Promoting innovative business in the fishery sector in West Java, Indonesia

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Abstract. West Java represents an important fisheries production center in Indonesia, owing to the abundant capture and aquaculture resources. However, the intrinsic characteristics of fish products such as perishable, voluminous, and seasonal currently prevent fisheries from having brought significant economic contribution to the province. In line with it, this research was aimed to analyze and identify leverage factors that will lead to fishery-based innovative business in West Java. Data used in this research were primary and secondary ones, which were collected through surveys involving 30 respondents representing fish processors and the same number representing consumers. A Focus Group Discussion (FGD) was also carried out to verify the collected data. Analytical tools adopted in this research were fishery triangle product model. Based on the analyses, it was found factors influencing the success of a fishery innovative business in West Java, Indonesia were consecutively: the existence of derivative products, product processing innovativeness, product price competitiveness, market place, and promotion. Based on the fishery triangle product model, it was found that fish onboard handling, post-harvest handling, and processing was in the development stage and therefore these production nodes need a particularly high attention.

1. Introduction
West Java is one of the provinces in Indonesia which have potential fisheries and marine resources. West Java province has varied tourism potential. It has tourism potential in the areas around its south and north coasts. Marine tourism can be developed on Java, for both of the beauty of its panoramic beaches and the various kinds of biota it has.

Some marine tourist destinations such as Pangandaran Beach and Pelabuhan Ratu have been well-known and crowded by domestic and foreign tourists. Pangandaran is the most popular tourist destination among domestic tourists as it has fantastic attractions. Thus, there is a possibility that Pangandaran Beach becomes a leading tourist destination in West Java. The same goes to Pelabuhan Ratu. West Java has the potential to develop fishery products, in the form of both processed and fresh fish, as well as culinary attraction. The trend of fish consumption in 2011–2015 showed an increase by 6.27%. The increase in fish consumption over the last 5 years is the result of various campaign efforts and activities themed the fond of fish for the community. The average fish consumption was 36.12 kg/cap/year.

Fisheries are all activities related to the management and utilization of fish resources and the environment, which range from pre-production, production, processing, marketing, to implementation in a fishery business system (Law 31/2004 Chapter 1 Article 1, paragraph 1). Fishery production must
have a market orientation value. Market orientation is a key factor in the effort to increase the value obtained from fishery commodities [1, 2, 3]. Marketing consists of social and managerial process, in which individuals or groups obtain what they need and want by creating, offering, and exchanging products and value to others [4].

Fishery marketing is defined as the performance of all business activities involved in the flow of production, which include capture fisheries and aquaculture in both fresh and processed forms from the point of production until reaching the hands of end consumers [5]. The definition of fishery marketing management also recognizes the interdependence between fishermen or cultivators and merchants or marketing wholesalers. The fishery production process does not stop at the fisherman or cultivator level; fishery marketing activities complement semi-fishery production process, which is not subsystem or traditional. While it is true that there will be no fish supply without the fishermen and cultivators, the relationship between fishermen, farmers, and fish marketing companies, both competitive and complementary, is still deemed necessary [5].

The orientation of fishery products marketing is related to innovation, product development, and competitiveness. The development of the fishing industry still faces some limitations in the design and creation of sustainable innovation, which can not occur naturally. However, West Java has the advantage of fishery resources that require further handling in that market-oriented innovation for its regional economic development. Market-oriented innovation strategy is a major factor in the increase of industrial capacity [6, 7, 8], particularly in the fishery sector.

In order to improve the competitiveness of fishery products, it is necessary to analyze various aspects influencing it in relation to the driving and inhibiting factors of the fishery business which disrupt the production, price, distribution, and promotion of fishery products in West Java. Mapping the innovation of fishery products by adopting market needs is key in the strategy to enhance the competitiveness of fishery products. The innovation of fishery products that meet the market demand is important for the fishery industry in West Java for them to be more acceptable and competitive.

The challenges of the development of the fishery industry are related to the upstream and downstream sectors, which range from production to marketing. The fishery industry in West Java may get benefits by increasing its supply to satisfy the needs in the fish product processing chain. The competitive market forces [9]. The VRIO model mentions that sustainable competitive advantage depends on four major factors: 1) value, which is positive customer evaluation of the product offered; 2) rarity, which is positive customer evaluation of the scarcity of marketed products compared to other products that satisfy customers; 3) imitation, which is the extent to which the product offered can be protected from imitation by competitors; and 4) organization, which is the ability of a reliable marketing organization. The value and rarity of the product offered may include customer ratings of all 4P in the marketing concept, product quality, and strategic location.

Market-oriented innovations can be defined as "ideas, products or practices that are new to adopters and provide new potential in the marketplace" [7]. Market-oriented innovations can drive performance and create more value for customers. Market-oriented innovation is acceptable to customers and able to meet consumer tastes [11]. The synergy between the industry and the government and even community groups in some cases encourages innovation and new partnerships to improve the quality standards of fishery products [1].

The innovation system is a network of institutions in the public and private sectors whose interactions initiate, import, modify and diffuse new technologies [12]. Meanwhile, according to Nelson [13], innovation system refers to a group of actors who, together, play an important role in influencing innovative performance (innovative performance). Arnold et al. [14] used the term "national research and innovation system", which means all actors and activities in the economy necessary for industrial and commercial innovations and that can lead to economic development. Innovation system creates new knowledge and guides the direction of the provider's search process and technology users [15]. Thus, innovation system actually includes the basis of science and technology, including educational, research, development, and engineering activities.
The effectiveness of a company's marketing is strongly influenced by the marketing communication system. The more effective the communication is, the more proportional it is to the marketing. Marketing communication can be carried out in several ways of communication called marketing promotion mix, which consists of five main communications [16]. Promotion as: promotion as communication that informs customers of the existence of products, and persuades them that they have satisfying capabilities [17, 18]. Interpret the promotion as; promotion is an exercise in information, persuasion and conversely, a person who is persuaded is also being informed [19]. Promotion as: "coordination of all efforts initiated by the seller of goods and services or introducing an idea [20].

2. Methods
This research was descriptive research. It was conducted to describe the aspects of marine tourism development. It was conducted by employing fishery triangle product model with multiple linear regression. Multiple regression offers a way to address these issues. If we put all of the variables we have into one analysis, we can assess the impact of one factor when another factor is taken into account.

This research used survey method, by which information was obtained from 30 respondents that were taken by snowball sampling technique. Focus Group Discussion was also held to obtain opinions from the research objects. Based on the types of data and analysis used, the design of this study was a combination of quantitative and qualitative research.

3. Results and Discussion
West Java has coastal areas, especially in its northern part, including Pelabuhan Ratu in Sukabumi and Pangandaran. Coastal areas have a strategic meaning because they are transitional. The wealth of these resources attracts various parties to utilize the resources and various agencies to regulate the utilization of one of them as marine and culinary tourism. Many domestic and foreign tourists have enjoyed the beauty of Pelabuhan Ratu and Pangandaran Beach, and many of them buy typical souvenirs of the area.

The restaurants outside hotels are classified into several types according to the target and market segments, main purposes, locations, and types of foods and beverages offered. The types are as follows: (1) automat restaurant, which uses automatic machines with which anyone can take their desired food by entering a number of coins according to the stated price of the meal; (2) delicatessen, which is a specialty restaurant that sells specialty foods like seafood; (3) bistro, which is a small restaurant [21] usually located in a crowded shopping center where the crowd pass through the place; (4) canteen, which is a restaurant that provides snacks. At first this restaurant was under a military camp. Now the term canteen is often used as a restaurant for employees in companies or office buildings; (5) cafe, which is an informal restaurant like hotel coffee shop, but it stands alone outside the hotel. It prioritizes the sale of fast food and provides musical accompaniment like a hotel lounge; (6) rail road catering, which is a restaurant inside a train. Guests can dine at the restaurant or tell their orders to the waiter, and the orders are served with a stroller or tray; (7) cafeteria, which is a self-service restaurant, where guests take their own preferred dishes; (8) steak house, which is a restaurant specializing in selling roasted food; (9) coffee pot, which is an informal little restaurant selling at prices affordable by economic group, usually in the form of a stall, and is placed on the side of the road; (10) drive inn, which is in a car, and the food is served in cars. It only sells practical foods such as sandwiches, ice cream, and so on; (11) rathkeller, which is a typical German restaurant usually located at the bottom of a staircase or in a basement; (12) common, which is a restaurant that serves food for many people in one long table; its pride is in one institution; and (13) specialties restaurant, which is a specialty restaurant that serves typical dishes from a certain region or country. According to Government Regulation of the Republic of Indonesia No. 16 of 1997 dated June 18, 1997, franchise is a form of cooperation, in which the franchisor grants the franchisee the right to use its intellectual property right, such as the name, trademark of its products and services, and operating system. In return, the franchisee pays a certain amount of money for the intellectual property held by the bidder for a certain period of time.
Fishery triangle product model is an institutional approach that is carried out for handling competitive fishery products, involving producers—fishermen and fishery product processors, distributors—intermediary traders, and the government, before they reach the end-users (figure 1). In consequence, there is a need for consolidation and integration between fishery business branches, both horizontally and vertically, in order for them to be more rational, effective, and productive.

Figure 1. Fishery triangle product model

However, in the network economy, e-commerce application in the field of fish trade is inevitable. Electric commerce has provided a good opportunity for the business in fishery development to increase sale volume and profit by using the fisheries triangle product model. The promotion of marketing platform of fishery products is targeted to direct and indirect customers and food processors. Direct customers are individual customers, who purchase lesser, and the products purchased are generally a wide variety of rough, finishing class fish. Indirect customers include all kinds of hotels, enterprises, institutions, supermarkets, and chain stores. For these customers, the platform is mainly used to obtain information. Meanwhile, food processors buy main raw materials through online auction of the fish landed. They purchase the whole seafood and related production equipment. During the transaction of the landed fish, customers must register as ordinary members first, then submit some necessary personal information.
Figure 2. Promoting innovative business in fisheries

According to figure 2, innovative business in fisheries is related to promotion, marketplace, competitiveness of product prices, and derivative product innovations. Fishery derivative product processing is aimed to create added value for a product to give it a high economic value [5]. Farming system development is a way to increase the income of farmers and their families. bio-physical, socio-cultural, institutional, and economic conditions dynamic. The high potential of capture fisheries in Pangandaran and Sukabumi gives an opportunity for fish processing development. With this fish processing development, the people or fishermen do not only sell raw fish. The development of processed fish business in the micro, small, and medium enterprise (SME) sector has a characteristic of not-too-large capital, and its scale is limited. Micro, small, and medium enterprises (SMEs) in Pangandaran have penetrated the market of various regions and even abroad. However, a lot of SMEs in Pangandaran do not have any license, patent, or halal label. Some SME products such as processed fishery products developed by the Business Development Center (BDC) of Pangandaran have entered the international market. Patent and halal label are very important for ready-to-market food and beverage products.

The processing fisheries industry can encourage many supporting industries, including auxiliary material industry, ice factory, packaging material industry, and fish processing and packaging machine industry. The problem having been faced by fish processors to date is the frequent scarcity of raw material supply. The scarcity of fish used as raw materials of processed products can occur due to the following reasons: 1) During the season with no fish, fishermen prefer exporting the fish to selling them to the domestic processors; 2) the fish stock in the sea decreases; or 3) there is no harmonious relationship between fishermen and processors.

The prices set from fishermen to end-consumers are very volatile, which depends on the demand and fish supply or availability. Certain fish commodities are sought by many exporters. The four main factors determining the competitiveness of a commodity are factor conditions, demand conditions, related industries, and related supporting industries. In addition, structural conditions, competition, and industry strategy also determines the competitiveness of a commodity.

Marketing is an integrated communication arrangement process that aims to provide information about goods or services to satisfy human needs and wants. Marketing begins with the fulfillment of human needs, which eventually grows into human desire. The process of fulfilling human needs and wants is the concept of marketing. The pattern is built on the mission of parenting from the big to the
small (large capital, large human resources, great technology, etc.), and from the strong to the weak, but in the same needs position and still on the basis of mutual benefit, mutual need, and strength. The core pattern of plasma, is the pattern of relationships between partner groups and partner companies, in which the partner group acts as the core plasma. A marketing channel is a series of interdependent organizations engaged in a process that makes a product or service ready to be consumed by its customers. The marketing channels in the capture fishery of Sukabumi Regency are divided into marketing channels of fresh commodities and marketing channels of processed fish products. Fresh fish commodity marketing channels include two channels as follows.

Fisherman → Fish Auction Place → Fish Basket → Market → Wholesaler → Customers
Fisherman → Fish Auction Place → Fish Basket → Customers

**Figure 3.** Fresh fish commodity marketing channels

A booth is a place where people sell by typical region. Souvenir outlets in this case perform the exchange function because of the activities of buying and selling processed fish. Souvenir outlets also do some sort of standardization in determining which goods to be sold. Therefore, the souvenir outlets perform the function of the facility. In performing its physical function, the souvenir store stores processed goods. The following innovations should be developed to accompany the fishery industrialization program: 1) innovation of environmentally friendly fishing gear technology; 2) technological innovation and superior seed biotechnology; 3) innovation of cultivation technology of both natural and artificial feed; 4) biotechnological technology innovation of the cleaning of water and the environment; 5) biotechnological innovation of vaccine and fish medicine; 6) innovation of cultivated fish processing technology, including technology of fish waste utilization; 7) biotechnological innovation of active and nutrasetikal compounds from marine materials; 8) innovation system or industrial model according to resources, be it fish resources, facilities and infrastructure or human resources; 9) innovation of industrial policy system in accordance with the physical, social, economic, political, and cultural conditions of Indonesia.

The Bussines Development Center of Pangandaran emphasizes materials on SME management trainings. It is expected that the dynamic development of the tourism sector can encourage SMEs to develop more interesting and challenging creative economy. The Bussines Development Center of Pangandaran can bring a positive value for the economic development of small businesses in Pangandaran, especially through the creation of new opportunities for Business. The 2017 Sukabumi Expo in principle is an event for all society levels of Sukabumi District, thus it engages representatives from several elements of society as well as the local government of Sukabumi Regency

4. Conclusions
Based on the analysis above, it was found that the factors influencing the success of a fishery innovative business in West Java, Indonesia are the existence of derivative products, product processing innovations, product price competitiveness, marketplace, and promotion. Based on the fishery triangle product model, it was found that fish onboard handling, post-harvest handling, and processing are in the development stage; therefore, these production nodes need a particularly high attention.

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