2000–2012 was 29,000 metric tons. The annual growth rate has been 14%. Of the Indonesian fisheries, landings in Malacca Strait and East Sumatra grew in volume from the mid-1990s to 2000, while North Java remained stable. After 2000, East Sumatra and North Java contributed the largest volume of landings, while West Sumatra, Maluku, Papua, South, West and East Kalimantan started to contribute larger proportions (Fish Source, 2012). There were indications of reduced stock size reflected in the official landings statistics. The top three supply areas were North Java, East Sumatra, and South Sulawesi (Ibid). The map (Figure 2) shows the distribution of BSC across landing areas in Indonesia and the top 12 locations of Indonesian crab-processing industries (ICI):

Figure 2 Landings of Blue Swimming Crab and locations of Indonesian crab-processing industries (Source: MMAF, 2011; Urner Barry, 2011; own fieldwork data, 2012)

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Crab processing operations in Indonesia are spread over several areas of the islands of Java, Sumatra, Kalimantan, and Sulawesi. The Java North Coast region has a more dominant presence of crab factories because of its fishing and other economic activities. The competition for raw materials has also been more intense in this area and has raised the price paid to the fishermen.

The Indonesian Crab Processors Association (APRI)[11] has shown a growing interest in collaboration with the Marine Stewardship Council (MSC) and supports the requirement for data for pre-assessment (Fish Source, 2012). Initial steps have been taken in cooperation with local universities and organizations to study catches and to obtain precise catch estimates for the assessment and management of crab stocks in some priority areas. A major problem for the sustainability of Indonesian crab fishing is the harvest of too many small and also pregnant crabs which should have the opportunity to breed and grow up. Another major threat is also the use of fishing gear which may damage the seabed ecosystem important for the BSC habitat. This threat reduces the fishermen's catch, and will certainly affect the total Indonesian crab production in the future. Therefore, sustainable export production depends on the support for harvesting sustainability from the various parties involved, in this case the MMAF, local fishermen and also APRI.

Since the 1990s there has also been an increase in the number of factories processing crab.[12] More than 90% of the BSC exports from Indonesia are generally exported to the US market in the form of pasteurized value-added products as frozen meat and cakes (Yulianto, 2008). Indonesian crab marketing is highly dependent on the US market. It is in Indonesia's interests to expand exports to other countries, such as Europe, to reduce dependence on the US market and maintain market viability. An effort to increase the export space by targeting the European market is important for stabilizing the future export-oriented value adding. It is the right time to start looking for market expansion, to enhance quality and bargaining position with countries other than the USA. Currently, the difficulty is to identify and improve the competitive weaknesses, both in technical and managerial terms. The European market might be

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[11] APRI: *Asosiasi Pengolah Rajungan Indonesia*.

[12] Estimated 65,000 fishermen, 13,000 pickers, over 400 small plants, and 38 factories were involved in the crab business in 2011 (Sustainable Fish, 2011).

the right choice to be studied. This study will try to identify all relevant aspects beside the availability of opportunities.

From harvest to market, the value chain starts from fishermen creating value in their catch. In general, the method of crab fisherman is one day fishing using gillnet and trap. Besides that, some crab fishermen make fishing trips three to five days in length and keep their catch with ice flakes and added salt. The quality at landing is better for one-day fishing but otherwise it incurs higher costs than five-day fishing operations. After harvesting, the upstream point of departure of the crab supply chain is when the fishermen sell their catches to the crab dealers (middlemen), who sort the crab in small plants into four categories, among others; jumbo, lump, special and claw. The sorted crab categories are later forwarded from the dealers to crab processing plants, where the sorting and processing of products will continue for export (commercialization) to destination countries and to consumer sales.

3. Theoretical perspectives

The main topics in this study are: Conceptual framework for competitiveness (Chapter 5.1); Trade barriers and opportunities (Chapter 5.2); European market demand (Chapter 5.3); and, Indonesia's competitiveness (Chapter 5.4); all referring to supporting theories related to competitiveness, innovation strategies, market intelligence, international marketing, and global value chain transactions and regulations.

3.1 Theories of competitiveness

The analysis of Indonesia's competitive strength to enter the European seafood market is built on a theoretical framework about the basic driving forces involved in industrial and value chain development. Chapter 5.1 outlines the details in the theoretical framework, emphasizing applied theories about competitive strategy and value chain barriers and drivers (forces). The theoretical framework has been applied in a case study of Indonesia's competitiveness to gain an understanding of the industry's strategic capabilities and of market-oriented value adding, shown in Chapter 5.4.

The first step is to review the core competitive market force as described in Barney's (2002) VRIO model, which considers sustainable competitive advantage to

rely on four main factors: (1) *Value*: the customer's positive evaluation of the offered products, (2) *Rareness*: the customer's positive evaluation of the rareness of the marketed products compared with other products giving similar customer value, (3) *Imitation*: the degree the offered product can be protected from imitation by competitors, and (4) *Organizational*: the capability of the marketing organization. The value and rareness of the offered product may include the customer's judgements of all the 4Ps in the marketing concept, i.e. product quality, service, market place, promotion effort and offered price. Sustainable competitive advantage and market power therefore relies, according to this theory, on the industry and firms' capability to offer 4Ps with a higher VRIO level compared with the competitors.

The second step is to review the theories about the structural factors influencing the industry and the value chain's competitiveness as outlined in Porter's (1980) Structure-Conduct-Performance model (SCP model) and further developed in Trondsen's (2012) Structure-Convention-Performance model. The main message from these models is that business performance is dependent on both the actual conduct and the more extended industrial conventions and structures in the industrial environment which protect, promote or hinder business transactions. Most successful commercial firms in the markets, especially those in international trade which offer highly valued 4Ps, are exposed to imitation pressure from competitors who want a piece of the cake. This pressure may undermine the rareness of the offer in the market place if the product is not sufficient protected. Porter's five competitive forces model (FCF) describes such structural pressure from inside industrial clusters which may influence the conventions and the conduct as the basis for the performance. The FCF forces consist of; rivalry between the core competitors with the same offers, pressure from powerful customers, pressure from suppliers of specialized production factors, and pressure from suppliers of substitute offers with similar benefits for the customers. The SWOT analysis is measure strength, weakness, opportunity and threat in all these key competitive factors.[13] The strength relies on one side of the actual industrial and value chain structure and on the other side on the industrial strategic conducts, summarized in Figure 3.

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[13] See CIMA (2007) "Strategic Analysis Tools"; CIMA (2008) "Strategic Position".
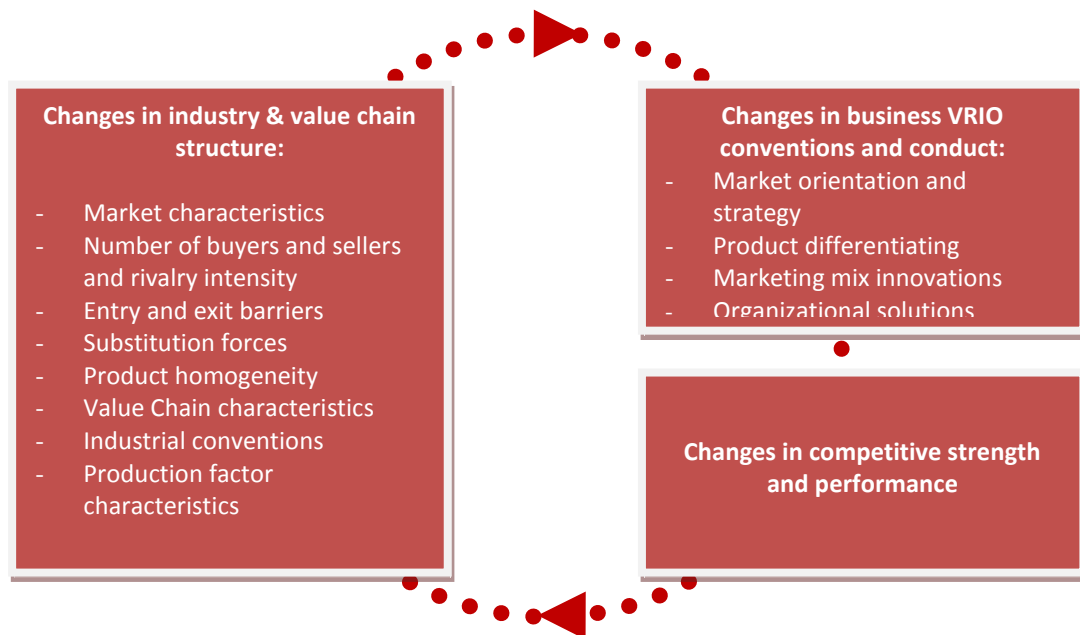
Figure 3 Value chain and strategy: Structure-Conduct-Performance (The SCP model) (after Porter, 1980; Trondsen, 2003; 2012)

Figure 3 shows a dynamic SCP model which illustrates how changes in performance, conventions and conduct are related to changes in the structure where the industry is embedded. The SCP model is used to explain the performance potential as a gap between unutilized market demand and the actual industrial adaptation to the competitive forces, which involves aspects of value chain from market preferences, product attributes, choices of marketing mix and organizational solutions (Trondsen, 2003; 2012). These sources of competitive pressure may be balanced and taken advantage of by industrial strategies designed to increase the level of customer values, to increase the rareness value for customers and to secure protection against imitation. Successful performance in internationally oriented seafood industries may rely on appropriate strategies that take advantage of the competitive strength derived from control of scarce production factors, like high quality raw materials and labour, to competitive costs (Abimanyu, 2000; Trondsen, 2003).

The strategic conduct is constrained, however, by the industrial structure embedded in industrial conventions. Changes in conventions, strategies and conduct aimed to improve the competitive strength and performance may rely on structural changes driven by macro market and production forces as well as governmental

regulations outside each firm's control. Industries and products may also contribute to changes in the market place, e.g. the development of sushi restaurants and mobile phones. Evaluation and understanding of the impact of changing macro forces are important assets for the leading firms and industries that are able to develop competitive advantages (Trondsen, 2012). Identification of the strengths and weaknesses of the Indonesian producers in their bargaining power with the European distributors is thus important as a basis for further improvement.

The theory of marketing strategy related to the international fish trade provides a framework to understand the basis for the industry's competitiveness and future strategic options. All organizations follow some kinds of strategy, whether explicitly formulated or not (Mintzberg, 1978). Strategies are developed over time according to "industrial learning by doing" and reflect the competitive realities in the strategic group in which the firms are operating (Porter, 1990). Strategies are in many cases "locked" into established conventions, defined by Salais and Storper (1992:174) as "practices, routines, agreements, and their associated informal and institutional forms which bind acts together through mutual expectations". Such strategic conventions as accepted business conduct reflect the actors' experiences and their struggle to balance the social and competitive pressures in their industry (Trondsen, 2012). Such strategic conventions shape and constrain the operating business orientation and strategies specific to entire industries, or are firm-cluster specific. The meaning of strategy concept in business may be specified as follows:

Strategy is the pattern of objectives, purposes or goals and major policies and plans for achieving those goals ... (Christensen, Andrews and Bower, 1973:107)

Strategy is a broad based formula for how business is going to compete, what its goals should be, and what policies will be needed to carry out those goals ... (Porter, 1980:16)

Strategy is the direction and scope in achieve an advantage for the organization through its configuration of resources within a challenging environment in order to meet the needs of markets and to fulfil expectations ... (Johnson, Scholes and Whittington, 2008:3)

Strategy in general refers to intentions about how a given objective should be achieved, while corporate strategy defines the markets and the businesses in which a company will operate (Nickols, 2000). Competitive strategic conventions define for a given case the response to the competition to gain advantages or maintain position in the market place, where capability strengths and weaknesses in relation to market characteristics, opportunities and threats are taken into consideration.

An industrial supply chain is much more than a random collection of materials, machines, money and men (the 4Ms) supported by methods, management and markets (the 7Ms). Each of these resources is of no value unless deployed into activities and organized into value chain routines and systems which ensure that products or services are valued and priced by the users. In other words, it is these competencies to perform particular activities and the ability to manage linkages between activities that are the source of competitive advantage for value chains (Porter, 1980; IMA, 1996). Corporate strategy is concerned with priorities and commitments regarding markets, business and the very nature of the industry organization itself, while competitive strategy is concerned with the competition actors and the basis of competition (Nickols, 2010).

An analysis of the competitive strength and weakness of the seafood industry is necessary as a basis for future strategy development. The purpose of this study is to contribute to the development of a competitive strategy for increasing the market value of the raw material like BSC. The aim is to develop strategies for enhancing high VRIO values in the market place that take advantage of the control of supply to customers with unsatisfied needs and wishes for products (Trondsen, 2003).

3.2 Market-oriented innovations and industrial capacity

Market-oriented innovation as a competitive means to enter markets is the main topic in this study. A market-oriented innovation may be defined as "an idea, product or practice perceived as new for the potential adopter in the market place" (Rogers, 2003:36). Practices, products and ideas are all related to one another. Adoption of new products is therefore linked to the practices and ideas already in operation among members in the adopter groups. Such combinations of practices, products and ideas

(PPI) may also be described as PPI conventions, which are also embedded in supporting industrial structures and environments (Salais and Storper, 1992).

Profitable marketing relies on competitive advantage to match the market's value preferences and priorities free to choose among existing competitors (Barney, 2002). Market orientation facilitates product innovation, protects against competition, and has significant implications for industrial strategies to achieve competitive advantages (Zhou, Yim and Tse, 2005). New offerings of high valued 4Ps perceived as rare by the market and difficult to imitate are an important key to business success (Barney, 2002). Successful market-oriented product innovation relies on the capability to develop such competitive 4Ps for growth and expansion in the international seafood market with intense competition. Market knowledge and intelligence about the trends in the dominating PPI conventions, including strategic goals and choices, are important parts of the business capability (Narver, Slater and MacLachlan, 2004).

Two critical analytical groups are normally in place in well performing organizations (Argyris and Schon, 1978). [14] The first is focused on developing strategic insights and is often centrally located to facilitate development of across product or business perspectives.[15] The second is focused on tactical execution and often resides in the business units or product groups (McKinsey, 2001). The same need may be required in a country as a seafood producer. It is required to articulate a clear strategy for building internal industrial capacity of market knowledge and intelligence, open relationships and creating a compelling programme of initiatives to develop products, services, distribution, promotions and prices able to capture values from market innovation demand. For example, Norway has built up market intelligence capacity through the Norwegian Seafood Council as facilitator and seeker of frontline opportunities. [16] Such marketing organizations can communicate their understanding of these twin sets of motivations to achieve great effect through appropriate marketing campaigns that satisfy both the purchasers' and the industry goals (Crawford, 1997).

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[14] The concept of double-loop learning (DLL).

[15] The business intelligence capabilities will enable companies to develop competitiveness, determine a successful course, effectively respond to change and measure their success based on a mix of current and past data (Embry, 2009; Rud, 2009).

[16] http://en.seafood.no/

Market intelligence (MI) is a critical input for product innovation (Cornish, 1997). It is necessary for the relevant information to be analysed for accurate decision-making in market opportunity, strategy, and development. Sophisticated marketing intelligence systems can be devised to identify opportunities arising in evolving market segments and new partnership arrangements can be established to reduce the potential risk associated with geographical reach (Trim and Lee, 2008).

Market orientation innovations drive performance by being able to create more customer value (Day, 1994; Day and Nedungadi, 1994; Grunert et al., 2005; Grunert et al., 2010; Harmsen, Grunert and Declerc, 2000). Commercial conventions are market-oriented and recognized by customers and markets are evaluated by certain standards (Lindkvist and Sánchez, 2008). In order to understand the competitive advantage of a value chain, it is necessary to understand the strategic orientation of the value chain and how the 4Ps (product, promotion, place and price) are interrelated and executed. These theories provide a means to analyse the extent to which innovation and market-related factors facilitate competitive advantage.

Questions about seafood market trends, consumer preferences, distribution, production and regulation are strong interconnected. How can the Indonesian seafood producers gain competitive advantage by improved offers that are better at satisfying the needs in the European marketing value chains than those of competitors? The answer to this question relies on market intelligence about attractive and competitive innovations in all four marketing Ps (product, place, promotion and price). To be attractive in the target markets, all firms have to choose mixes of products and service innovations, distribution chains, promotion and pricing. The choices depend on the firms' basic business ideas about realizing profit by offering competitive margins to all involved actors throughout global value chains.

3.3 Global value chains as a basic framework

In this study, the concept of global value chain was explored and reviewed in all chapters as a critical structure for the performance of export-oriented industry, its conduct and conventions. The value chain structure, from harvest to end consumer, is strongly influenced by governmental regulations (see chapter 5.2) and business conventions in the industrial environment (Figure 4). The value chain is defined as the

chain of transactions between the final customers' payment chains pulling a production chain and downstream chain from the point of production (Trondsen, 2012). Value chain analysis is a means to describe the activities within and around organizations including industries and nations and relating them to an assessment of the competitive strength in the transaction pattern. Value chain analysis was originally introduced as a tool designed to shed light on the separate steps in complex manufacturing processes in order to determine where value creation, value activities or value added were made and improved (Porter, 1980).
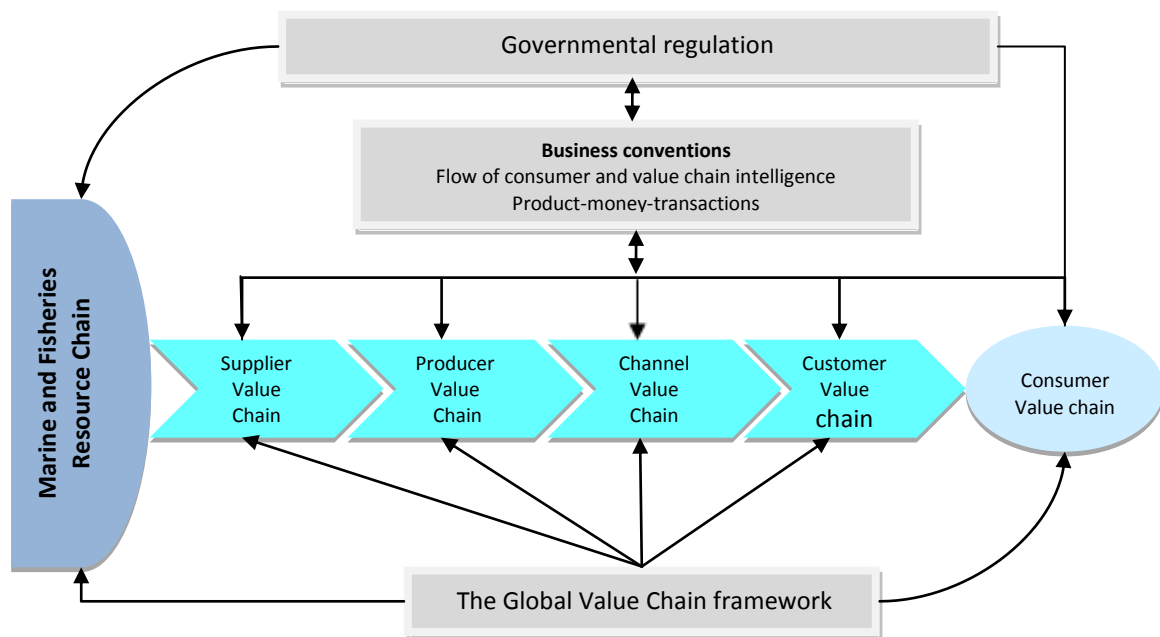
Figure 4 Value chains in the international seafood trade (adapted from Trondsen, 2007)

Figure 4 is a schematic illustration of a value chain connecting consumers to the marine resources, with the interaction of several value chain stations carrying out specialized functions. Each value chain station is embedded in structures that Porter (1990) characterized as strategic groups run under different business conventions and regulations.

International trade and marketing strategy may thus be seen as a value adding transactions process conducted in value chains over national borders between businesses where products and money are exchanged (Trondsen, 2003). Value chains (also called marketing chains from the marketers' perspective) are integrated chains in which products are transformed from being raw material through manufacture and

services, information about these products is communicated and they are ultimately delivered to targeted markets wherein consumers are willing and able to pay for them. This chain integrates physical or technological processing, logistics, economic and social transactions related to the product flows. Social transactions include also a variety of sociological, cultural and political interactions.

Regulations are rules set by governments that facilitate and constrain the value chain transactions. Chapter 5.2 examines potential trade barriers for Indonesian seafood products entering the EU market based on past experience (cases of rejection of Indonesian products in the EU), recent regulation in the EU and domestic regulation enforcement. The producers have to follow and keep up to date with the current regulations (Trondsen, 2007). New forms of collaboration between industry and governmental regulatory agencies and even community groups in some cases, are driving innovation and new partnerships in managing fish quality (FAO, 2007). A safeguard mechanism for an international trade agreement is essential to secure market access commitments in trade negotiations and effectively to sustain trade liberalization (Jackson, 1969).

3.4 Theoretical summary

The theoretical foundation of this study relies on concepts especially about strategic intelligence about competitive forces, market orientation and, innovation and global value chain. The competitive advantage in the market place may rely on advantages in procurement of production factors (like raw materials and labour) and in capability for improved market oriented combination of the input resources (innovations). The aim of the study is to identify the most influential production and demand factors in the business environment, and the development of industrial capability for competitive advantage (Porter, 1980). Barney's VRIO model, Porter's FCF model, Porter and Trondsen's SCP models, and Rogers's innovation adoption model will be used as the bases for analysing the Indonesian capability and competiveness in entering the European market. Concepts from resource-based theory and primarily Porter's theory are used for drawing up a conceptual framework.

Value adding of seafood products relies on trade, which is continuously changing and where all participants receive greater advantages compared with

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alternative strategies and value chain options (Trondsen, 2003). In summary, developments in international trade may require knowledge about opportunities in market-oriented product and value chain development and for lowering transaction costs between suppliers and buyers, which satisfy both supplier and customer preferences.

4 Methodologies

4.1 Research strategy

This chapter describes the selection of topics, research stages and goal analyses. The way this study was conducted deals with the philosophy of marketing research[17] to provide an improved theoretical and empirical contribution for analysis of value chains in building competitiveness and innovation strategies, as summarized in Figure 5. Future research on innovation for the marketing science review and agenda needs carefully to critique, validate, and refine concepts and theories so that they might enable managers to make informed decisions on market entry (Hauser, Tellis and Griffin, 2006).

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[17] The research project in marketing needs philosophical foundation, research design, methodological assumption, and appropriate criteria as a strategy for evaluating knowledge claims (Hunt, 2008).
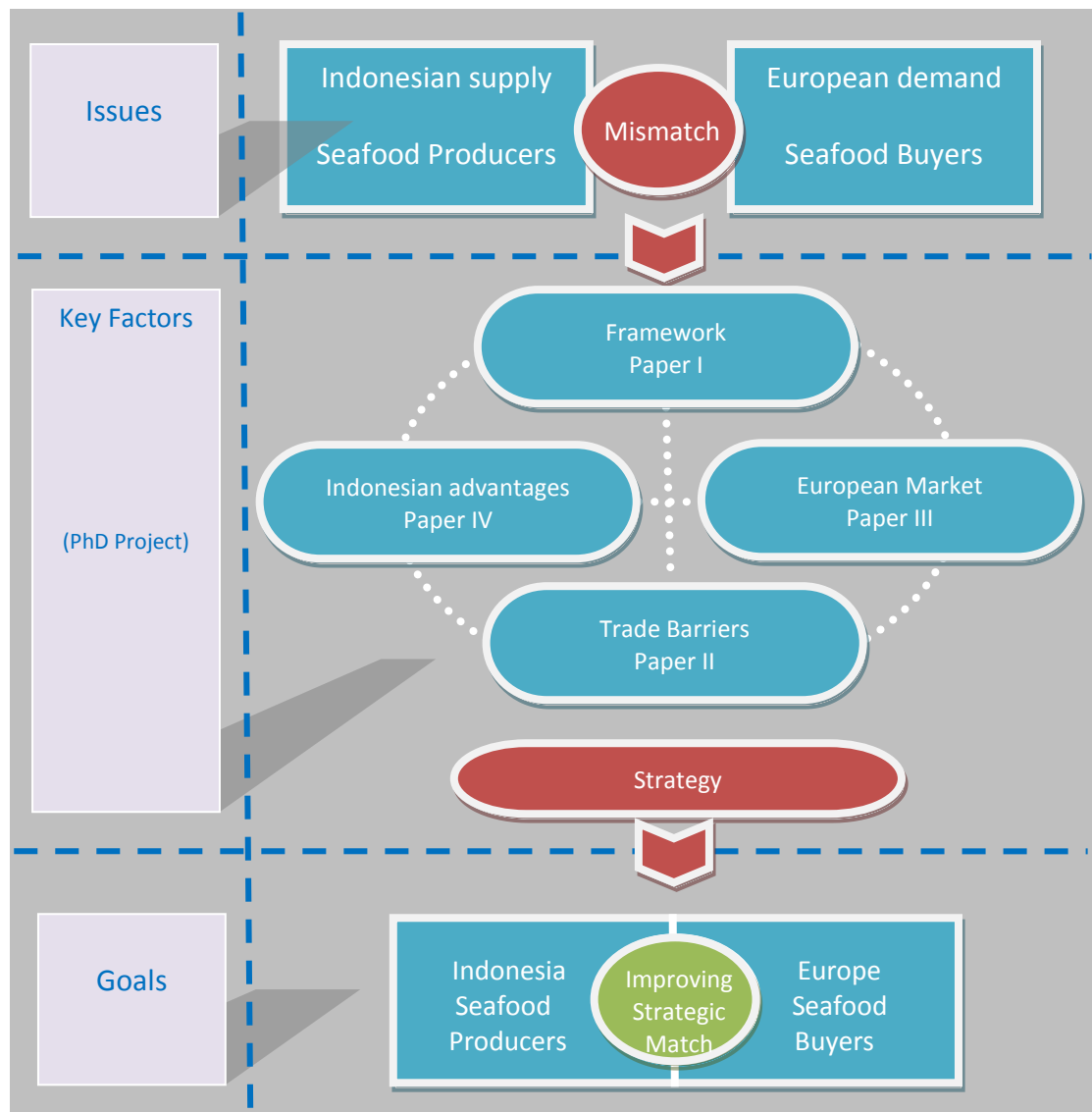
Figure 5 Issues, key factors and goals

The purpose of formulating competitive policies and strategies for a nation (e.g. Indonesia) or/and industry sectors (e.g. seafood production) is to improve market-oriented goals, conduct and performance by addressing the key driving factors for the development of the industrial structure, the value chain and the embedded environment in the desired direction.

The main issue: is the fact of the current condition requires solving of strategic mismatch[18] issue in the business interaction between the supply from the Indonesian seafood producers and the demands and requirements of European seafood importers.

The key factors: it is necessary to identify market trends and barriers for business interaction for seafood in general and especially growing markets for valuable commodities and the Indonesian market orientation, bargaining power and the facilitating regulations.

The expected goal: is to contribute to improved future seafood business strategies to take advantage of more trading opportunities by easing the interaction and economic cooperation between the stakeholders along the value chain.

Setting up the mapping studies (issues, key factors and goals) will facilitate and clarify the stages and strategies of research undertaken.[19] The design of market intelligence is applied in this research to detect the main factors behind competitiveness.[20] Wider research and development of specific market-adapted products is required, however, before such knowledge can be converted into business. Identified opportunities and weaknesses in the Indonesian industry are the basis for recommendations for improving long-term management strategies.

4.2 Research design

Figure 5 shows how the research topics in papers I–IV were selected and organized. The four papers in this thesis identify key factors in building competitiveness and innovation strategies (i.e. Indonesian perspective) for entering a new market (i.e. the EU seafood market). Therefore, this paper uses a series research design, research models (i.e. FCF model, VRIO model, SCP model and Adoption Innovation model), empirical data, and analysis in order to answer the research questions. A summary study design is provided in Table 1 below:

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[18] See European Commission (2011) Indonesia – European Community: Strategy; EIBD (2009) EU-Indonesia Business Dialogue: Final Report.

[19] An approach to the management of multiple relationships across value chains in the modern business paradigm.

[20] The market intelligence capability, see further Kohli and Jaworski (1990).

Table 1 Study design

Q (Questions)	Q1: What are the main influencing strategy factors for development of industrial competitive advantage in new seafood markets?	Q2: How do recent structural changes and regulations influence the barrier of Europe entry market?	Q3: What are the main considerations of European seafood traders when they adopt new seafood products in their portfolio?	Q4: What are the capabilities and competitiveness of Indonesian seafood industries?
Paper	Paper I	Paper II	Paper III	Paper IV
Main focus	Designing framework of strategy and innovation	Trade barriers & European regulation	Trends in European seafood consumption	Indonesian performance & bargaining power
Survey location/object	Global value chain	International trade	France, Belgium and the Netherlands	Indonesia
The data source	Literature study	Indonesia, EU, WTO and official law agencies	Literature, statistics, expert survey European seafood traders	Literature, statistics, expert survey Indonesian seafood managers
Methodologies — Data collection	Investigate and compare based in literature review	Interviews, Cite literature, document on law and trade	Interviews face-to-face using structured questionnaire	Visits to producers and doing panel interview
Methodologies — Analysis	Formulate model over key success factors entering new market	Compare between law in books and law in action – legal analysis	Statistical analysis of factors of innovative seafood adoption	Identify competitiveness – SWOT analysis
Research	Qualitative	Qualitative	Quantitative	Qualitative and Quantitative

Table 1 show that various methodological approaches were used in this study in order to gain a broader perspective and comprehensive overview and to find accurate answers to the different research questions. These methods include collection of quantitative and qualitative research data at each stage of the research process to carry out formative research, process evaluation and outcome evaluation. Integrating quantitative and qualitative research methods lends depth and clarity to marketing programmes (Weinreich, 1996). In this thesis, I have chosen to use the combination of methodologies and approaches as shown in Table 1. This is necessary due to the wide range of data sources needed to develop a clear strategy based on multi-aspects for the future of the Indonesian seafood sector according to the goal of the study.

Fieldwork was carried out in both Indonesia and Europe. The research has been grouped into four areas; (1) Designing framework (2) Trade barriers (3) European demand, and (4) Indonesian supply. The data collection and analysis procedures in the four papers are described in the following sections.

4.2.1 Paper I: Framework design

The first research step is the design of a framework for identification of opportunities and barriers for producers entering and penetrating new markets. The goal is to develop a comprehensive concept to analyse the global business environment built on concepts from previous research. This paper is fundamentally to provide a basis for subsequent research, since the identified key factors will be applied in the case studies. The second-hand data are obtained from literature, previous research, books, journals and websites by combining relevant theories and practical facts.

4.2.2 Paper II: Trade barrier research

The second research step is to carry out research in accordance with the framework to highlight the global value chain which viewed Indonesia's position from the perspective of trade barriers. Barriers for matching the Indonesian and the European regulation standards are identified regarding quality standards, export procedures and export documents. The expected contribution from this empirical study is an understanding of how the seafood market and value chains are influenced by quality and trading requirements with regard to: (1) EU standards, focusing on crab import standards, (2) the Indonesia quality enforcement focusing on implementation and standard assessment for export crab products.

Research data: were collected from interviews with actors in industry and government, who were asked about their perceptions of formal market access difficulties and analysed in a two-way perspective. Additional information was collected from law books and printed documents, i.e. trade news reports, journal articles, reports of inspection missions and articles related to regulations. Supporting data was in addition collected from official website sources, i.e. the Indonesian Ministry of Marine Affairs and Seafood (MMAF), the European Union (EU), the Food and Agriculture Organization (FAO), the World Trade Organization (WTO), and the World Health Organization (WHO).

Data analysis: implemented a gap model (legal framework analysis) that includes comparison of EU and Indonesian documents (list of documents attached in Paper II), and furthermore examined them for potential barriers and mismatches between the trading partners for trading seafood and especially crab products. One analysis links

past unsuccessful trading and its causes (interaction of impact) as important to show mismatches in the trade system. This evaluation is needed for correcting the effectiveness of the current system and providing recommendations for future policy.

4.2.3 Paper III: Research on the European demand for innovation

The third step in accordance with the framework is to examine the external factors associated with market conventions and demand. This research investigated predictive factors for European seafood traders' decisions on the adoption of innovative marketing mixes (4Ps) and their own innovation demand factors (IDs). The European research started with the analysis of secondary market information and trade statistics collected from literature and official websites which provided relevant recent data about the European seafood trade. A research approach was provided as guidance during the research, divided into four stages: (1) mapping phase (2) planning phase (3) survey phase, and (4) analysis phase.

Mapping phase: The first phase was a pilot survey aimed to gain an overview of European seafood market conditions. In this stage, the target sample respondents was mapped and selected for criteria survey. The preliminary survey was conducted in January 2011 and took place in Brussels and Gent (Belgium).

Planning phase: This phase was based on the pilot survey experience which determined the aspects of: (1) location (2) respondent criteria (3) sample size (4) variables (5) preparation of questions (questionnaire). The targeted respondents were selected from among seafood distributors located in France (Paris and Compiegne), the Netherlands (Amsterdam, Rotterdam and The Hague) and Belgium (Brussels and Gent). These locations together represent Europe's most important seafood markets and biggest crab importers (74% of total European crab imports). The respondents are considered as the experts in their markets and are knowledgeable about the fish trade issues, categorized as traders who are responsible for sales and involved in the fish trade on a regular basis. Managers, supervisors and owners were selected to be interviewed because it is they who are competent in deciding on seafood product innovation. The primary data were collect by face-to-face interviews from a sample of 200 respondents of seafood experts selected from Eurostat, Eurofish, and website sources related to the European fish trade. The questionnaire sought information about the respondents' perceptions of the VRIO relevant factors important for adoption of

innovative seafood products. The chosen 'Value-Rareness-Imitational' factors were Rogers's innovation demand factors (the 5 IDs: relative advantage, compatibility, complexity, trialability and observability) and the 'Organizational' factors were suppliers' marketing mix factors (the 4Ps: product, promotion, place and price). The structured questionnaire is attached in Paper III.

Survey phase: This phase was performed as fieldwork during three months in June–August 2012. The data reliability was also improved in the interview phase by support from Indonesian students living in the surveyed country as guides to facilitate communication in the native language. The survey was conducted by visiting locations, i.e. modern seafood supermarkets, semi-modern fish shops, traditional fish markets and general seafood forums. The data was collected in an open dialogue with busy traders and recorded in the questionnaire with the authors' best judgment. Unclear answers were verified during discussion or clarified by telephone later. Additional information about the respondents' opinion was recorded in additional columns attached to the questionnaire

Analysis phase: The data were analysed statistically and included a validity and reliability test. A logit model is used to analyse predictors of the traders' decision-process for adoption of new seafood products.

4.2.4 Paper IV: Research on the Indonesian supply capability

The fourth step is to examine internal factors for the development of Indonesian seafood supply. The main task is to evaluate the capacity of the Indonesian seafood industry to find the right competitive strategy in new business environments.

The research data: were collected from documents and market reports gathered from scientific literature, government agencies, and seafood import and export trade data. Important sources were official institutions like the FAO, National Marine Fisheries Service (NMFS) in the USA, the MMAF of Indonesia, and other sources like Sustainable Fish, Urner Barry, Euro Fish and Fish Source. The data were analysed for global trends and the Indonesian position in the international crab market. Primary data about competition and innovation capability in the industry as observed from an industrial point of view were collected by expert interview primarily with Indonesian crab producers and supported by opinions expressed by governmental officials as policy makers in the seafood industries.

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The survey: the sample was 12 out of 38 Indonesian crab producers, representing 73% of the Indonesian crab production capacity. In-depth interviews and meetings were carried out by the author face-to-face. The author speaks Indonesian as his first language and has previous eight-year experience as a production manager in the Indonesian seafood industry specializing in crab processing. The sample selection was based on official data of listed companies whose exports were certified by the MMAF. The research locations (crab companies) were spread throughout Indonesia, predominantly in Java, as shown in Figure 2. The experts interviewed in the survey panels were involved as managers or leaders in crab processing. Responses were collected from 80% of the approached companies, while 20% could not respond well because of ongoing busy production activities.

Questionnaire and analysis: the questionnaire (attached Paper IV) was prepared as a guideline for the interviews. The questionnaire was designed to find the company's profile, recent development, and strategy. The research started by analysing the competitive advantage for the whole value chain by using the FCF value chain model. Afterward, SWOT analysis was also used for grouping and summarizing the strengths and weaknesses in the Indonesian crab-processing industry's competitiveness also in order to identify the opportunities and threats facing it.

5 The research summary

5.1 A framework: Innovation, competitive forces and market strategies [Paper I]

This paper develops a theoretical basis for investigating an effective market-oriented strategy to enter a new seafood market by innovation and superior quality products. The market success of a new product offering is dependent on the strategic framework supported by facilitating industrial conventions

The strength of the competitive advantage in the market place is expected to depend on the 4Ps matching the consumption and competition trends in the target markets which is facilitated by the industrial conventions in the value chain, the industry's market-oriented innovation strategies, the global supply and demand balance of crab products and in the regulations both on the value chain's input side and demand side. All these structural constraints may facilitate the conduct and

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performance in all production stages in the value chain connecting the consumers to the raw material source.

The supplier's capability to build competitive VRIO strategies taking advantage of the competitive environment is a key success factor to realize clear industrial goals. Such capability relies on knowledge and intelligence about the competition pattern, and about the relationship between the policies implemented in practice and the goals. I have introduced a market-orientation model for structuring the required intelligence relevant for Indonesian market-oriented competitive strategy development. This model identifies important intelligence needed for competitive success by new market-oriented ideas and practices for new products in the market target (Yusuf and Trondsen, 2013).
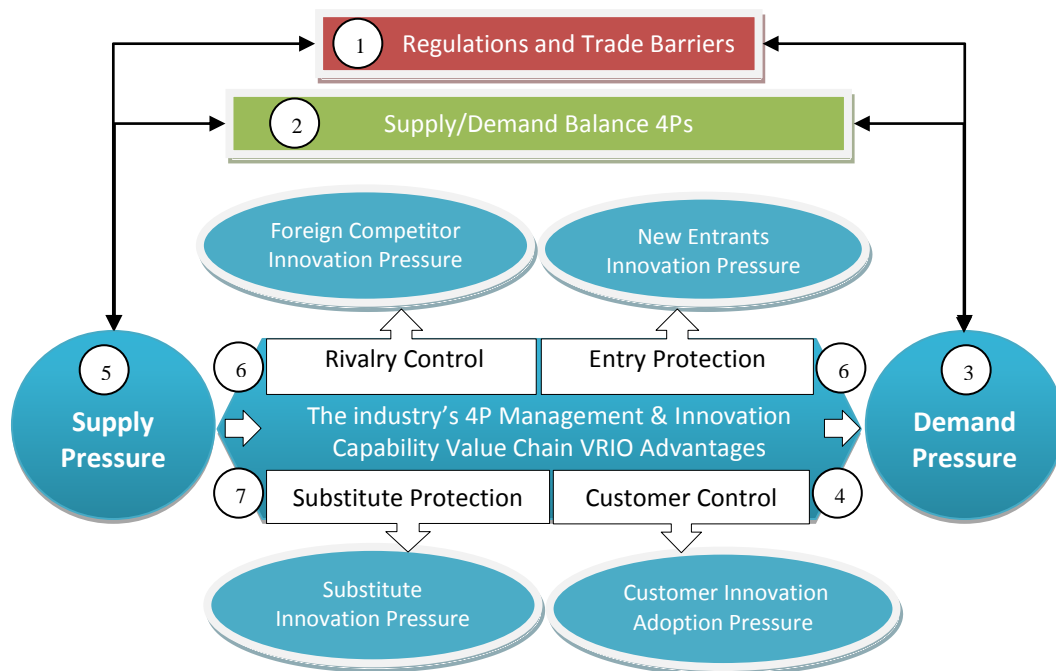
Figure 6 The Innovation Strategies and Competitive Forces framework (Yusuf and Trondsen, 2013)

Figure 6 shows the framework for categorizing the intelligence used to investigate comprehensively the most important factors in producers' bargaining power for competitive entry into potential new markets, which the literature has emphasized separately. The model consists of seven major forces that are expected to influence the bargaining power in the value chain, to be addressed in the strategic analyses.

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(1) *Regulation and trade*: a food industry relying on harvesting a common natural resource is strongly exposed to governmental regulations on both the raw material and consumer side regarding food safety and demand. These regulations strongly facilitate the industry's structural constraints and growth opportunities and should be assessed as the first step in the strategic analysis, as carried out in Paper II to uncover important intelligence about trade legal barriers.

(2) *The supply-demand balance*: is deciding whether the market prices is increasing or decreasing. Seafood markets are dynamic, especially on the supply side, due to fluctuations in the fish stocks in the wild. Prices may therefore increase even if the market demand decreases caused by even lower supply and vice versa. The global tendency is however that the demand for seafood is increasing while the total supply of wild fish is stable. But there is a lot of variation between the different species, for example, crab, which can substitute for each other in the market place. Seafood has also become a globally traded commodity. It is therefore important in a strategic analysis to assess the supply and demand both globally and in the specific market and the substitution between similar species and products. Important questions are: Is the EU crab market growing or stagnating? How strong is the competition pressure and rivalry among the trading suppliers and importers? Is the seafood business changing towards added value, in favor of pre-processed products? Are the markets moving from traditional live seafood to fresh cooked and packed meat, in other words, seafood that is ready-to-eat?

(3) *The demand and consumption pressure*: determines the direction in which the market is moving. Important questions are: Which market segments are growing and which are decreasing? What is the main demand and consumption pattern for the industry's seafood products? Are the consumption trends in the EU and US markets similar or do they follow each other? What is the role of the industries domestically and from other competing countries? What is the demand and consumption pattern for seafood products in general and especially for crab, regarding all the VRIO factors? What 4Ps attributes are highly demanded and valued and which are rare in supply?

(4) *Customer control – Innovation in all the 4Ps*: is an important aspect of the market competition: The industry's capability of entering new markets is influenced by how well the design and development of the 4Ps satisfy the customers' five innovation demand (5IDs) factors (i.e. relative advantage, compatibility, complexity, trialability and observability). Long-term competitive advantage relies on the industry's continuous maintenance and improvement of its 4Ps offer and VRIO capabilities, i.e. industrial organizations should continuously offer rare high valued 4Ps protected against imitation. The customers' preferences, willingness and decisions to pay for innovative offered 4Ps will also influence their relative bargaining power. The buyer power includes control over product demand, price–purchasing power, place–distribution channels; promotion–information communication constrained by their own conventions. The better the innovation fits the preferred 5 IDs in the target market the stronger is the industry's position. The potential customers' interest in receiving knowledge about innovations is influenced by the market pressure.[21] The potential customers' previous practice and experiences (conventions), the felt needs and problems with existing practice, and the innovativeness and norms of the social systems, all have an effect on the knowledge-seeking phase of the innovation adoption process (Rogers, 2003:163). The availability of innovations in the market place combined with competition and rivalry put pressure on the innovation adaption process (Porter, 1990). The competition in the business environment might thus favour or constrain the interest in adoption of innovation in the value chains. Important questions are therefore: What kinds of relevant innovations are available in the market? How strong is the pressure for adoption of 4P innovation among the seafood buyers in the target markets? What is the main consideration taken by the buyers in each of the transaction steps downstream in the value chain when they are making decisions related to the offered innovative 4Ps? Paper III analyses the assessment of market intelligence for those factors as key information.

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[21] See Rogers (2003:163); the innovation-decision process "Prior condition & Characteristics of the Decision-making unit", the 5 IDs primarily influence the persuasion process.

(5) *Supplier pressure and profiles shaping the VRIO competition in the target market*: seafood and especially wild seafood is a limited resource of which the supply fluctuates over time. Fish species can also substitute for each other in the market place, but can be partly locked out from efficient market access due to logistics and regulations. It is therefore important to identify the supply power and trends in the market domestically and internationally, regarding growth and sustainability of the relevant competing seafood suppliers, their product uniqueness, their supply stability, and their trading pattern.

(6) *Rivalry control, entry protection and infrastructure investment*: the industry's rivalry and management conventions among existing competitors may require a supplier to build cost advantage into the entire value chain in order to survive. Furthermore, to overcome barriers requires understanding of all the key VRIO competition factors which may balance the foreign competitor innovation pressure. Rivalry focused on the competition dimensions can improve value relative to substitutes or raise the barriers against new entrants. Value chain management and infrastructure investment will determine the capacity for survival as a distributor and as potential new entrant. What are the entry barriers in the targeted value chains and which new distributor/suppliers are the potential entrants? Has the industry enough infrastructure, capacity and advantages to withstand new foreign entrants? Does the Indonesian industry have effective competition strategies? This is discussed in paper IV on competitive intelligence for Indonesia's performance.

(7) *The competitive pressure of substitute products*: consumer will move to product substitutes at any time according to their best interests and price considerations. The crab industry, for example, encounters competition pressure from surimi-based crab sticks, which consist of a mix of surimi made from white fish and crab flavouring. Substitutes may also be a market opportunity for the industry, for example, by mixing expensive crab raw materials with cheaper surimi or other ingredients s in new products. Entering into new markets with BSC may also be a substitute for local crab species like European blue crab. Customer satisfaction is achieved when superior customer value is delivered by the business. This means that competing crab products, including imitations, have an important role in influencing the industry's

policies and strategies. How strong is the price pressure from the substitute products? Does BSC have an extensive market segment?

Paper I provides a comprehensive framework of key success factors to be addressed by the producer when entering the destination market. The following three empirical papers (Paper II, III and IV) focus on strategic intelligence and address the questions developed in Paper I. Is the industry's innovation capability appropriate, according to trends and competition in the target market? Are the innovation capabilities and innovation strategies in the R&D Company matching the market demand (based-intelligence)? Intelligence about market trends will be investigated (see Chapter 6) in order to answer other questions in the framework.

5.2 Trade barriers in international and European market [Paper II]

The aim of this study is to review the legal framework for seafood exports to the EU (see Chapter 5.1). The EU is one of the world's biggest markets for seafood products and it should be a priority for Indonesian exports. The EU is known to have strict quality standards for imported fish products. The entire basic standards have been established openly with an objective assessment that every exporter is required to fulfil. It is therefore a challenge for Indonesian seafood producers to meet the demands and requirements. In order to attract European buyers, export companies must recognize the regulations that apply to their products. Indonesia has begun to work systematically with product quality standards and development of a procedure for internal audit based on the EU legislation (e.g. contaminant restriction, packaging, labelling and other certification) in order to satisfy the market's requirements. Nevertheless, the adoption of regulations needed to address regulatory gaps related to differences in restrictions and monitoring procedures ranging from fishing, manufacturing, shipping, and distribution.

Factors to consider in the export chain are: (1) ensuring completeness of supporting documents, e.g. HACCP certificate, health certificate, quality certification, rules of origin (RoO); (2) monitoring products and provision of handling products start from raw material, in factory, in the transportation and to consumers in market place; (3) the requirements imposed in the checking of products during in the market destination. The best packaging methods can reduce the level of product damage

during the trip. Both parties of importers and exporters have an obligation to continue to monitor the presence of the goods for sure until it passed to be marketed. An understanding of this procedure is also considered necessary in order to ensure the security of shipping products. The EU market destination applies regulations according its own standards including: (1) Inspection of raw material (2) Implementation of HACCP (3) Maximum levels of contaminants in food products (4) Health certificates for imported food products (5) Maximum Residue Limits (MRLs).

The legal barriers for Indonesian exports to the EU are a result of mismatches between the Indonesian and EU provisions. Based on the results of an inspection by an EU delegation, some records indicate that Indonesian law provisions suffer from weaknesses i.e. in particular the inconsistency in the control of the industry's adaptation to the maximum limits of residues, contamination etc. as displayed in laboratory protocols. Comparison between the EU and Indonesian standards was revealed differences in scope and restrictions; e.g. systems for handling and limitation of contaminants.

As shown in Paper II, the EU's rejection of Indonesian seafood products during the years 2005–2011 reflects the fact that seafood exports are vulnerable to external factors or influences, i.e. cases of carbon monoxide, heavy metal, antibiotics and microbiology. Another reason for export failure is carelessness in handling and processing products along the production chain. In addition, failure is caused by lack of technical precision, so that a product may be issued with a health certificate, as a condition of export that was not justified. Analysis of cases of the EU's rejection of Indonesian seafood products shows a conflict that must be addressed by both trading partners, especially if Indonesia wants to enter the European market successfully.

The EU and Indonesia are parties to international food safety agreements. International trade agreements are important to support the commitment of market participants in trade negotiations and run it effectively (Jackson, 1969). As indicated in the analysis of legal barriers, the challenge for Indonesia is to devise a future strategy to improve the legal framework, which seems most easily addressed by a full harmonization of Indonesian and EU food safety rules. In addition, the past cases of refusal are a domestic imperfection parameter. It is need extra careful in export procedure provision.

5.3 Adoption of new seafood products in the European market [Paper III]

The main focus of this paper is to determine market opportunities for the introduction of novel seafood products in the European market, especially those made of crab. This paper evaluates, according to chapter 5.1, the market intelligence on importers' desire to adopt novel products related to their perception about the trends in seafood demand and supply.

I have shown in this study that supply and demand factors both influence the strength of the innovation adoption process at different stages and are interchangeable for case decision-innovation for European seafood traders. It is indicated that a combination of innovation and marketing mix concepts are applicable to identify the underlying attitudes among the traders in the innovation-adoption process, especially regarding the interests of knowledge and the persuasion stages. The results suggest that the characteristics of innovations have a significant impact in the initial knowledge diffusion stages of market introduction for satisfying perceived needs and for reducing the perception of complexity. On the other hand, the perception of the price and product (PP) advantages when compared with competitors is most influential when traders take decisions about implementation of innovations in their business. Nevertheless, as expected these factors play an important role in distribution and marketing in the European seafood trade. Based on these findings, the strategic focus for entering a new market may especially emphasize market-oriented product characteristics and price.

The PP characteristic combinations (1) product (more) advantage; (2) product (less) complexity; (3) price (guarantee) advantage; and (4) price (minimize) complexity; gave the best positive response of traders' innovation-decision priorities. Moreover, the results suggests that competitive advantage may be built on improving product and price, but also by simplifying the use of products and reducing cost risk for seafood distributors. Furthermore, for future work an analysis of marketing relationships involving different adopter categories in seafood distribution should be considered, that may give more specific results on how different market adopter categories with a great deal in common demand new seafood products. The development and communication of product characteristics are much more demanding

of industrial capability than price calculations and communication. Success in entering new seafood markets with new products therefore requires investment in market-oriented product development in close relationship with the users in the markets.

5.4 Strengths and weakness of the Indonesian seafood industries [Paper IV]

The purpose of this paper has been to evaluate the strength and weakness of the current competitive position and performance of the Indonesian seafood industry with regard to entering new markets. The case study analysed involves innovation and competitive strategies of Indonesian crab-processing industries (ICI). The challenges for the future development of the industry include addressing important issues for building advantage in the value chain.

The findings in the study indicate that the competitive strength factors in Indonesia's crab industry are: (1) control of the supply chain from harvest; (2) good facilities and infrastructure; (3) an advanced quality management system; (4) the industry's experience from exporting competitive generic products to the US market. However, the industry faces important barriers for expansion into new markets. The most important intelligence about barriers includes that of competitive weakness to overcome entry barriers, which requires special attention in terms of: (1) the capability to adapt to new market conventions (buyers' demand, product innovations, and regulations); (2) the capability to stabilize volume supply constrained by barriers in raw material access and strict competition; (3) the limited marketing network capability; and (4) the limited capability for control of value chain, customers and product protection after the point of export.

This study confirmed that Indonesia's market success and competitiveness are limited by the lack of investment in market-oriented innovation for gaining market protection through providing rare and unique products and services. Capability for market-oriented product development and innovation for a new market is thus a key factor for improving the ICI's competitive advantage in the future (Barney, 2002; Flint, Larssson, and Gammelgaard, 2008; Foss et al., 2011, Hult, Hurley and Knight, 2004; Rogers 2003).

However, the lack of capacity to develop effective market-oriented strategies is a major barrier for access market-oriented innovation development regarding competitive advantages, competitors, conventions, adoption and consumption habits for crab products (e.g. quality, taste and cooking and serving methods). The concentration on the US market has affected the innovation capabilities and habits, which is the point of departure for entry into the European market. Product diversification of crab products to international innovation trends may put competitive pressure on the Indonesian BSC that is important for the further market-oriented development of the ICI.

Rivalry among crab producers has caused stiff competition in purchasing raw material and controlling raw material prices. Furthermore, the main barriers for further growth which are now facing the ICI are the volume of crab catches available[22] for maintaining stability of production and gaining value chain power by market diversification and trends. In order to maintain a stable competitive climate in Indonesia, it will be necessary to find solutions and establish partnerships involving fishermen, Indonesian crab processing association, Crab Companies and the government. Important programs to be promoted are: (1) awareness of resource sustainability for crabs involving all the parties concerned; (2) awareness of quality (3) awareness of price control among processors. Stability in raw material supply is a critical factor. Crab resource sustainability in the current situation is critically endangered due to the lack of attention that has been paid to environmental exploitation. The competition weakening cost advantage therefore, needs to be anticipated in the future.

Improvement of market intelligence is crucial for improving the market orientation needed to realize long-term goals. Based on investigation of the competitive forces, there are several potential barriers to overcome. Therefore Indonesia has concentrated on key factors, including matching innovation, regulatory fit, and value chain optimization. The strengths and weaknesses of the ICI are the basis for the strategy for continuously increasing performance.

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[22] BSC aquaculture has begun to be explored but has not yet shown significant production results and it is inefficient in operating costs.

Furthermore, the ICI has begun working on systematic development of a product quality standard and conducting an internal audit procedure based on legislation (e.g. contaminant restriction, labeling and other certification) in order to satisfy existing market requirements. These five competitive business forces will determine the extent to which value is created through head-to-head competition. However, these crab processing strategies do not always work well and sometimes the appropriate strategy needs to be developed through trial and error and even failure when expanding business networking.[23]

6 Investigations of market trends

The analysis results based of the three papers shows that there is an open potential for Indonesian seafood products to enter the EU market. Indonesia has a potential abundance of crab resources. Nevertheless, intelligence about the competitive environment shows the challenges for Indonesian exporters to optimize the output according to market needs, legal requirements and value adding opportunities. The consequences of the alternative strategies should be viewed more thoroughly. The market intelligence from external perspective should determine the extent to which value is created. Therefore, intelligence especially about the forces factors below has to be investigated:

- The market balance trends
- Characteristics of structure distribution and consumption trends
- The rivalry pattern and the competitor innovation trends
- Substitute product trends

First external perspective must be viewed from the supply-demand balance perspective to identify market opportunities for introducing Indonesian BSC into new markets. Other crab species[24] are well known and accepted by loyal consumers in the market. The introduction of new species must take advantage of new growing market segments for crab products or substitute for the local well known species. Offers of

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[23] It is important to underline that even if the actors in industries are possibly living within an imaginary innovation system, the tendencies towards change in the outside world will probably continue (Lindkvist, 2009).

[24] E.g. Red King Crab from Norway, Brown Crab form UK and Ireland, and Snow Crab from Canada and Russia, also European supply for Blue Crab and Spider Crab.

new crab species or new combinations of crabs and other ingredients, which may be more tasty or cheaper than the local. It is may contribute to market growth of the crab category in the market.

Because consumers in Europe have modern, highly health conscious tastes, there is an increasing demand for better quality and healthier seafood products. Indonesia can adapt to a variety of such requirements. The European market is still wide open for BSC when Indonesia has developed the advantages it needs to compete. Great opportunities are identified in France, Belgium, UK and the Netherlands which together represent up to 90% of the total crab imports to the EU.[25] However, other European market segments which are not studied here may also have untapped market potential.

Quota restrictions and minimum landing sizes are applied to particular species of crab in order to maintain the continuity of supply as well as the impact on production in the EU, because such policy can later cause a reduced supply from domestic production. In addition, the seasonal demand and supply does not match in time. Demand for crab is usually associated with particular months and seasons. Crab consumption is highest in the winter and around special celebration events like Christmas, New Year, Easter and Valentine's Day, while the supply of spider crab, for example, has its peak period guaranteeing the highest quality and optimal size in February, continuing into March (Seafood Source, 2012). This mismatch in time between demand and local supply opens markets for imported crab that better match the demand for fresh quality products or processing and preservation which even out the seasonality in supply.

The second external perspective needed is whether the international crab market has specific characteristics according to demand and consumption trends. Trends in the crab market structure in the EU and the US are different. In the US markets, crab is dominated by pasteurized products, while European markets have varying conventional trends, due to local supply and traditions. Crab importers could be intermediaries that provide creative input to the ICI. The main buyers with long-

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[25] http://www.thefishsite.com/; http://www.eurofish.dk/; http://epp.eurostat.ec.europa.eu/

term relationships to the ICI could make a large contribution to the development of product innovation.

Distributors in the US market already have widespread "crab houses"[26] (crab-seafood restaurants) which specifically sell a product mix of diversified crab products. Crab sales in the EU market still depend on the supermarket chains. Both markets have the same pattern in the hotel and restaurant industries, with great opportunities even though it is a specific menu that is served. In the traditional European markets a lot of fresh crab products are offered, from species like king crab and mud crab, some crab products are processed for imitation, crab mix and as crab salad with other ingredients. In addition there are differences in the usual products sold in Europe compared with the products made in Indonesia. The differences are seen in the presented types, forms and innovations. Market observations indicate that many outstanding products are frozen such as sticks, whole claws and body shell. Whereas, the majority of products manufactured, and the R&D priority in the ICI, are pasteurized in packaging materials; cups, cans and pouches. The non-pasteurized products are still produced under limited diversifications. Today many canned products have 'easy open', or ring-pull lids, while others still retain the conventional can type. In another view, crab products in Europe should follow current trends in Europe regarding environmentalism, e.g. when it comes to packaging standard, traceability, carbon footprint, plant standard and eco-labelling such as certification by the Marine Stewardship Council (MSC). Ideas that can simplify the handling complexity of the crab product for consumers may create a positive response. An example is the portion size of once-cooked product that is easy to carry and keep at home.

In doing so, threats and pressure from the rivalry of other countries' competition must be identified as a third external perspective. What are the developments and perspective in other countries that produce significant amounts of BSC, among others; China, the Philippines, Thailand, and Vietnam?[27] China is known

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[26] US crab-seafood restaurants include, e.g. Charleston Crab House; Fultons Crab House; Crab House Detroit; Mikes Crab House; Harris Crab House; Woodys Crab House; Laishley Crab House.

[27] Vietnam and Thailand, with 37% and 29% respectively, are the major players in supplying crab products to France (See The Fish Site, (2013) "FAO Globefish Reports"). Besides Norway and Canada as important suppliers, China and India also contribute in the European crab market competition.

for a variety of breakthroughs and the ability to provide cheap goods.[28] Chinese crab products also compete rigorously, however, for Indonesia point of view may became a threat of entrance. On the other side, the demand for crab in China is increasing which may turn the threat into an opportunity. Obviously, the ability of Indonesian producers requires continuous improvement of the workers' skills and technological advancement. The stability of the quality will be able to build loyalty to the crab product and brand that has been marketed. Most crab products in the EU are imported from other countries such as Iceland, Norway and Canada. Almost none of the EU member states are self-sufficient. The EU market for crab products has many suppliers, processors and distributors. Fresh products are popular in the EU market, while pasteurized products are more attractive and greatly in demand in the US market. The first strategic challenge for Indonesian crab companies is to build the trust of European customers by providing better offers than the competitors that are currently in the market.

The fourth external perspective to consider is the competitive pressures of substitute products. There are threats of substitution from various alternatives which offer competitive prices and similar values to crab (e.g. shellfish, shrimp, lobster, oyster, and scallop). Other crab species, like king crab, brown crab, mud crab and red crab, are also competing in the same markets. In particular, the threat of substitute products today is a product of similar quality but at a lower price. The development of innovative seafood imitation products, e.g. crab stick surimi, by a variety of species and also varied offers creates pressure for the crab industry. However, fortunately the crab product has a special market among consumers for whom crab is an essential item on the menu at specific events. Possible some consumer shift to other products is unavoidable. The threat of substitute products may become more significant if the producers are not able to offer solutions at affordable prices, to innovate and make better products more attractive. Distant export markets have developed to be more advanced than what is imagined by the producer regarding packaging, presentation, and design of the products. This is due to the barriers in the current market intelligence system in Indonesia. This means that changes in the crab trade from time

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[28] "... Demand for crabmeat from China will be steady...". Source: Sackton (2013).

to time are driving the competition towards value adding innovations which the Indonesian industry may not be aware of.

Knowing the market demands and needs of innovation, crab products made in all factories can be adjusted. Intelligence communicating knowledge of conventions, adoption and consumption habits of crab products may became the effective key to start processes in the industry for creating excellence according to the needs of the market. Nevertheless, development of an innovation system to be successful requires ongoing evaluation, because the market conventions are always evolving. Besides strengthening industry infrastructure investment, Indonesia needs to strengthen its institutional market intelligence. Professional institutions are very necessary, since currently only the Directorate General of Fishery Products Processing and Marketing, an institution under the MMAF, is primarily responsible for enhancing the marketing of fishery products of Indonesia. In this case, may adopt from Norway's strategy through the Norwegian Seafood Council (NFC) with its intelligent promotion programs.[29]

The aspect that also is very decisive from an industrial inside perspective is the facilitation of technological innovation in supporting the market-oriented competitiveness. Technological innovation opportunities in Indonesia can still be created in order to get closer to the needs and demand for seafood products. Technological innovation-oriented and market-oriented combinations can be an alternative solution to increasing business productivity. This can be done, for example, by making technological innovations in the seafood factories in the operation as a device to create improvements in design and maintenance according to market preferences.

7 Discussions for mapping strategy

Based on the above findings and supported by the perspectives on market trends, therefore, current "conditions and issues" and "strategies development" can be mapped as in Table 2. Mapping techniques represent a necessary aspect of strategy planning and can be used to enhance an organization's business continuity capability (Trim and Lee, 2008). Effective innovation management is an important part of the

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[29] e.g. http://www.seafoodfromnorway.co.uk/; http://www.salmonfromnorway.com/

industrial strategy. The Innovation Strategies and Competitive Forces framework (Figure 6) should cover the configuration of Indonesia's fishery resources, products, competition, threats, pressures and systems and focus on the factors that can be developed by crab companies facing new marketing challenges. The ICI has to transform itself according to clear marketing VRIO goals with emphasis on both strengths and weaknesses identified in the value chain.[30] A successful market-oriented innovation requires the determination of strategic orientation accordingly. Commercial innovation success can't be realized without a clear innovation strategy and relevant innovative industrial capability (Lawson and Samson, 2001). The seven competitive forces facilitating the Indonesian seafood trade environment, domestically and internationally and its related export strategy can be seen below:

Table 2 Indonesia BSC's FCF–SCP–VRIO strategy in global value chain

FCF (Five Competitive Forces)	SCP (Structure–Conduct–Performance)		VRIO Goal (Value Rareness Imitational Organizational)
	Conditions and Issues	Strategies Development	
Supply control	Indonesia has huge potential fisheries natural resource and experience to supply high quality.	Optimizing potential and enhancing Indonesian seafood innovations	To be focused on competitive factors including: (1) Crab value for customers through added value products, (2) Crab rareness for customers through innovation and differentiation, (3) Imitable protection resources through R&D alternative raw material and product imitation (4) Unique organizational resources through development of market-oriented managerial and employer expertise
Customer control	Recently, the US crab importers have control in Indonesian crab trade as major market. There is demand for the EU as alternative new market and to enhance customer control	Get the intelligence about EU demand and convention, existence and innovation trend. Maintenance the US market	
Entry protection	China, Thailand, Filipina and Vietnam have developed their advantage and as competitor of Indonesian crab fisheries	Develop ICI trade stability with loyal markets	
Substitute protection	Seafood products give pressure for competition crab product. Pasteurized crab products are trendy in the US. Fresh products are trendier in the EU market	Matching product innovation strategies and recent trends	
Rivalry control	Tight competition among ICI firms for purchasing raw material and resist pressure external rivalry	Building strategy for competitive advantage. Government support in conducive to the competition climate	

Supply demand Balance: (1) the intelligence in a business conduct analysis (2) the intelligence in searching market information and forecast (3) the intelligence in measure and monitor demand opportunity in the target market

Trade Barrier: the intelligence concerning legal and system issues in Europe to implementing domestic standard and strict control in the procedure export.

Targeting new alternative markets for Indonesian BSC may be important for diversification, stabilization and increasing future export values. Indonesia has been trying to explore new market potential by expanding its international business network. Competitive advantages in entering new markets are enhanced by

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[30] Competitiveness and value chains are important factors performed through the VRIO-framework (Barney, 2002).

innovations and improvements in bargaining positions. It is therefore important to evaluate the strength and weaknesses of the Indonesia internal seafood industry value chain compared with the requirements for profitable exporting to new markets. Correcting the competitive weaknesses on managerial and technical levels into competitive strength are the main priorities. However, a lack of market orientation and effective networks can inhibit efforts to expand into new markets (Kohli, Jaworski and Kumar, 1993; Narver, and Slater, 1990). A possible way out of this constrained locked-out market position is that the processors could work with stakeholders including the government to open access to the European market (see Lord, Rina, and Ruehe, 2010).

This relationship becomes the foundation to determine a strategy in entering into the competitive market. This thesis has reviewed market-oriented product development strategies by integrating recent Indonesian innovation and Europe market convention perspectives which are still dominated by mismatch. Capability to adjust to the European market and innovation demand is a challenge met by considering all the important aspects involved. Market-oriented product development can be viewed as the combination of an organizational capability and supported information processing behaviour in the markets (Adams, Day and Dougherty, 1998).

8 Conclusions

This thesis has demonstrated important market intelligence about the forces influencing the ability of the export-oriented ICI to enter the European market. The thesis contributes to an improved comprehensive theoretical framework consisting of seven forces important in seafood value chain analysis. A combination FCF–SCP–VRIO value chain model has been implemented to identify the main factors shaping the market-production orientation in the ICI supported by an empirical study. This model has been useful to understand the important factors for entering target market competition. Nevertheless, the bargaining position, conduct and performance of the Indonesian seafood industries depends on their success to facilitate the industrial structure and the ability of organizations to satisfy the target markets with customer perceived valuable and rare 4Ps which can be protected against direct imitation. The market entry process requires build-up of market-oriented innovation capability in

cooperation with partners close to the market and systematic market and value chain strategic intelligence distributed across the industry.

Indonesia is committed to becoming a leading global player in the world fishery sector. Global economic issues and updates market intelligence can therefore not be ignored. Nevertheless, Indonesian seafood industries are compelled to address these issues as a new challenge. The second-tier rising powers such as Indonesia are increasingly behaving like strategic players. International market and value chain pressure from new entrants in the crab industries and the other substitution seafood products are also enhancing the competition from foreign processors. The EU importers interested in Indonesian products will be affected by the competition in the market for similar products and offers from seafood exporters who currently supply to the EU. The main findings can be summarized as follows:

- A guide for building an entrance strategy into a new seafood market requires intelligence assessment of key factors extracted from different aspects of marketing and competitiveness theories about VRIO, FCF, SCP, value chain convention and innovation adoption. What the market actually wants was analysed, here this study was positioned.

- Legal trade barriers are one of the potential hindrances for Indonesian–EU trade. A harmonization of European-Indonesian regulations and better domestic enforcement are required to improve the trade. The intelligence in identifying trade barriers is of key importance. Nevertheless, without updating new regulations, dissemination of intelligence on the fisheries industry actors, and domestic enforcement this has caused problems to emerge.

- The decisions of European seafood buyers about the adoption of new seafood products and suppliers goes through a prior persuasion knowledge collection and prior condition experience process. The knowledge persuasion processes are more sensitive for satisfying the customer's basic needs and reducing the complexity of innovation adoption while the decision process is more concerned with the value for money (product-price) PP relationship. The marketing strategy should therefore focus on two steps; first on product development according to customer needs and second according to competitive price considerations.

- Indonesia is able to produce high quality and adequate industrial structure-infrastructure, but lacks capability in market-oriented innovation and intelligence. Competitive industry rivalry among existing producers (local and foreign) has caused stiff competition and weakened cost advantage. This has an impact on the ability to survive for the ICI. The industrial strategy should therefore focus on building up market-oriented innovation capabilities and minimizing weak factors.

The suggested solution and strategies are important to improve the performance of the future Indonesian marine and fisheries. Decision makers have to take the important step to implement the strategy according to the focused market and value chain environment. These systems are interrelated due to the fact that proper identified strengths and weaknesses can be the basis for new solutions for increasing the industry's bargaining position in the supply chain.

9 Limitations of the study

Comparative study of the Indonesian seafood industry's economic importance is not performed in this thesis project. Indeed, ideally, a thorough study is needed for e.g. tuna, shrimp and crab which are the three top Indonesian seafood commodities, because each has different characteristics and facts. Those have an innovation system with a complex of interactive industrial institutions and actors limited in a national (geographical) level (Cooke, 1998; Lindkvist and Fløysand, 2002). Nevertheless, this would be difficult to do at the same time as this project was limited in time. Consequently, the main limitation in this study is the inability to generalize the results across different kind of value chains.

Hence, this study has tried to uncover a specific case, linked to national strategy and international marketing intelligence perspectives. I would argue this study has developed the research methodologies in detail and based on multi-aspects approach in order fulfills the validity and reliability of scientific marketing research specifically for the chosen case study. However, to satisfy the requirement for general validity across value chains more case studies are required (Hauser, Tellis and Griffin, 2006; Hunt, 2008; Grunert et al., 2010).

10 Further work

Major issues must be solved to increase the Indonesian marine fisheries' competitiveness and contribution to long-term development goals. This empirical thesis is limited by reference to a specific variety of seafood (crab) and to certain issues, however, the fisheries problems are quite complex. This study is focused on the keywords: (1) competitiveness of the seafood products (2) innovation strategies (3) market intelligence as the objects being studied. However, many aspects are open to improvement in this field. Fisheries issues are still developing and can show various research directions that should be pursued to enable the framework to be applied. The current framework requires that the key factors cannot work alone, and therefore need to be connected and specified in detail on each of these factors.

Ultimately, the new conceptual framework for marketing strategy and product innovation provided in this thesis can be used as a basis for further research. The research on marketing orientation in seafood industry value chains may thus contribute to theory building and a comprehensive approach is therefore called for. Once an empirically based conceptual framework has been established, it can guide future studies (Grunert et al., 2005). There are a number of factors which may be reinforced with the argument and the other approach, from the social sciences. Further work is also called for, expanding and deepening the framework on each factor e.g. (1) Innovation–quality (2) organization (3) global value chain associated with Indonesia's 'Blue Economy strategy toward competitiveness 2030'.

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